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Vineyard Wind 1 Offshore Wind Energy Project Final Environmental Impact Statement Volume IV



March 2021

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**Vineyard Wind 1 Offshore Wind Energy
Project Final Environmental Impact Statement
Volume IV**

March 2021

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Office of Renewable Energy Programs

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Office of Renewable Energy Programs

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**ENVIRONMENTAL IMPACT STATEMENT
FOR THE VINEYARD WIND 1 OFFSHORE WIND ENERGY PROJECT
DRAFT () FINAL (X) DRAFT SUPPLEMENTAL ()**

Lead Agency: U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM), Office of Renewable Energy Programs

Cooperating Federal Agencies: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
U.S. Department of Defense, Army Corps of Engineers
U.S. Department of Homeland Security, Coast Guard
U.S. Department of the Interior, Bureau of Safety and Environmental Enforcement
U.S. Environmental Protection Agency

Cooperating Tribal Nation: Narragansett Indian Tribe

Cooperating State Agencies: Massachusetts Office of Coastal Zone Management
Rhode Island Coastal Resource Management Council
Rhode Island Department of Environmental Management

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Area: Lease Area OCS-A 0501

Abstract:

This Final Environmental Impact Statement (FEIS) assesses the potential environmental, social, economic, historic, and cultural impacts that could result from the construction, operation, maintenance, and decommissioning of an approximately 800-megawatt offshore wind energy facility located more than 14 miles (23.6 kilometers) southeast of Martha's Vineyard. This Vineyard Wind 1 Offshore Wind Energy Project (Project) is proposed by Vineyard Wind LLC and designed to serve demand for renewable energy in New England. The FEIS was prepared following the requirements of the National Environmental Policy Act (42 United States Code [U.S.C.] §§ 4321–4370f) and implementing regulations. This FEIS incorporates analyses in the Supplement to the Draft Environmental Impact Statement (SEIS) addressing reasonably foreseeable offshore wind activities and their effects, previously unavailable fishing data, a new transit lane alternative, and changes to the proposed Project made by Vineyard Wind LLC. The FEIS also addresses comments received during the Draft Environmental Impact Statement (DEIS) and SEIS comment periods. The FEIS will inform BOEM in deciding whether to approve, approve with modifications, or disapprove the proposed Project. Cooperating agencies may also rely on the FEIS to support decision making if they determine the analysis is adequate for that purpose. BOEM's action furthers U.S. policy to make the Outer Continental Shelf energy resources available for development in an expeditious and orderly manner, subject to environmental safeguards (43 U.S.C. § 1332(3)), including consideration of natural resources and existing ocean uses.

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APPENDIX K PART 2

Public Comments and Responses

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Table K-12: Substantive Comments on the SEIS and Responses

Index Number	Comment Text	Response
2-001	I am concerned about the effects on both commercial and recreational fishing. Some fisherman voices positive view. Saying it would improve fishing. After having read numerous articles from around the globe. This is not true. After they are built they restrict access stating safety and security.	Section 3.10.2 of the FEIS has been updated to state that while temporary restricted access areas (safety zones) may be set up around active construction areas where applicable, BOEM does not have the authority to restrict vessel access to the WDA during operations. In addition, the USCG has stated that they do not intend to restrict access to the WDA during operations. The USCG's authority to establish safety zones only extends to the boundary of the territorial waters of the United States, which is 12 nautical miles from shore and outside the WDA. Examples of this access in the U.S. can be seen in the Block Island Wind Farm and Coastal Virginia Offshore Wind Project. BOEM's lack of authority to restrict vessel traffic would apply equally to commercial and recreational vessels.
2-002	They are owned by multi-national corporations that have no ties to ICMD. But it will increase our taxes.	Section 3.6.1.1 of the FEIS references several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
2-003	We still do not know where they are planing to come onshore. One issue that needs to be considered is the possibility of the developers using eminent domain to lay the cables onshore.	The proposed Project would make landfall at the Covell's Beach landfall as Vineyard Wind has stated that New Hampshire Avenue is no longer being considered as they have received their state and local permits and approvals for Covell's Beach. Please see Figure 2.1-1 of the FEIS for the landfall location and upland route.
2-004	additionn the cables at Block Island did not even remain buried off shore	Section 2.1.1 of the FEIS has been updated to address cable burial risk for the proposed Project. The OECC would have a target burial depth of 5-8 feet (1.5-2.5 meters). Potential interactions with fishing gear are discussed in the revised Section 3.10.2 of the FEIS. A submarine cable system burial plan has been included in Appendix D as a mitigation measure for the proposed Project.
3-001	Please do not place wind turbines in our ocean. The pristine ocean view deserves to be left undisturbed.	The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations provided by Vineyard Wind that provide views of the 14 MW wind turbines as well as simulations of

Index Number	Comment Text	Response
		Vineyard Wind 1 combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
4-001	These [horseshoe] crabs are found only along the Atlantic Coast of the US and Mexico, and the largest biomass found in the Delaware Bay and coastal waters of Maryland and Delaware. Right where wind farms are planned on being built. Even to the point of being on top of and adjacent to a “horseshoe crab sanctuary” [Schuster Sanctuary] of the DE and MD coasts.	Section 3.2 of the FEIS has been revised to include a discussion on horseshoe crabs. Potential impacts on horseshoe crabs are considered alongside other slow-moving benthic species of importance. Impacts on spawning horseshoe crabs are addressed specifically. This is a Project-specific EIS, not a Programmatic EIS, and the proposed action does not overlap or effect the Carl N. Schuster Horseshoe Crab Reserve.
4-002	Structures built on top of their habitat will crush them.	Section 3.3.1 of the SEIS stated that new cable emplacement and pile driving would cause injury or mortality. Therefore, no change to the FEIS is warranted.
4-003	The electricity emanating out of underwater cables will destroy whatever non-crushed habitat remains.	Sections 3.3.1 and 3.4.1 of the SEIS discussed the impacts of EMF on fauna. Therefore, no change to the FEIS is warranted.
4-004	The horseshoe crab stock is in serious danger from offshore wind. The monopoles and cables will be placed right where the horseshoe crabs winter and fall habitat to bury, they find their food source I.e. razor clams, mussels, surf clams, etc.	Section 3.3 of the SEIS discussed the effects of structures in soft-bottom habitat. Therefore, no change to the FEIS is warranted.
4-005	I don't understand how foreign countries can come in and destroy what we, Americans, have put in a sanctuary [since 2001] and abided by conservative measures for years. The sanctuary was created to protect the large spawning population of horseshoe crabs in the Delaware Bay and maintain the superabundance of crab eggs available to migratory shorebirds. The rectangular shaped sanctuary is positioned in the Exclusive Economic Zone (EEZ) bounded by State regulated waters to the west and extending 30 miles east. The reserve's southern boundary lies just north of Ocean City, MD and the northern boundary is just south of Atlantic City, NJ. No commercial harvesting of horseshoe crabs is allowed within sanctuary waters.	Section 3.2 of the FEIS has been revised to discuss the current condition and potential impacts on horseshoe crabs. However, a quantitative assessment of the impact on any particular species or stock is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives.
5-001	Offshore wind turbines offer nothing worth risking destruction of the sea life and the ocean habitat. Studies are showing possible drastic negative affects on sea life near wind farms....Even during these months of shut down CO2 continued to rise at the same rate as normal. Wind turbines do not reduce CO2 emissions due to their construction and installations. They are made of steel and concrete, both require coal to manufacture.	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
6-001	Infrasound is damaging to all life. Wind turbines are known to produce this. In other countries infrasound is used as a weapon. I cannot believe that our government lets these Wind Farms damage communities knowing the damage that they cause.	Section 3.3.7.3 of the DEIS and Section 3.5.1 of the SEIS discussed the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at

Index Number	Comment Text	Response
		164 feet (50 meters; Miller and Potty 2017). Therefore, no change to the FEIS is warranted.
7-001	Wind turbines kill birds and bats and insects	Thank you for your comment.
7-002	Wind turbines affect the navigation systems of whales and dolphins leading to their deaths	Sections 3.3.7.3 of the DEIS and Sections 3.5.1 and 3.5.2 of the SEIS discussed the potential impacts of EMF on marine mammals and the potential consequences to marine mammal migration. As discussed, modeled and measured magnetic fields from AC cables buried to a depth of 3 feet would emit detectable fields up to 82 feet above the cable and 79 feet along the sea floor. Vineyard Wind proposes to bury Project cables to a depth of 5-8 feet, providing greater shielding and reducing field detection distances. Additional discussion of the uncertainty regarding the individual and/or population level impacts of EMF on marine mammals was provided in Appendix H of the SEIS. Given the extremely localized nature of the potential EMF related impacts exposure is expected to be low. Therefore, no change to the FEIS is warranted.
7-003	Wind turbines cause infrasound affecting animals, sea life, birds, and humans	Sections 3.4, 3.5, and A.8.3 of the SEIS discussed the potential impacts of WTG operational noise. The SEIS discussed the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017). Therefore, no change to the FEIS is warranted.
7-004	Wind turbines make money for foreign companies not the state in which they put the turbine	The FEIS is for the Vineyard Wind 1 Project, and therefore provides analysis specific to the economic impacts of the Vineyard Wind 1 Project within the geographic analysis area that would reasonably be expected to experience direct economic impacts. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
7-005	Wind turbines do not create hundreds of local jobs	Section 3.6.1.1 of the FEIS has been updated to include more detailed information than the SEIS, from several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions.
7-006	Wind turbines cost consumers millions of dollars in fees to pay for the subsidies given to foreign companies	The SEIS relied on projections of local employment, economic activity, local/state tax revenues, known investment in local ports and job programs, and grants to local communities and organizations, to reach a reasonable

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		conclusions of beneficial impact within the geographic analysis area. Section 3.6.1.1 of the FEIS has been updated to include additional information on ongoing port facility improvements and projections of economic investment. The analysis of employment and economic impacts within the geographic analysis area is valid regardless of federal and state subsidies.
7-007	turbines increase the cost of your electricity threefold making the countries in which it prevails energy poor	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
7-008	Wind turbines cost rate payers money in subsidies when they are forced to stop running	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
7-009	Wind turbines are not green - they use more fossil fuel than they save	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
7-010	Wind turbines use rare earth minerals which are mined in less than humane conditions and cause much pollution where they are mined	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
7-011	Wind turbines cause health problems in humans	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
7-012	Wind turbines cause flicker on nearby properties	The FEIS does not address flicker because the Vineyard Wind turbines, being at least 14 miles offshore, would be too far from shore to cause flicker for observers on land. This effect could be experienced by mariners who are much closer to the turbines than the closest coastline.
7-013	Wind turbines drive fish away and affect the commercial and recreational fishing industry	Section 3.4 and 3.11 of the SEIS discuss the impacts from offshore wind development on finfish and commercial and for-hire recreational fisheries, including impacts from noise, anchoring, new cable emplacement and maintenance, vessel traffic, and the presence of structures. Therefore, no change to the FEIS is warranted.
7-014	Wind turbines cause havoc to shipping lanes	Sections 3.11.2 through 3.11.5 of the FEIS discuss impacts to vessel traffic. The major ports in the vicinity of the WDA include the ProvPort, Fall River, New Bedford, and Davisville. The primary vessel traffic and commercial shipping lanes serving these ports are outside of the WDA (COP Volume III, Section 5.5.1, Appendix III-I; Epsilon 2020a).
7-015	Wind turbines affect the ability of radar to predict severe weather	Section 3.12 of the FEIS has been updated to specify that weather radar systems were included in the analysis of the Proposed Action, and that the Proposed Action is not anticipated to impact weather radar systems. The FEIS was also updated to 1) Include references to FAA Order JO 7400.2M, (FAA 2019) which implements procedures for conducting aeronautical studies per 14 CFR Part 77, and requires an obstruction evaluation to consider "physical, electromagnetic, or line-of-sight interference on existing or proposed air navigation, communications, radar, and control systems facilities" and provides specific requirements for such an analysis, and to 2) Clarify that BOEM assumes offshore project proponents would conduct radar

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		studies in coordination with BOEM's Information Guidelines for a Renewable Energy Construction and Operations Plan (COP) issued May 27, 2020 and the requirements of 30 CFR 585.621, and these radar studies would identify potential impacts and mitigation to weather radar systems. To develop the information in the FEIS, BOEM relied on the FAA's DOD Preliminary Screening Tool which indicates that the Proposed Action and other offshore wind facilities in the RI and MA Lease Areas are unlikely to impact NEXRAD radar systems; prior FAA determinations for WTGs up to 696 feet for the Proposed Action and up to 1,049 feet for other offshore wind projects in the RI and MA Lease Areas; and Vineyard Wind's project-specific radar evaluations included in the COP (COP Volume III, Section 7.9.2.1.2, Figure 7.9-1; Epsilon 2020a).
7-016	Wind turbines affect the ability of the military to adequately protect our shores	Section 3.12 of the FEIS addresses potential impacts to military and national security uses and radar systems and includes updates to clarify information provided in the DEIS and SEIS. BOEM coordinates with the Department of Defense and the U.S. Coast Guard throughout the process of identifying leasing area and approving the COP in order to identify and minimize conflicts with military and national security concerns.
7-017	Wind turbines will limit the areas in which boats can travel for fear of collisions with the Wind turbine's bases	Section 3.11.2 of the FEIS discusses impacts due to the presence of structures. With implementation of the self-imposed measures by Vineyard Wind described in Section 3.11.2, non-Project vessels transiting between the Proposed Action ports and the WDA would be able to avoid Proposed Action vessels and restricted safety zones (if USCG establishes any such zones within 12 nm of the coast) through routine adjustments to navigation.
7-018	Wind turbines will leak oil into the ocean.	Section A.8.2.2 of the SEIS addressed the potential for accidental releases and discharges associated with the proposed Project. Therefore, no change to the FEIS is warranted.
8-001	Wind turbines are expensive, inefficient, unreliable and disruptive to the grid. They are the wrong technology for large scale application or for use with a national grid.	BOEM's action is to assess the potential impacts of the proposed Project as defined in Vineyard Wind's COP. The cost of the project and other technological implications are outside of BOEM's purview.
8-002	They cannot replace fossil fuels and are not reducing pollution, but they are increasing costs, resource usage and habitat loss.	An analysis of economics is provided in Section 3.6 of the FEIS. Resource usage and habitat loss are discussed within the other resource-specific sections in Chapter 3.
8-003	They also disturb wildlife and kill bird, bats and insects.	Thank you for your comment.
8-004	Wrongly applied 'green' technologies like wind power (see also solar, wave, biofuels, etc) that were only ever meant to be used as niche generation in situations where affordable, reliable and useful grid generation (see Nuclear, Coal, Gas) is not accessible. Wind power is doing more harm than it could ever do good.	Thank you for your comment.

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9-001	I have no objection to an off shore windmill farm. However I do have an objection to any taxpayer/public funding going towards this wind farm. These energy sources need to be self sufficient without taxpayer funds and with the same tax deductions that any other company will get.	The SEIS relied on projections of employment, economic activity, local/state tax revenues, known investment in local ports and job programs, and grants to local communities and organizations, to reach a reasonable conclusions of beneficial impact within the geographic analysis area. Section 3.6.1.1 of the FEIS has been updated to include additional information on ongoing port facility improvements and projections of economic investment. The analysis of employment and economic impacts within the geographic analysis area is valid regardless of federal and state subsidies.
10-001	Wind turbines kill birds and bats and insects	Thank you for your comment.
10-002	Wind turbines affect the navigation systems of whales and dolphins leading to their deaths	Sections 3.3.7.3 of the DEIS and Sections 3.5.1 and 3.5.2 of the SEIS discussed the potential impacts of EMF on marine mammals and the potential consequences to marine mammal migration. As discussed, modeled and measured magnetic fields from AC cables buried to a depth of 3 feet would emit detectable fields up to 82 feet above the cable and 79 feet along the sea floor. Vineyard Wind proposes to bury Project cables to a depth of 5-8 feet, providing greater shielding and reducing field detection distances. Additional discussion of the uncertainty regarding the individual and/or population level impacts of EMF on marine mammals was provided in Appendix H of the SEIS. Given the extremely localized nature of the potential EMF related impacts exposure is expected to be low. Therefore, no change to the FEIS is warranted.
10-003	Wind turbines cause infrasound affecting animals, sea life, birds, and humans	Section 3.3.7.3 of the DEIS and Sections 3.4, 3.5, and A.8.3 of the SEIS discussed the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017). Therefore, no change to the FEIS is warranted.
10-004	Wind turbines make money for foreign companies not the state in which they put the turbine	Section 3.6.1.1 of the FEIS has been updated to include more detailed information from several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.

Index Number	Comment Text	Response
10-005	Wind turbines do not create hundreds of local jobs	The numbers of estimated jobs shown in the Sections 3.6.1.1 and 3.6.2.1 of the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions.
10-006	Wind turbines cost consumers millions of dollars in fees to pay for the subsidies given to foreign companies	The SEIS relied on projections of employment, economic activity, local/state tax revenues, known investment in local ports and job programs, and grants to local communities and organizations, to reach a reasonable conclusions of beneficial impact within the geographic analysis area. Section 3.6.1.1 of the FEIS has been updated to include additional information on ongoing port facility improvements and projections of economic investment. The projections support reasonable conclusions that offshore wind would support jobs and businesses within the geographic analysis area. The analysis of employment and economic impacts within the geographic analysis area is valid regardless of federal and state subsidies.
10-007	turbines increase the cost of your electricity threefold making the countries in which it prevails energy poor	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
10-008	Wind turbines cost rate payers money in subsidies when they are forced to stop running	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
10-009	Wind turbines are not green - they use more fossil fuel than they save	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
10-010	Wind turbines use rare earth minerals which are mined in less than humane conditions and cause much pollution where they are mined	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
10-011	Wind turbines cause health problems in humans	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
10-012	Wind turbines cause flicker on nearby properties	The FEIS does not address flicker because the Vineyard Wind turbines, being at least 14 miles offshore, would be too far from shore to cause flicker on coastal properties. This effect could be experienced by mariners who are much closer to the turbines than the closest land.
10-013	Wind turbines drive fish away and affect the commercial and recreational fishing industry	Section 3.4 and 3.11 of the SEIS discuss the impacts from offshore wind development on finfish and commercial and for-hire recreational fisheries, including impacts from noise, anchoring, new cable emplacement and maintenance, vessel traffic, and the presence of structures. Therefore, no change to the FEIS is warranted.
10-014	Wind turbines cause havoc to shipping lanes	Sections 3.11.2 through 3.11.5 of the FEIS discuss impacts to vessel traffic. The major ports in the vicinity of the WDA include the ProvPort, Fall River, New Bedford, and Davisville. The primary vessel traffic and commercial

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		shipping lanes serving these ports are outside of the WDA (COP Volume III, Section 5.5.1, Appendix III-I; Epsilon 2020a).
10-015	Wind turbines affect the ability of radar to predict severe weather	Section 3.12 of the FEIS has been updated to specify that weather radar systems were included in the analysis of the Proposed Action, and that the Proposed Action is not anticipated to impact weather radar systems. The FEIS was also updated to 1) Include references to FAA Order JO 7400.2M, (FAA 2019) which implements procedures for conducting aeronautical studies per 14 CFR Part 77, and requires an obstruction evaluation to consider "physical, electromagnetic, or line-of-sight interference on existing or proposed air navigation, communications, radar, and control systems facilities" and provides specific requirements for such an analysis, and to 2) Clarify that BOEM assumes offshore project proponents would conduct radar studies in coordination with BOEM's Information Guidelines for a Renewable Energy Construction and Operations Plan (COP) issued May 27, 2020 and the requirements of 30 CFR 585.621, and these radar studies would identify potential impacts and mitigation to weather radar systems. To develop the information in the FEIS, BOEM relied on the FAA's DOD Preliminary Screening Tool which indicates that the Proposed Action and other offshore wind facilities in the RI and MA Lease Areas are unlikely to impact NEXRAD radar systems; prior FAA determinations for WTGs up to 696 feet for the Proposed Action and up to 1,049 feet for other offshore wind projects in the RI and MA Lease Areas; and Vineyard Wind's project-specific radar evaluations included in the COP (COP Volume III, Section 7.9.2.1.2, Figure 7.9-1; Epsilon 2020a).
10-016	Wind turbines affect the ability of the military to adequately protect our shores	Section 3.12 of the FEIS addresses potential impacts to military and national security uses and radar systems and includes updates to clarify information provided in the DEIS and SEIS. BOEM coordinates with the Department of Defense and the U.S. Coast Guard throughout the process of identifying leasing area and approving the COP in order to identify and minimize conflicts with military and national security concerns.
10-017	Wind turbines will limit the areas in which boats can travel for fear of collisions with the Wind turbine's bases	Section 3.11.2 of the FEIS discusses impacts due to the presence of structures. With implementation of the self-imposed measures by Vineyard Wind described in Section 3.11.2, non-Project vessels transiting between the Proposed Action ports and the WDA would be able to avoid Proposed Action vessels and restricted safety zones (if USCG establishes any such zones within 12 nm of the coast) through routine adjustments to navigation.
10-018	Wind turbines will leak oil into the ocean.	Section A.8.2.2 of the SEIS addressed the potential for accidental releases and discharges associated with the proposed Project. Therefore, no change to the FEIS is warranted.

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10-019	Wind turbines will destroy the pristine view from our shores for the foreseeable future affecting the economy of every seaside resort	Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations and night sky impacts. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation lighting. Vineyard Wind would also use white or light grey paint color as described in Appendix D to reduce visibility against the horizon. New visual simulations provide views of the 14 MW WTGs as well as simulations for Vineyard Wind 1 wind turbines combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment . Research findings that address the impacts on coastal tourism were provided in the DEIS and Section 3.10.1 and 3.10.2 of the SEIS, and have been carried forward into the FEIS.
11-001	The Vineyard wind project should not be approved. Its location is within clear visibility of the important tourist destinations of Martha's Vineyard and Nantucket. Visible wind farms will harm the property values and rental incomes of those within the view shed. It is not just visibility during the day that is harmful but also visibility at night from both aviation and marine red flashing warning lights.	Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations and night sky impacts. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation lighting. Vineyard Wind would also use white or light grey paint color as described in Appendix D to reduce visibility against the horizon. New visual simulations provide views of the 14 MW WTGs as well as simulations for Vineyard Wind 1 wind turbines combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment . Research findings that address the impacts on coastal tourism were provided in the DEIS and Section 3.10.1 and 3.10.2 of the SEIS, and have been carried forward into the FEIS.
11-002	The wind turbines will create few domestic jobs, most of the components will be manufactured overseas and installed by European workers, because the USA lacks infrastructure to manufacture offshore wind components.	Section 3.6.1.1 of the FEIS has been updated to include more detailed information from several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions.
11-003	The cost of energy will be 300% or more, more expensive than power from conventional sources, this will drive up the cost of electricity in the region which will harm the poor the most since the poor spend a larger percent of their income on energy.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
11-004	There is little if any environmental benefit from the wind power produced due to the unreliability of the wind. Power production on some days will be zero and when the wind doesn't blow. This means no fossil fuel power plants can be closed due to the need for continuous back up power. Fossil fuel	BOEM's review is focused on the potential impacts to environmental, social, and cultural resources from the proposed Project. As it relates to air quality and the offshore wind industry's potential to displace fossil fuels, Section A.8.1 of the SEIS and FEIS provide additional information.

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	plants must even continue to burn fuel on spinning reserve in the event that the wind stops blowing with sufficient energy which could happen in minutes. The cost of energy will necessarily rise due to the cost of maintaining two power sources, wind power, and conventional sources of power.	
11-005	The cost of the Vineyard wind project, in terms of lost tourist revenue, depression of home prices, the higher cost of energy, is higher than the potential benefits.	Research findings that address potential impacts on tourism and rental income were provided in the DEIS and Section 3.10.1.1 and 3.10.2 of the SEIS. Therefore, no change to the FEIS is warranted.
12-001	1st Major hurricane and those will be all over the place!	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years. Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted.
13-001	These [WTGs] are proven to be far more costly then ever anticipated and destroy the surrounding eco systems.	Thank you for your comment.
14-001	Move forward with the wind farm. The benefits far outweigh the detriments.	Thank you for your comment.
14-002	We must move forward towards clean energy. Keep moving forward.	Thank you for your comment.
15-001	Please format the Vineyard Wind Supplement to the Draft Environmental Impact Statement using the Government Printing Office (GPO) Style Manual so that the document can be efficiently read, analyzed and commented on by the interested public.	BOEM has updated the FEIS to use single spacing for document layout to be more in line with the DEIS format.
15-002	Page Limitations under the Department of the Interior's Secretarial Order 3355 were to be met by focusing on techniques such as tiering or incorporation by reference, not by switching to a narrow text, reducing the spacing between characters of text, lines, headings and titles.	BOEM has been granted a 300 page limit for the FEIS which assists with the culmination of multiple analyses into the FEIS. Even so, in order to comply with the page limits in the Department of the Interior's Secretarial Order 3355 and focus on the impacts of most concern, BOEM had to include tables, figures, and analysis of resources in appendices. The information located in the appendices is readily accessible and conveniently labeled for the review of all interested stakeholders. A large print version of the SEIS was posted to the BOEM website. BOEM has updated the FEIS to use single spacing for document layout to be more in line with the DEIS format.
15-003	I request BOEM make public a correctly formatted Vineyard Wind Supplement to the Draft Environmental Impact Statement and a minimum of 45 days is allowed for public submission of comments after the corrected document is made public.	A large print version of the SEIS was posted to the BOEM website. In addition, the public comment period for the SEIS closed on July 27, 2020.

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15-004	The Vineyard Wind Offshore Wind Energy Project DEIS was formatted in such a way that it could be easily read. The Vineyard Wind 1 Offshore Wind Energy Project SEIS, on the other hand, was formatted in such a way that it crammed more words into smaller spaces and can not be easily read.	A large print version of the SEIS was posted to the BOEM website. BOEM has updated the FEIS to use single spacing for document layout to be more in line with the DEIS format.
15-005	The addition of line numbers on each page would also assist those collaborating on this document's review.	Line numbering for a publication version of an EIS is not standard practice. Therefore, no change to the FEIS.
15-006	The Department of the Interior's Secretarial Order 3355 was not meant to burden the interested public as will be the result, if this is not corrected.	A large print version of the SEIS was posted to the BOEM website. BOEM has updated the FEIS to use single spacing for document layout to be more in line with the DEIS format.
16-001	wind turbines are not economical nor are the environmentally friendly.	Thank you for your comment.
16-002	they [wind turbines] only serve the purpose of making a few richer and the mass majority poorer.	Thank you for your comment.
16-003	they [wind turbines] create more havoc in the long run to the sea life and safety of the general public in america.	Thank you for your comment.
16-004	we should never allow a system that is outdated and inefficient to the conductance of energy created.	Thank you for your comment.
17-001	We need MORE wind turbines	Thank you for your comment.
18-001	As someone who has been vacationing on Martha's Vineyard since the '90s, and followed the travails of Cape Wind, it is gratifying to see the first major offshore wind project in the United States come one step closer to becoming a reality. After all of the delays, I hope this project can get underway quickly, and that many more soon follow.	Thank you for your comment.
19-001	I am a strong believer in Vineyard Wind. The rapid climate change we face requires immediate, strong action. The development of non carbon emitting, clean sources of energy is necessary for the safety of our planet, human life and other species.	Thank you for your comment.
19-002	...we pay a price with current methods of producing carbon-base energy, from the devastation of strip mines, the health and safety of energy workers, risk of oil spills and dangers of fracking.	Thank you for your comment.
19-003	Vineyard Wind makes a significant contribution to affordable, clean energy in our area.	Thank you for your comment.
19-004	There is no meaningful impact on the views from the Vineyard.	The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations provided by Vineyard Wind that provide views of the 14 MW wind turbines as well as simulations of Vineyard Wind 1 combined with other offshore wind development. The

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		simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
19-005	And the improvement to the environment will save more birds than may be killed by the turbines.	Thank you for your comment.
20-001	Wind turbines are a great way to reduce our carbon footprint and generate electricity responsibly.	Thank you for your comment.
20-002	I expect that in the long run they will help reduce electricity costs and create well paying jobs.	Ratepayer costs depend on numerous variables beyond the scope of the EIS. Job creation, job types and anticipated salaries were provided in the DEIS, and are restated in Section 3.6.2 of the FEIS.
20-003	Offshore wind is common in Europe, particularly in Germany, and while large scale wind farms need to be balanced with sufficient transmission capacity, wind power has been successful there.	Thank you for your comment.
21-001	The most important benefit of Vineyard Wind 1 is the large scale reduction of greenhouse gases that are pumped into the atmosphere by typical fossil fuel power plants. Offshore wind turbines use no water and produce zero emissions.	Thank you for your comment.
21-002	Another very important benefit of the Vineyard Wind 1 project is the economic impact. The project can launch an offshore wind industry here in the USA and create thousands of jobs in the supply chain and construction and operation areas. The Marine Commerce Terminal in New Bedford MA stands ready to be a staging area for this project as well as Brayton Point in Fall River MA. Boston has a blade testing facility and major offshore players like Semens Gamesa and MHI Vestas are watching the Mass., Rhode Island and Connecticut areas very closely.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States. Section 3.6.2 also notes the investments in the Ports of New Bedford and Brayton Point.
23-001	We need to expand wind and solar electricity generation, as well as energy storage solutions. Climate change is one of several crises that are defining this generation. Our future health and prosperity require we try every alternative to reduce or eliminate greenhouse gas emissions... I wholehearted support more wind power.	Climate change was addressed in the DEIS and SEIS and is included in Section A.8.1 of the FEIS.
23-002	As the project is "located approximately 14 statute miles from the southeast corner of Martha's Vineyard and a similar distance from the southwest side of Nantucket" there should be no major impact to the majority of residents.	Thank you for your comment.
24-001	I believe the Vineyard Wind 1 project would be extremely beneficial to the community on Martha's Vineyard. Not only would it provide jobs, but it would also produce clean and sustainable energy and save ratepayers over 1 billion dollars in energy costs throughout its first 20 years.	As noted in Section 3.6.2 of the FEIS, the Vineyard Wind 1 Project would create both short-term construction jobs within the geographic analysis area and long-term jobs. Many of the estimated 80 operational jobs would be located on Martha's Vineyard due to the location of the operations and maintenance facility and use of Vineyard Haven harbor.

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24-002	[The Vineyard Wind 1 project] would assist in Massachusetts' progress towards its goal to be completely carbon neutral and Martha's Vineyard's plans to use only renewable energy for heating, electricity and transportation.	Thank you for your comment.
25-001	I am commenting in support of Vineyard Wind because their offshore windfarm will not only help reduce greenhouse gas emissions that contribute to climate change, but will create economic development as well.	Section 3.6.2 and Tables 3.6-3, 3.6-4 and 3.6-5 in the FEIS summarize Vineyard Wind's estimates of construction-phase employment, tax revenues (state and local), and operations-phase economic activity that would potentially be generated in Massachusetts by the Vineyard Wind 1 Project. These data were also provided in the DEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
25-002	Climate change is directly caused by increasing carbon emissions, therefore an offshore wind farm will help reduce emissions by creating renewable energy. It is important to spend money investing in these sustainable solutions now rather than having to do expensive damage control later.	Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
25-003	Vineyard Wind's project will also create economic development and employment that will benefit locals and the island's economy. For instance, the nonprofit will create 3,600 jobs for local residents over the next few years alone. The offshore wind industry as a whole will create more than 80,000 jobs in the next ten years, and over \$25 billion are projected to be invested in the industry. This alone shows the importance of renewable energy and demonstrates that contrary to popular belief, renewables can and will provide jobs rather than destroy them.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6 of the FEIS has been updated to provide projections of national job creation and investment from several studies resulting from east coast offshore wind development. Although projections specific to the geographic analysis area are not available, jobs and investment are anticipated to be focused in and near the states that host offshore wind.
25-004	Ultimately, with Vineyard Wind's offshore windfarm Martha's Vineyard has a chance to become a leader in the renewable energy sector, while at the same time reducing impacts of climate change and creating jobs for the local population. It is long overdue that Americans invest in the future to help reduce climate change in ways that are clean, efficient, and cost-effective.	Thank you for your comment.
26-001	It's appalling and alarming that this project has been held up for so many years, especially now that the climate is changing so dramatically. The seas are rising, the Arctic is melting, and the National Weather Service is predicting serious hurricanes this year.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information. Table 1.3-1 of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
26-002	the Massachusetts economy has been hit hard by the effects of the virus. This project could offer employment opportunities to the thousands of workers who need jobs.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.

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26-003	As we can see from the recent decision to hold the gas company financially responsible for the explosions in the Merrimac Valley, wind energy also makes sense in terms of safety as well as economics.	Thank you for your comment.
27-001	I support Vineyard Wind and believe the Vineyard Wind 1 project would be extremely beneficial to the entire community. Increased forms of Renewable Energy is the future that the USA needs and I commend the BOEM for its efforts to accelerate its development.	Thank you for your comment.
28-001	We need to transition to an economy that is not based on fossil fuels. Electricity can get us there but if it is coming from a coal power plant then we aren't getting there very fast. It is embarrassing the United States has a grand total of ONE active wind farm. I applaud Vineyard Wind for fighting through the regulations to get this in the ground.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
28-002	Wind energy can ignite the green industrial revolution and help save electricity customers money on their utility bills up and down the East Coast.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
29-001	I fully support the Vineyard Wind project. It is an important component in reducing fossil fuel emissions as well as a critical adaptation measure in the protection of our environmental resources for the Cape and the Islands.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
30-001	Example 1. Habitat for Marine Mammals and Fish/Shellfish. Conceptual Model: Marine Habitat Effects Vulnerability (Wind Farms) = function of (physical bottom type; biological structure on bottom; foraging behavior of biota; breeding areas of biota; special, sensitive or unique habitat status). Scores range from 0 (no impact) to 3 (high impact) for each characteristic. Total Scores would range from 0 to 15 and one would choose a threshold (say 10) above which one would not locate wind towers on structures in marine habitats that have these joint characteristics. Existing maps and databases could be incorporated into Geographic Information Systems (GIS) and overlaid to locate such areas on a map; one could employ best scientific judgment to estimate where these areas occur or utilize existing scientific reports and papers as proxies for this that address regional habitat quality/quantity components for fish/shellfish and marine mammals of interest.	In light of the known value of hard-bottom habitats and complex bottom, the proposed Project would avoid Special Sensitive and Unique habitats, especially hard-bottom habitats, and to a lesser degree complex bottom, to the greatest extent practicable. This is described in Sections 3.1.2, 3.2.2, and 3.3.2 of the FEIS. The alternative conceptual model proposed is not available at the scale of a Proposed Action. The information presented in the FEIS is at the highest resolution available to provide a reasoned choice amongst alternatives.
30-002	Example 2. Cumulative Effects on Marine Biota. Cumulative Effects Vulnerability (Wind Farms) = function (commercial fishing; climate change; nutrient enrichment; invasive species; synergistic interactions) where the qualitative scoring (0 = no impact; 1 = low impact; 2 = moderate impact and 3	This is a Project-specific EIS, not a Programmatic EIS, and it complies with the requirements of NEPA. Section 3.3 of the FEIS has been updated to consider the potential impact of the proposed Project in light of reasonably foreseeable environmental trends and planned actions. However, species-specific assessments are beyond the scope of this EIS.

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	where the qualitative scoring (0 = no impact; 1 = low impact; 2 = moderate impact and 3 = large impact) is defined by: commercial fishing...climate change...nutrient enrichment...(and) invasive species...	
30-003	Example 3. Effects of Wind Farms on Birds. Impact on Sea Birds, Shorebirds & Coastal Migrating Birds (Wind Farms) = function (foraging areas; breeding/staging regions; incidental mortality/altering flying behavior due to wind turbine interactions; mitigation measures; cumulative mortality from other sources).	Section A.8.3.2 provides an updated discussion of bird use of the Atlantic Flyway along the North American Atlantic Coast. Within the Atlantic Flyway, much of the bird activity is concentrated along the coastline concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). Additionally, as depicted in Figures A.8.3-1 and A.8.3-2 in the SEIS, total avian abundance for species with high collision sensitivity and displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. As such, collision and displacement impacts are expected to be low. Additionally, as cited in the SEIS, many of the species that exhibited high avoidance rates in the Skov et al. (2018) study are same species that were modeled as part of the analysis in the SEIS.
30-004	Example 4. Adaptive, Ecosystem Based Management Effectiveness (A,EbM). A,EbM effectiveness vulnerability (wind farms) = function (marine spatial planning regime; environmental review program; mitigation measures; adaptation options; legal framework and permitting process).	Thank you for your comment.
30-005	The Northeast Continental Shelf Large Marine Ecosystem conceptual model underlies [Atlantic seaboard cumulative impact assessment for wind farms between Cape Hatteras, NC and Cape]. The LME approach assumes that the ocean & associated marine biota/habitats are in a steady state, equilibrium condition which is at odds with the recently published NOAA Fisheries 2020 State of the Ecosystem report which illustrates that we are dealing with a complex non-linear system that is not at equilibrium. The BOEM Supplemental DEIS mentions climate change; increased ocean noise; commercial fishing gear effects on the “productive capacity” of Essential Fish habitat; fish aggregation from structures acting like artificial reefs; and other human stressors that effects sea turtles; marine mammals; fish and invertebrates; sea birds and their habitats.	Sections 3.3.1 and 3.4.1 of the SEIS discussed the variability and general trends observed in patterns of organisms across space and time. This analysis does not assume an ecosystem at steady-state or in equilibrium. The FEIS assesses the impacts of the Proposed Action and other planned actions in light of reasonably foreseeable environmental trends. Therefore, no further revision to the FEIS is warranted.
30-006	The cumulative impact assessment might want to consider the adaptive, ecosystem-based management approaches being considered by the Mid-Atlantic and New England Fishery Management Councils & NOAA Fisheries GARFO (Greater Atlantic Regional Fisheries Office) Scenario Analysis approach (Diane Borggaard- NOAA Fisheries GARFO) to manage	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be

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	changes in a dynamic ocean with multi sector management of a variety of sometimes conflicting human uses.	considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
30-007	Vulnerability and Scenario Analysis [presented during a symposium at the University of Rhode Island, “Offshore Renewable Energy-Changes in Habitats and Ecosystems”,] combine[s] the use of leading edge science with outreach to a variety of interest groups to provide tools that can be used by policy makers and regulators. They can be explained more easily and in a shorter space than cumulative impact analysis used by BOEM to evaluate wind farms along the Atlantic seaboard... The White House Council on Environmental Quality (CEQ) recently released NEPA guidelines to make the federal Environmental Assessment process simpler and more effective.	BOEM has carried forward the methodology established in the SEIS into the FEIS. No changes to the FEIS are warranted.
30-008	The [North Atlantic Right Whale] (NARW) “critical habitat” under the Endangered Species Act coincides with the BOEM Supplemental DEIS wind farm region from North Carolina to southern New England which has the potential to produce 13.5 GW of renewable electricity. The Atlantic seaboard wind farm planned leases could generate 21.8 GW of renewable electricity which would help Massachusetts reach its 2030 greenhouse gas (GHG) targets. The cumulative impact assessment has marine mammals with a moderate effect from the 20 (?) Atlantic seaboard wind farms.	A detailed analysis of impacts to ESA listed species, including the NARW, is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Further discussion of the potential impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed, no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
30-009	Even if the NOAA Fisheries GARFO Environmental Impact Assessments (EIA) process on NARW mortality/lobster gear entanglement follows the proposed White House Council on Environmental Quality NEPA guidelines, this process could take 2-3 years to complete. Since the BOEM Supplemental DEIS ranks marine mammal effects as medium (and those for regulated fisheries as maximum), it not clear to me if the BOEM decision to permit the [Vineyard] Wind project wind farm by December 2020 can be met.	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. The NMFS Biological Opinion and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures are discussed Section 3.4.2 and Appendix D of the FEIS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for

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		NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.
30-010	It appears that the [Vineyard] Wind farm will serve as a model for the other to be 20 developed along the Atlantic seaboard. NOAA Fisheries GARFO would have to provide incidental take permits for threats to NARWs/sea turtles from wind farms throughout their range. Even though this is normally a formality that could be worked out between BOEM and NOAA Fisheries, it is not clear to me under the proposed CEQ policy which agency would decide between potentially conflicting EIS processes. I feel that the [Vineyard] Wind project Supplemental DEIS should be completed before the NOAA Fisheries EIA endeavor begins and the scientific studies on wind farm effects on marine mammals and fisheries are completed.	A detailed analysis of impacts of the Vineyard Wind 1 Project to ESA listed species is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ , as well as the Biological Opinion issued by NMFS on September 11, 2020. The NMFS is a cooperating agency for the Vineyard Wind 1 Project and has been involved in its development, and will rely upon this EIS for the issuance of required permits. Project specific consultation with NMFS will occur for each project contemplated in the expanded planned action scenario, and will include project specific monitoring and mitigation measures that will be required to satisfy regulatory concerns relative to sea turtles.
30-011	As the former Recreational Fishery Coordinator in the Northeast it is not clear that Alternative F1 and F2 from RODA (Responsible Offshore Development Alliance) would be that helpful for saltwater anglers who would probably benefit from wind farm structures acting as artificial reefs for finfish and shellfish species not found in soft bottom habitats. Given the diverse requirements for commercial fishing when it comes to navigating through windfarms and fishing within their boundaries in historical fishing grounds for mobile and fixed gear, it is hard to envision a successful compromise beyond the mitigation and outreach carried out by MV Wind/financial agreement with lobster fishermen/women. The NOAA Fisheries EIS is likely to effect lobstermen/women much more severely than wind farms do.	Thank you for your comment.
31-001	How many bird strikes per year are expected per 400 MW block? What species of birds are expected to be struck?	Section A.8.3.1 of the FEIS includes and updated discussion regarding the species that have some potential to encounter operating WTGs. Section A.8.3.1 of the FEIS provides an updated discussion of collision model methods, but does not include all species that may encounter operating WTGs, as many species do not have the required datasets to allow for modeling. While not all species potentially present within the offshore wind lease areas were modeled, the modeling results of those species with sufficiently robust occurrence and behavioral characteristics datasets represent a variety of species with representative behaviors and flight characteristics and illustrate the overall low expected collisions rates. BOEM expects the same outcome from species that were not modeled. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of

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		digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures that can refine our understanding of impacts arising from the presence of WTGs on the Atlantic OCS.
32-001	I'm writing to support going ahead with Vineyard Wind with the planned 1x1 nautical mile turbine layout, and to oppose adding 2+ mile transit lanes within wind farms, which the US Coast Guard has determined is unnecessary.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
32-002	Massachusetts needs clean energy, and offshore wind is New England's biggest untapped clean energy source. Our economy needs the hundreds of jobs Vineyard Wind will create and our ratepayers need the energy cost savings Vineyard Wind will bring.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
33-001	We have five months. That's the time limit given before it is no longer possible to affect a change to irreversible climate heating. Five months, twenty weeks: so either just give up now, or aggressively pursue the goals of Vineyard Wind to at least begin a process to begin to rectify climate catastrophe. I support Vineyard Wind's Facility Offshore.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
34-001	I fully support Vineyard Winds offshore wind project bringing renewable Offshore wind energy for the coastal New England states and the artificial reefs every offshore wind turbine will become. Marine life will thrive around these turbines.	Thank you for your comment.
35-001	In 1980, I was second license on an offshore crew boat in the Texas oil patch. After we had delivered our people and supplies, we would move to a cluster of unmanned rigs, and fish with hook and line. We caught monster fish. Why? Because mobile net gear could not be deployed in among the rig clusters, and they acted as reefs for the local fish. If Wind farms are built around the Cape, cod and haddock, among others, will come back over time. They might even grow to the size they were when my 8th great grandfather Andrew Newcomb moved from the Isles of Shoals to the Vineyard--then, mature cod went upwards of 50 lbs, and were prolific spawners.	Section 3.4 of the SEIS discussed the reef effect, and Sections 3.4 and 3.11 discussed that fishing pressure may be substantially influenced by the presence of structures offshore, resulting in reduced local fishing pressure. Therefore, no change to the FEIS is warranted.
36-001	The supplemental environmental impact statement (SEIS) for the Vineyard Wind 1 project provides a baseline for understanding the potential consequences of the proposed project, identifies positive and negative effects for the environment, and offers proposed mitigation solutions. The SEIS represents an even more fulsome evaluation of the project and the future Offshore Wind industry than was achieved during the earlier Vineyard Wind comprehensive public and regulatory review process, which involved	Thank you for your comment.

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	assessments from more than 25 federal, state, and local regulatory bodies, including the US Bureau of Ocean Energy Management, the Army Corps of Engineers, Massachusetts Department of Environmental Protection, the Cape Cod Commission, the Martha's Vineyard Commission, and local conservation commissions.	
36-002	By way of Vineyard Wind's ample economic, environmental and energy reliability benefits, the project has earned permits or approvals from the Massachusetts Energy Facilities Siting Board (EFSB), an independent state board responsible for review of proposed large energy facilities, the Massachusetts Environmental Policy Act office, the Cape Cod Commission, the Town of Barnstable, MA, and the Martha's Vineyard Conservation Commission. The SEIS project sets forth all of the necessary elements required for the project to move forward.	Thank you for your comment.
36-003	Special consideration should be given to the U.S. Coast Guard study group regarding the proposed uniform turbine array that has been agreed to by all five offshore developers that hold leases off the coast of Massachusetts. The study group found that proposed one nautical mile spacing between wind turbine generators (WTG) is sufficient for navigation by commercial and recreational fishing interests and Coast Guard search and rescue operations. The developers' plan offers ample transit lanes options through the wind development areas. The study group found that using wider vessel transit lanes through these areas would make navigation and fishing more hazardous while reducing the number of WTGs available for creating carbon-free electricity.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
36-004	Any requirement that wind developers must set aside larger areas for vessel transit lanes is short-sighted and counter-productive to the most important benefit of Vineyard Wind 1 and other offshore developments: increased supplies of reliable, clean wind power.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
37-001	In light of the alarming pace at which our global climate is heating, confirmed by three reports on climate change issued by the Intergovernmental Panel on Climate Change, the UN Environmental Programme and the US Federal government, it is critical that we make a swift transition to renewable energy and abandon our reliance on fossil fuels. The Vineyard Wind offshore wind project will help us do just that. According to the facts, the wind project will help reduce our MA carbon emissions by over 1.6 metric tons per year (apparently the equivalent of taking 325,000 vehicles off the road). It will provide 400,000 homes with wind power energy and would meet the MA goal of 3200 MW of offshore wind, meeting 25% of the state's energy needs with the clean, renewable,	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.

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	locally sourced energy. Moreover, by 2030, millions of households will be powered by 22,000+ megawatts of renewable offshore wind energy in densely populated centers along the East Coast.	
37-002	The fact that it is locally sourced with a community oriented development approach is an important aspect of this well thought out project. The project has sought to be transparent with frequent public input at every step of the way. Special attention has been focused on the needs and concerns of the fishing industry, indigenous tribal interests, the protection of endangered and local wildlife species, and the minimizing of environmental impacts.	Thank you for your comment.
37-003	Additional scrutiny addressing more recent questions and concerns about electromagnetic fields that might impact various fishes has shown that precautions taken with the cables will result in negligible effects or risk to bottom dwelling or pelagic species or to commercial or recreational fishes in the southern New England area. AC undersea power cables associated with offshore wind energy projects within the southern New England area will generate weak EMF at frequencies outside the known range of detection by electrosensitive and magnetosensitive fishes. And the range over which these species can detect electric fields is limited to centimeters, not meters around these species.	Sections 3.3 and 3.4 of the SEIS addressed the potential impacts of EMF on finfish and invertebrates and determined that the impacts would be negligible to minor. Therefore, no change to the FEIS is warranted.
37-004	Vineyard Wind will be the first large offshore wind farm. 4,000+ offshore wind turbines already successfully power Europe. Furthermore, these turbines, which will be spaced over 1 mile apart, will ensure safe and navigable transit and fishing.	Thank you for your comment.
37-005	We cannot risk a poor prognosis for environmental, social and economic outcomes by failing to move quickly to renewable energy in an effort to reduce greenhouse gases.....and the window of opportunity to abate global warming is closing rapidly. The Vineyard Wind project offers one path to a sustainable future, a healthy planet and provides a plan to nurture the continuation of life on earth as we know it. We have a moral imperative to seize this moment and move forward with aggressive action to abandon fossil fuel reliant energy. The wind farm proposed by Vineyard Wind will be an important contribution to these efforts. Lastly, the Vineyard Wind project will be an exemplary model for others to follow.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
38-001	I am in support of the Vineyard Wind project going forward without further delay and with 1 x 1 mile spacing. There is strong evidence that this spacing is ample to provide the outcome desired and wider spacing would harm the positive outcomes.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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38-002	Its time to stop playing games with our climate and our planet. the great majority of Americans approve of alternative energy and I say, "Yes in my backyard!"	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
39-001	I fully support the Vineyard Wind project and believe it should go ahead without any more delay... It is crucial that we develop sources of renewable energy that can be produced domestically so we can eliminate our dependence on polluting fossil fuels, many of which come from abroad.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
39-002	Vineyard Wind has done an exceptional job of working with all stakeholders in this process to ensure that the results are amenable to everyone, showing that they truly care about the environment and the lives of those who live in the area. No power source is without its drawbacks, but I believe the benefits of offshore wind far outweigh any drawbacks that some may use as an excuse not to do it. The wind energy potential off the coast is tremendous, so even compared to other renewable sources, offshore wind is one of the best choices to produce the amount of energy we need. Then when you look at the environmental cost of extracting and burning fossil fuels, offshore wind is a far superior option.	Thank you for your comment.
40-001	The Vineyard Wind project makes good sense, and especially in the northeast USA. The environmental impacts have been extensively examined and are fully acceptable to most people, and to me as a wildlife biologist who has done extensive work in Massachusetts over the past 35 years.	Thank you for your comment.
41-001	I fully support this green project. It is high time we took action to reduce fossil fuel consumption.	Thank you for your comment.
42-001	We need to move fast to address climate change and offshore wind is an opportunity to combat this issue by reducing greenhouse gas emissions caused by fossil fuel generation and use.	Thank you for your comment.
42-002	Vineyard Power is working ACE MV, our local regional high school and Bristol Community College to help train a local workforce to meet the job demands in this new industry.	Section 3.6.1.1 of the FEIS has been updated to list the Bristol Community College offshore wind job training program.
42-003	We support Vineyard Wind and the other developers of the New England Wind Energy Area agreement to develop all future projects with a uniform 1 x 1 nautical mile (NM) layout throughout the lease areas. This layout is also endorsed by the US Coast Guard and is a good compromise between the fishermen and developers which will ensure safe transit without compromising additional delay and cost to us, the residents of Martha's Vineyard.	The FEIS addresses this comment in Section 3.11.4.
43-001	The Bureau of Ocean and Energy Management is asking the public if they should give VW a permit for their project. Yes they should. It's time to put climate change in the driver's seat in this climate emergency.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.

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44-001	We need to move forward with this important clean energy project.	Thank you for your comment.
45-001	Please give Vineyard Wind a permit with 1/2 mile spacing ASAP.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
46-001	To that end, what specific provisions has Vineyard Wind included in the project to facilitate enlarging WTGs, adding WTGs, increasing cable capacity, support facilities, and support vessels as necessary to provide the tens of gigawatts needed to fulfill the energy needs of the Massachusetts area, then Northern New England? What additional provisions would Vineyard Wind recommend adding to facilitate such expansion?	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
46-002	On page 19 of the (SEIS) document, the first “Reasonably Foreseeable Assumptions” lists the “For those projects with announced WTG sizes, BOEM assumed an 8 or 12 MW WTG. BOEM understands that turbine capacity may exceed 12 MW in the future. However, for future procurements and projects under this cumulative analysis, BOEM evaluates potential impacts assuming that 12-MW WTGs will be used—since it is the largest turbine now commercially available (Appendix A).” However on page 9, Table ES-1 below, (also called Table 2.2-1 page 23) it discussed the changes to the VW Project Design Envelope, a 14 MW WTG is listed. Because there seems to be a disparity between future projects and the cumulative analysis being evaluated based on a 12 MW turbine, and the PDE which reflects a 14 MW WTG, please explain this disparity and explain why for future procurements and the cumulative analysis, why you chose a smaller turbine? Especially in light of 20 MW turbines being developed and possibly being utilized for the Empire Wind project and other future projects?	As noted in the SEIS, and within the FEIS, BOEM has included a list of assumptions for the analysis for those planned actions that were considered reasonably foreseeable. As noted, for those projects with announced WTG sizes, BOEM assumed an 8 or 12 MW WTG. BOEM understands that turbine capacity may exceed 12 MW in the future. However, for future procurements and projects under this analysis, BOEM evaluated potential impacts assuming that 12 MW WTGs will be used—since it is the largest turbine now commercially available. In addition, each of these future projects will have a NEPA analysis, which will evaluate the appropriate turbine capacity assumption at that time. Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts. As noted in Section 1.7.1.1 of SEIS, it is difficult to predict turbine capacity and spacing or other future engineering for planned but currently unscheduled offshore wind awards. Therefore, BOEM used reasonably foreseeable assumptions for the analysis and no changes to the FEIS are warranted.
47-001	I want to express my support for the Vinyard Wind project WITHOUT a reduction in the proposed density. I understand that there will be one mile spacing between turbines, which is the largest spacing of any turbines in the world. The 2-4 mile transit lanes would appear to be unnecessary based on a recent US Coast Guard study.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
47-002	our region and country desperately needs power generation from sources such as wind power in order to reduce our dependence on fossil fuels and to combat global warming.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
48-001	I support the 1x1 nautical mile turbine layout - a compromise proposed in response to commercial fisheries' concerns. I oppose adding 2+ mile wide transit lanes within wind farms because it A) reduces offshore wind buildout B) massively impairs carbon reduction potential and C) is unnecessary per the US Coast Guard.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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48-002	I Support offshore wind jobs, ratepayer savings, and reduction of carbon emissions on a large scale	Thank you for your comment.
49-001	Offshore wind is an opportunity to combat climate change by reducing greenhouse gas emissions caused by fossil fuel generation and use... It's already been more than ten years of exhaustive study and analysis to determine where offshore wind could be developed with the least possible impact on existing industries and the environment.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
50-001	Cape Wind was doomed by NIMBYism, but that is not the case here where the turbines are about 15 miles offshore. That project was held up for so long that it became unaffordable. Let's not let that happen with Vineyard Wind. The rates it will delivery electricity for will be a boom to consumers. With the current crises we have had to endure, please give us clean and cheap electricity as soon as possible.	Thank you for your comment.
50-002	Massachusetts needs a lot more Class I RECs to meet the demand of Green Municipal Aggregation programs being adopted by towns around the state.	Thank you for your comment.
51-001	[The North Atlantic Right Whale] are already nearly extinct because of human behaviors, formerly whaling and currently line entanglements and ship strikes. I am concerned that the location of these devices may hinder their movements. Also, whales are very auditory, and any noise can further block their group communication, already compromised because of shipping, etc., and the fact that sound travels much further in water than in air. I would like clear reassurance that research has been done to be absolutely sure that we do not kill off the last NA right whales while we are trying to have sustainable energy - a GOOD causing a BAD.	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. The NMFS Biological Opinion issued by NOAA (NMFS 2020) and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures are discussed Section 3.4.2 and Appendix D of the FEIS. As discussed in the Section 3.4.2 of the FEIS and in the Biological Opinion, no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, as discussed in the Biological Opinion, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. All project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.
53-001	My biggest concern is that I don't want to see it contracted out to foreign labor and foreign flagged vessels...Any vessels NEED to be JONES ACT compliant. Made in USA shipyards, owned by US companies, Flagged in the USA and staffed with US Merchant Mariners period!!! This will ensure that the income earned stays in the USA, apprenticeship opportunities go to local residents, the labor and safety standards of the USA are followed, etc...I'd also like to see a PLA and or MoU from the interested parties to promise to	The SEIS addressed projected job creation, and Section 3.6.1.1 of the FEIS has been updated to include more detailed information from several studies that provide generalized projections of economic investment from offshore wind. Only domestic jobs are included; the Vineyard Wind 1 Project job projections (Section 3.6.2.1) are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the growth of the domestic

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	use LOCAL union labor and Jones Act compliant vessels. Not complying with the Jones Act would be a complete OPTICS failure.	offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions.
54-001	I strongly urge that Alternative Action Proposal A in the Supplement to the Draft Environmental Impact Statement for Vineyard Wind LLC's Proposed Wind Energy Facility Offshore be accepted so that the proposed off-shore wind farm can move ahead. In light of current and future negative impacts of climate change, it is imperative that we transition to renewable energy as quickly as possible.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
56-001	Are the WTGs and their foundations Earthquake Proof and to what level? Earthquakes are mentioned only once (A.8.2.1.1) in the review document and does not address earthquake resilience.	The DEIS and the FEIS include information on non-routine activities and low probability events. Information on severe weather and natural events is included in Section 2.3 of the FEIS and specifies the wind speeds the turbines would be constructed to endure.
57-001	I fully support the Vineyard Wind project. It is an important component in reducing fossil fuel emissions as well as a critical adaptation measure in the protection of our environmental resources for the Cape and the Islands.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
58-001	I support the development of wind energy in Massachusetts...I believe this project will have a positive impact on our area providing skilled jobs and better and sustainable enegery development methods.	Section 3.7.2 of the SEIS and Section 3.6.2 of the FEIS conclude that Vineyard Wind would have a minor beneficial impact due to provision of employment and economic value. The job projections for Vineyard Wind include only jobs located in Massachusetts.
59-001	I fully support the Vineyard Wind 1 Project...Launching the offshore wind industry in the United States is a significant and necessary step towards combating its adverse effects and preserving natural resources for future generations. Failure to act will almost ensure that we experience the worst effects of climate change, a factor that will do far more to disrupt the fishing industry than the development of wind lease areas that were selected primarily because they have the least amount of exposure to fishing.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
59-002	The project will generate clean, renewable, cost-competitive energy for over 400,000 homes and business across the state while reducing carbon emissions by more than 1.6 million tons per year, the equivalent of taking 325,000 cars off the road.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
60-001	I am writing to urge your agency to move forward as soon as possible to approve the construction of the Vineyard Wind project without the reduction in density that is being proposed. This reduction would significantly decrease the electricity production at a time when the United States should be seeking ways to reduce our carbon emissions and expand our sources of renewable energy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
60-002	The one-mile-plus spacing between turbines that Vineyard Wind is planning allows for the largest amount of space between wind turbines of any wind	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	development in the world, and it provides sufficient space for the safe navigation of fishing vessels.	
61-001	I support final approval by BOEM and the Secretary of Interior for the Vineyard Wind LLC's proposed wind facility off the shore of Massachusetts. With many years of detailed work, and much support from the Coast Guard...approval will provide much-needed, non-fossil-based energy and will foster job creations in Massachusetts and across northern New England.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
61-002	I see no reason to expand from 1 mile to the 2-4 mile pathways now under consideration by BOEM, particularly given the USCG's support of the 1-mile plans.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
62-001	It is time for America to harness the abundant clean energy potential off our shores, and seize the environmental, economic, and public health benefits it can unleash. The nation's only five offshore wind turbines - the Block Island Wind Farm - demonstrate the feasibility of this job-creating, wildlife-friendly energy opportunity along the Atlantic Coast. It is essential that we build on that momentum by advancing the nation's first utility-scale offshore wind project.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
62-002	The projects contracted along the Atlantic-coast could generate \$25 billion in annual economic output and 83,000 well-paying jobs by 2030 alone. Whether we reach these goals will depend on swift action from your Department, starting with the approval of Vineyard Wind's 800 megawatt offshore wind project.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States. Section 3.2.1.1 of the SEIS addressed projected job creation, and Section 3.6.1.1 of the FEIS has been updated to include more detailed information from several studies that provide projections of jobs and economic investment from Atlantic coast offshore wind.
62-003	It's time to chart another energy course, and embrace the environmental and economic benefits of responsibly developed offshore wind power.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
63-001	With the uncertainty that comes with living through this [the pandemic], the approval of Vineyard Wind 1 can provide us with a reliable source of clean, renewable energy that, because of the record low bid for this project, will save MA ratepayers more than \$1 billion over the project's lifetime.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
63-002	The approval of this project will directly lead to the creation of thousands of jobs in trades that come with good pay and benefits.	The Vineyard Wind 1 Project job projections (in Massachusetts only) are in Section 3.6.1 of the FEIS, and were also provided in the DEIS. The SEIS addressed projected job creation from Atlantic coast offshore wind and Section 3.6.1.1 of the FEIS has been updated to include more detailed information from several studies. Anticipated salaries for certain offshore-

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		wind-related jobs were provided in the DEIS and are in Section 3.6.2 of the FEIS.
63-003	Vineyard Wind has devoted great resources and time to engage stakeholders throughout this process. Since the release of the DEIS in 2018, they have incorporated stakeholder concerns by agreeing to the 1 X 1 NM grid placement of turbines (as shown in Alternative D2) and taken steps to use Covell's Beach for the cable landfall. Mitigation should be undertaken when it can benefit affected parties, but not to undermine the economic feasibility of this project or future projects. For this reason, I urge BOEM not to select Alternative F using either the 2NM or 4NM transit lanes.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
64-001	This comment is to encourage BOEM's approval of the Vineyard Wind project. The environmental regulatory issues appear to have been addressed responsibly and collaboratively.....We have learned a lot from European wind power construction experience with marine mammal, fish and other wildlife ecosystems, and Vineyard Wind appears to have integrated this learning into its systems, such as consideration for migratory patterns during construction. Even with unanticipated impacts, we are assured by the extant research that they are local, small, and likely to be temporary.	Thank you for your comment.
65-001	Construction of this wind turbine facility will be very good for the environment. Specifically, it will produce clean electricity which will be substituted for energy generation which uses fossil fuels. The burning of fossil fuels contributes to global warming, harming the natural world, including the oceans, and hurting the health of human beings. Burning fossil fuels also contributes to particulate pollution which humans breath into their lungs worsening their health.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
65-002	While the offshore facility might make it marginally harder to collect fish in some areas, it would only impact a very small fraction of fisheries. Furthermore, commercial fishing harms the ocean environment and ecosystem a great deal, especially bottom-trawling. Commercial fishing pollutes the oceans with fishing net waste, which degrades and small plastic particles make their way into food. Fishing boats also kills many whales each year, including the endangered Right whale. A reduction in the volume of commercial fishing would be good for the environment and contribute to the long-term health of the oceans.	Thank you for your comment.
66-001	I support [Vineyard Wind] and all alternative energy projects. We need to stop burning fossil fuels. It's that simple. Climate change is the defining crisis of our time, and no corner of the globe is immune from the devastating consequences of climate change. The costs of ignoring climate change are reaching irreversible points. Wind is the way of a sustainable, livable future.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.

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67-001	I oppose ALL of the comments that urge BOEM to rush forward as fast as possible. This is the start of a multi decade development and it must be laid out carefully from the start...The lease can be taken up by a more responsible developer if this is needed.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
67-002	I strongly recommend that the US does not rush into rapid development without a solid country and regional plan. This is exactly what Vineyard Wind is doing, they are not acting in the green spirit for the maximum economical benefit of their shareholders and their intent is not in the best interest of the general population of the US or even the region.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
67-003	A serious gap in the COP, DEIS and SEIS and even the state of the science is on the wake effects both on the water side and atmospheric side. On the atmospheric side, impacts have been seen in Europe up to 34 km from the wind farms. In the water, there are many images of the sediment re-suspended by the mono-pile foundations that span and exit the wind farm. In the analysis, it has minimal analysis of the physics of the environment...There is significant evidence from wind farms which creates fluctuating pressure deficits. Wind turbines have been taken down on land for these effects and considered a colossal failure. With the prevailing winds relative to the islands, this issue needs to be addressed. The impacts seen in Europe are a wake impact on the surface of the ocean.	Section A.8.2.2 addresses sedimentation and sediment plumes, as well as changes in mixing/stratification due to the presence of structures associated with the Project. Atmospheric effects such as a wake in air are discussed in FEIS Appendix E, Section E.2.6, and oceanographic effects are discussed in Section E.4.4. Consideration of increased water mixing and potential effects on biology is discussed in Section 3.3.1 and 3.3.2 of the FEIS.
67-004	The Baird lectures have shown that within 3 years of the establishment of a wind farm, blue mussels colonize the structure to the degree that the sediments within a 100 m radius are completely anoxic and the sediments are no longer providing the environmental benefits that they naturally do. Impacts are seen up to ranges greater than 600 meters from the foundations. These impacts need to be carefully studied and predicted.	Sections 3.3 and 3.4 of the SEIS discussed the reef effect and the potential colonization by mussels based on what is known from other wind farms. Section 3.2 of the FEIS has been updated to include new data sources and to discuss potential impacts of the presence of structures on sediment near foundations. The current benthic monitoring plan (COP Volume III, Appendix D) is posted on BOEM's website.
67-005	Energy is injected to the coastal water column at full depth through a stratified water column. There are no scientific references available in the literature for a low aspect ratio cylinder in a stratified flow. We do not even have the ability to make a back of the envelope estimate if there will be an impact or not and what that impact will be? Will it be a sustainable upwelling and sustained bloom or will it be a vigorous boom that generates water column anoxia and an ecosystem crash? You can't even begin to assess these impacts without the basic science existing. It is hard to understand how the COP can simply brush off these fundamental impacts and state there will be zero impact without justification or defense of this statement.	Sections 3.4.1, 3.5.1, and 3.6.1 of the SEIS and Sections 3.3.1, 3.4.1, and 3.5.1 of the FEIS discuss the potential impacts of the physical presence of structures in the water column. As discussed in these sections, tank and modeling conclude that flows are reduced immediately downstream of a monopile foundation, but return to background flow from 3.5 to 50 monopile diameters, depending upon local conditions (Miles et al. 2017, Cazenave et al. 2016). While there is some level of uncertainty around the consequences of these flow interruptions on the Atlantic OCS, shelf-scale modeling in the Irish Sea indicates that waterflow typically returns to within 5 percent of background levels within a relatively short distance from monopile foundations, and mean flows disruptions are not expected to reach from one monopile to an adjacent monopile. Therefore, no change to the FEIS is warranted.

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67-006	There is a lot of discussion and concern on cables. They produce various EMF fields that have a relative strength compared to the ambient EMF fields. There is so much biology that can be impacted. The media presented by Vineyard Wind says that the cables will be shielded and EMF will be negligible but scientific research suggests otherwise... can the developer describe why the cables cannot be buried to a depth that makes the EMF negligible for their transmission choice?	Sections 3.3 and 3.4 of the SEIS addressed the potential impacts of EMF on finfish and invertebrates and determined that the impacts would be negligible to minor. Therefore, no change to the FEIS is warranted.
67-007	I am also not confident that the impact of the cabling has been considered. The insurance for the industry states that over 70% of the risk to offshore wind farms is due to cable failure. I would like to see an honest estimate of the lifetime disruption to the benthos from cable maintenance.	Appendix E, Section E.3 of the FEIS has been revised to include consideration of cable failure rates, among other types of failures.
67-008	The SEIS is a great step. A regional view is essential...However, I strongly urge you to not build out 100 foundations prior to additional analysis. I would urge BOEM to really take control of the development and give strong guidance on how we do this responsibly and not let lobbyists for wind companies drive this for special interest groups. Planning should take a much, much wider view and plan for how all this power will be input to the grid. As I see it, there is more power to be produced than can be landed. Planning should include the option to include an ocean grid which would open up PPAs to companies not just states and will reduce the cost to developers in their lease areas.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information. In addition, Section C.5 in Appendix C addresses an offshore regional transmission network that was an alternative considered in the DEIS, SEIS, and FEIS, but not carried forward for analysis as described in that section.
68-001	This project is the first step to wind energy in this country and to stop the first project will subsequently put an end to any future projects, effectively killing the industry we so desperately need. The amount of new jobs that this would generate cannot be overstated...	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States. Section 3.7 of the SEIS addressed projected job creation, and Section 3.6.1.1 of the FEIS has been updated to include more detailed information from several studies that provide generalized projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts.
68-002	As a lifelong fisherman I am excited with the benefits that the towers will bring in the form of artificial reefs for sea life, I believe this will enhance the already outstanding fishing we already have.	Section 3.4 of the SEIS discussed the reef effect on finfish, and Sections 3.10 and 3.11 discussed that recreational fishing may improve near structures offshore. Therefore, no change to the FEIS is warranted.
68-003	I have confidence that the travel lanes are more than adequate and to ask for more is unnecessary and greedy and will kill this project, and wind energy in the U.S.	The FEIS addresses this comment in Sections 3.11.4 and 3.11.5.

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70-001	The draft SEIS includes an alternative ("Alternative F") with 4 nm wide transit corridors through the wind energy area (WEA). The transit corridors, while providing space through the WEA for very large vessels, has several negative impacts both to the wind farms but also to navigation. It is very much "the worst of both worlds" and should not be pursued...Introducing transit corridors would reduce the turbine spacing over the remainder of the WEA and concentrate vessels in those corridors, increasing the risk of collisions. The USCG reviewed the transit corridor option now proposed as Alternative F and rejected it, concluding that fewer large corridors "actually provide far less area than the numerous corridors that result from the recommended array and spacing."	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
70-002	The transit lanes proposed in Alternative F also disproportionately affect some lease areas over others. While comparatively little area of lease OCS-A-0486 is impacted, and the impacted area is furthest from shore, a significant portion of lease area OCS-A-0521 would be lost and the restricted areas are closest to shore, requiring much longer cable runs. The transit lanes in Alternative F should be rejected.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
71-001	I see what we have done to our planet through years of reliance on fossil fuels, and yes no solution is perfect. But here we have the opportunity to lead the way. To build turbines in a way that takes into account, wildlife, fisherman and local residents. There is no perfect solution to supply the energy demands of a growing world, but these turbines along with other clean energy solutions are the future.	Thank you for your comment.
71-002	You can resist the change and demand that as an industry fishing should be given precedence over turbines for ocean space, but you can not deny that your industry has also had dire negative impacts on the waters you claim to be here to protect. Overfishing, habitat destruction and an industry that has become one dominated by large conglomerates can not possibly sit here and say they are doing right by our planet. Yes, the project could affect people's livelihoods, but it could also put us one step closer to having cleaner energy.	Thank you for your comment.
71-003	We are now at the point where we can make a very positive change on our planet when it comes to creating clean energy, creating jobs in a growing field, and we need to take a stand against increasingly large fishing entities that claim to be working for the best interest of their employees and not just to take all they can from our oceans.	Thank you for your comment.
72-001	For our future, I support developing all types of power, particular wind in areas well suited to it, such as off Cape Cod and the Islands. Wind reduces the need to use fossil fuels and is sustainable. The project is the culmination of more than ten years of exhaustive study and analysis to determine where	Thank you for your comment.

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	offshore wind industry could be developed with the least possible impact on existing industries and the environment.	
73-001	Why is the US still using coal & gas for electricity production? Can we get the US out of the 'dark ages' and move into the present with wind power? I fully support the Vineyard Wind project. It is time we take our future seriously and make the change to renewable energy now.	Thank you for your comment.
74-001	I see the threats to [the Connecticut River's] viability daily. Fossil fuels and their by-products have so disturbed the natural environment our waters are getting clogged with hard to control invasives, our air is polluted, fish reproduction is shriveling. We have an opportunity in New England to take a giant step in the right direction if we enable wind farms to be built. I wholeheartedly endorse The Vineyard Wind LLC's proposed wind energy facility offshore MA.	Thank you for your comment.
75-001	Both in spirit and in practice we fully support Vineyard Wind's efforts to move us into the future of green, natural energy. There will always be two sides of the coin, concerns to consider, mitigate, and thoughtfully address but much like a vaccine, the benefits here drastically outweigh any issues or impacts that Vineyard Wind is always quick to consider. We look forward to the day when wind - one of nature's most bountiful gifts - is harvested for energy and survival.	Thank you for your comment.
76-001	I would like to see Vineyard Wind go forward now as soon as possible without any further decrease in density.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
77-001	I support the Vineyard wind project for Connecticut wholeheartedly. It is a natural way to supplement our necessity for power without adding to our environmental problems.	Thank you for your comment.
79-001	I fully support the Vineyard Wind Project. In 2018, the state of Connecticut set a goal of producing 40% of its electric power through renewables by 2030, rising to 100% by 2040 and of reducing greenhouse gas emissions to 80% below 2001 levels by 2050. This project will help us achieve these goals.	Thank you for your comment.
79-002	The untapped offshore wind resource along the U.S. Eastern Seaboard is one of the most powerful in the world, and is within reach of many low income densely populated areas where energy demands are high and new resource options are few and access to employment is low. The offshore wind industry could create 83,000 jobs by 2030 and deliver \$25 billion in annual economic input by that same year.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States. Section 3.71 of the SEIS addressed projected job creation and investment from Atlantic coast offshore wind and Section 3.6.1.1 of the FEIS has been updated to include more detailed information.
81-001	I and my husband completely support Wind Energy. We support the 1x1 nautical mile turbine layout - a compromise proposed in response to	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	commercial fisheries' concerns...Support offshore wind jobs, ratepayer savings, and reduction of carbon emissions on a large scale.	
81-002	We oppose adding 2+ mile wide transit lanes within wind farms because it A) reduces offshore wind buildout B) massively impairs carbon reduction potential and C) is unnecessary per the US Coast Guard.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
82-001	I have viewed their presentation of the [Vineyard Wind] project, and as an engineer, can appreciate its technical merits. Their reaching out to the many stakeholders, listening closely to their concerns, and addressing these concerns in their planning has been extraordinary.	Thank you for your comment.
82-002	As a resident of Cape Cod where we pay some of the highest electricity rates in the country, I welcome the project. The jobs creation alone will benefit us greatly. I will be proud to have it off our shores in its ideal location.	Section 3.6.2 of the FEIS provides anticipated job creation resulting from the Vineyard Wind 1 Project in Massachusetts, and primarily in southeastern Massachusetts. Section 3.6.2 also notes the project's contribution to a resilient and reliable electric supply. This information was also in the DEIS and SEIS.
83-001	The obvious reason to support these projects including our local project vineyard wind is the longterm Enviornmental benefits, to help slow the devastating impacts of climate change, to move away from our dependence on fossil fuels. We have an opportunity to be on the forefront of a new industry harvesting clean renewable sources of energy, this is not only a win on the Enviornmental front but a huge win on the economic front.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
83-002	This global pandemic has had a unique ability to find weak spots in almost every aspect of life. Here on MV and I think in most coastal communities we are heavily dependent on service sector jobs. Restaurants, bars, catering, inn and hotels, taxi and uber drivers, seasonal retail stores, wedding industry,. The list goes on and on..With over 13% unemployment in our country over 20% on Marthas vineyard this is an unbelievable opportunity to create good paying year round jobs that do not rely on tourism. This is not only true for MV but up and down the east coast of the united states in every coastal community. I believe the vineyard wind estimate is 3,600 jobs over the life of the project, that is an enormous economic benefit to local communities. Well paid, year round stable jobs. I think the industry as a whole is estimating 80,000 jobs which again is an enormous benefit to these local communities.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Many of the estimated 80 long-term, year-round operational jobs would be located on Martha's Vineyard.
84-001	We agree that it is important that the first commercial offshore wind projects are done right and that it's imperative to evaluate the cumulative impacts to existing maritime uses as well as the environment and establish best practices that minimize those. We are especially sensitive to the concerns of the commercial fishing industry as an important piece of our past, present, and future economy and one that is impacted the greatest by this industry.	Thank you for your comment.
84-002	Vineyard Wind has gone through many iterations in an effort to craft a facility that is economically feasible while at the same time taking its impacts	Thank you for your comment.

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	into account. Vineyard Wind has been a collaborative, communicative and an engaged partner with many stakeholder groups, and has shown a genuine interest in the region's environmental and economic health.	
84-003	While it is clear that there will be impacts to existing uses and that the emergence of this new industry will require changes in both practice and habit, we feel that the adjustments made through this permitting process, and the mitigations put in place will minimize those impacts.	Thank you for your comment.
84-004	Developers have made a commitment to coordinate a predictable layout that answers marine concerns and comes at the cost of substantial reductions in clean energy potential among the lease areas.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
84-005	We support the proposal, and further dilution beyond this proposal could jeopardize project viability, increase the cost to ratepayers as well as increase environmental impact, and render existing lease areas insufficient to meet the region's clean energy mandates. All this would occur if additional transit lanes are added to the plan, which the US Coast Guard has asserted will not provide meaningful increases in ease of transit and could create increased conflict.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
84-006	In terms of economic development, Vineyard Wind represents a major opportunity bringing \$1.87 billion in direct economic benefits to Massachusetts including 3,600 new jobs. The project has created a \$15 million fund to help build a sustainable offshore wind industry in Massachusetts that would bolster development of the supply chain, businesses, and infrastructure. This type of economic development will play out up and down the east coast of the United States as the nation ushers in this new renewable energy industry.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.2.1 and Tables 3.6-3, 3.6-4 and 3.6-5 also list the grants that would be provided by Vineyard Wind and show economic value and first year tax revenues that would result from Vineyard Wind.
84-007	We urge BOEM to arrive at a final decision on the federal permit this year. This is critical not only for the viability of Vineyard Wind, but for the entire future U.S. offshore wind industry including shipbuilders, suppliers, and other maritime interests. Considering the nation's abrupt economic downturn this year due to COVID-19 impacts, this will help spur immediate economic growth in the nation's economy.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
85-001	Vineyard Wind 1 has been reviewed extensively by federal, state, and local regulators and experts. View factsheets, download the BOEM report, and watch short videos about BOEM's environmental impact report. Thousands of jobs will be supported by offshore wind including a diverse local supply chain. Read about how US manufacturers are preparing, Texas is readying for a new energy boom, and international offshore wind companies are coming to the US.	Section 3.7 of the SEIS addressed projected job creation and investment from reasonably foreseeable offshore wind development. Section 3.6.1.1 of the FEIS has been updated to include more detailed information from several studies that provide projections of economic investment from Atlantic coast offshore wind.

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85-002	Vineyard Wind 1 will feature large 1+ mile spacing between turbines, the largest space between turbines of any wind development currently operating on the globe, to allow for safe navigation and fishing within the wind farm...Additional 2 to 4-mile wide transit lanes within wind farms are unnecessary and reduce renewable energy potential. Read what the US Coast guard said about it. Offshore wind and fishing can coexist.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
86-001	I am not worried about the [Vineyard Wind] windmills being a hazard to navigation. I already have the ability to avoid tiny lobster traps in the fog at night using my radar. I feel the windmills are spaced out adequately.	Thank you for your comment.
86-002	I also think these windmills will create entire ecosystems and increase the marine life in the area, similar to how any artificial reef created in other areas of the East Coast have been great for fishing. Each of these windmill bases will become their own 'artificial reef', supporting dozens of varieties of sea life and also drawing in the bigger predators. I look forward to fishing in the region after they are installed because I think they will vastly improve our fishing opportunities.	Sections 3.3 and 3.4 of the SEIS discussed the reef effect on finfish, and Sections 3.10 and 3.11 discussed that recreational fishing may improve near structures offshore. Therefore, no change to the FEIS is warranted.
87-001	As a piledriver in Local Union 56 out of Boston, MA, the proposed offshore wind farm means more to me than a paycheck. It is an investment in our states future in renewable energy	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS.
87-002	While [commercial fishermen] have every right to utilize the oceans recourses, they do not have the right to shut down a sector that will employ more people and provide clean energy for many years to come. I have already taken part in the training for the offshore wind farms, and my fellow piledrivers and I have every bit as much right to develop the renewable energy resource presented by the wind farms.	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
88-001	If we want to meet national and global climate goals, we need to take action by reducing the state's carbon emissions by 1.6 million tons (as these off-shore turbines will do).	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
89-001	Massachusetts has a seafaring work force that will benefit from gigs requiring seafaring skills. OSW Turbine construction and servicing will employ those seafaring skills and supplement diminished fishing opportunities.	Section 3.6.2 of the FEIS has been updated to explain that the New Bedford Port Authority, Massachusetts Clean Energy Commission, and Vineyard Wind are cooperating to develop supply chain and support opportunities, with a focus on fishing businesses. The supply of marine workers provides an experienced workforce with relevant skills. Section 3.6.2 notes the benefits of diversifying the current marine industries.
90-001	I write this letter of support today for the Vineyard Wind and all offshore wind projects being considered along the continental United States... As we address the challenges associated with the development of offshore wind, we also should look back into the history of power generation and determine if	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.

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	there are lessons learned from the past... As we enter a new century, the power generation industry now must take into consideration of impact items such climate change, carbon dioxide emissions, capacity of fossil fuels while experiencing an increase in global demand for electricity... Offshore wind is no longer a new industry as offshore wind has been around for 20 years, predominately in Northern Europe. Many of the concerns addressed in the BOEM report can be answered by communicating with those who have met the challenges associated with offshore wind.	
90-002	As I reviewed the BOEM report, I took notice of the study on avian fatality and the model that was created indicated one fatality every 6.25 years. It is nice to know that a wind turbine is not a bird Cuisinart.	Section A.8.3.1 of the FEIS provides an updated discussion of collision model methods, but does not include all species that may encounter operating WTGs, as many species do not have the required datasets to allow for modeling. While not all species potentially present within the offshore wind lease areas were modeled, the modeling results of those species with sufficiently robust occurrence and behavioral characteristics datasets represent a variety of species with representative behaviors and flight characteristics and illustrate the overall low expected collisions rates. BOEM expects the same outcome from species that were not modeled. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures.
90-003	In reading the BOEM white paper, there was one statement which was continually used: "To the degree wind energy development offsets the use of fossil fuel used to generate power, it will reduce carbon emissions and further efforts to reduce global warming". Calculated risks are a necessity when adopting a concept for the first time. Global warming is a subject that must be addressed now, and corrective measures must be adopted so future generations are not burdened by lack of decisiveness by regulatory authorities.	Thank you for your comment.
90-004	As a country who takes great pride in wanting to be a global leader, we have decided to an overly cautious approach to the development of offshore wind power generation. Yes, when considering projects of this magnitude, there are risks along with entities which could be impacted. There are also lessons learned from existing offshore wind projects which should assist BOEM in moving the necessary permitting for the Vineyard Wind project forward.	Thank you for your comment.

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91-001	Published Article in Environmental Management (2004) on Waquoit Bay Watershed Ecological Risk Assessment Project	Thank you for your comment.
92-001	At the public meeting on Cape Cod, I recommended a cumulative impact assessment and adaptive, ecosystems-based management approach for this situation... Since it appears that BOEM will use the [Vineyard] Wind FEIS process and approval decision for the permit as a case study for the other proposed 20 (?) wind farms along the Atlantic Seaboard, it is important to dot the I's and cross the T's in the near term to integrate policy/regulations/construction and operations rules.	BOEM will prepare a NEPA analysis for each future proposed offshore wind project within federal waters.
92-002	I registered for last night's "ZOOM virtual meeting" but was unsuccessful in joining it... BOEM seems to have made it difficult to join their ZOOM meetings... My two challenges in joining Friday evening's ZOOM public hearing were my log in name and the the identification number for the ZOOM meeting.	BOEM provided five opportunities to attend the virtual public hearings during the comment period.
92-003	I have a question about the link between the BOEM analysis of cumulative effects of the 20 wind farms between North Carolina and Maine on marine mammals and the NOAA Fisheries GARFO (Greater Atlantic Regional Fisheries Office) Environmental Assessment process on North Atlantic right whale mortalities due to entanglements in American lobster pot gear. When I attended a GARFO meeting on Cape Cod in 2019 Marine Mammal ENGO representative and some scientists raised concerns about the effects of wind farm noise on NARWs.	Section 3.3.7.3, 3.3.8.3, of the DEIS and Section 3.5.1 of the SEIS discussed the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017). Therefore, no change to the FEIS is warranted.
92-004	In addition, NOAA Fisheries recently released its 2020 State of the Ecosystems report which discusses the effects of climate change and ocean noise.	Thank you for your comment.
93-001	Recent news of record warming of both Arctic and Antarctic regions indicates that Climate Change is happening right now, and that it is URGENT to move as expeditiously as possible to large-scale renewable energy sources.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
94-001	It appears to me that not moving forward will hurt us in the future to develop sustainable energy sources and also currently if there's ever an interruption in our current sources of energy. We must continue to move forward on all fronts including wind. The byproduct of more jobs in our communities also has great value. I see no downside to Vineyard Winds and their proposals and hope they continue to expand operations.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
95-001	We badly need this renewable energy [Vineyard Wind project]. Environmentally I would say it is one of the most friendly that there is. We don't have hydro power here but we have a lot of clean wind.	Thank you for your comment.

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96-001	After seeing pollution destroy our planet, having worked on many hazardous waste sites through out my career, I believe the time is now to issue the permits for Vineyard Wind. I understand the fisherman's concerns but I have a right to work offshore too. I believe the navigation way that Vineyard wind is adequate. Good paying jobs are on the line for thousands of people if these permits are not issued as is.	Section 3.6.2 of the FEIS is updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Area. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
97-001	I'm looking forward to working at Vineyard Wind once the project gets up and running.	Thank you for your comment.
98-001	I write to show my wholehearted support for the Vineyard Wind project... I know that this project is a crucial step in building a future where air is clean to breathe and sea levels stalled from rising.	Thank you for your comment.
98-002	Governor Charlie Baker issued Executive Order No. 569, Establishing an Integrated Climate Change Strategy for the Commonwealth. Massachusetts has a deep obligation to deliver on green energy solutions that reduce greenhouse emissions, and the Vineyard Wind project is the opportunity we must seize in order to do so. Offshore wind is central to Massachusetts' and our region's goals of reducing greenhouse gas emissions to limit the effects of climate change.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
98-003	For me, this is far greater than a political issue, it is an issue of whether the Massachusetts of my adulthood will be one where I can walk along Martha's Vineyard beaches, sit at the Boston waterfront, or ski in the hills of Wachusett, as I grew up doing. It is an issue of whether the privileges I've received in the land surrounding me clean water, clean air, grass and trails free of toxic waste will be rights guaranteed to everyone, rather than privileges; we know that our electric power has major public health impacts, typically on disadvantaged communities, that wind does not bear.	Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind. In addition, Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
98-004	It is an issue of whether we will be able to create jobs in the clean energy sector, rather than perpetuating an unproductive reliance on the stagnant coal, oil, and gas industry.	Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
99-001	I strongly support the Vineyard Wind and other proposed offshore wind projects. Offshore wind is critical for eliminating our greenhouse gas emissions and other harmful power plant emissions in the northeast. It will thereby improve public health, and slow climate change. It will do so while reducing wholesale electricity costs, and providing large economic development benefits.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
99-002	The proposed fishing lanes should be more than adequate.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
99-003	Turbine foundations will create habitat for more fish by creating artificial reefs.	Section 3.4 of the SEIS discussed the reef effect on finfish. Therefore, no change to the FEIS is warranted.

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100-001	The Vineyard Wind Energy facility is not only important for cutback on reliance of Fossil fuels in the commonwealth, but also creating a healthier, safer, less expensive way of life for those who live in it. The wind farms will supply clean energy to 400,000 homes to not just the Vineyard but also to Massachusetts, lowering energy bills across the board and saving taxpayers and ratepayers \$1.4 Billion in energy savings over the next 20 years of their usefulness. Similarly, they will create over 3,500 jobs for local residence over the projects lifetime. Lastly, it will help both the Vineyards goal of being totally reliant on renewable energy by 2040 and the Massachusetts Goal of being carbon neutral by 2050.	Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind. Section 3.6.2.1 of the FEIS notes that the estimated job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. These data were also provided in the DEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
101-001	I strongly support the [Vineyard Wind] project and I am very concerned it will be delayed because the Vineyard Wind EIS is defective under NEPA for failing to include a reasonable alternative that would largely eliminate the major environmental impacts of the project. I believe the EIS will be challenged in court, the BOEM will lose, and it will have to start the EIS process over and the project will be significantly delayed.	Thank you for your comment.
101-002	The EIS states that the turbines will be installed on monopole or jacket foundations. These foundations require scouring the seabed at the installation site, destroying habitat, and they are driven into the seabed, creating significant sound effects and potential impacts on endangered whales. They require the use of new offshore crane ships to lift and install the turbines on the foundations. These ships also create environmental impacts.	Sections 3.3 and 3.4 of the SEIS discussed the impacts of pile installation on seafloor habitats and on animals other than mammals. Section 3.5 of the SEIS discussed potential impacts on marine mammals. All resources in Chapter 3 of the SEIS considered potential impacts from vessels, among other factors. Section 3.3.7.3 of the DEIS and Section 3.5.1 of SEIS discussed habitat, noise, and vessel impacts to on marine mammals, including NARW, as a result of the expanded planned action scenario. Consultation with the NMFS under the ESA and MMPA has been completed. The NMFS Biological Opinion and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures) are discussed Section 3.4.2 and Appendix D of the FEIS. As discussed in the Section 3.4.2 of the FEIS and in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, as discussed in the Biological Opinion, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further,

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		should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.
101-003	These impacts are eliminated if mobile jack-up platforms are used as foundations for offshore wind turbines. They do not require pile driving so create no significant sound effects. They are easily removed if they do create adverse environmental impacts. They do not require specialized construction ships and thus eliminate their environmental impacts. They have been used in the Gulf of Mexico for over 60 years and are proven to withstand Category 5 hurricanes. Jackup platforms can readily support turbines of up to 16MW, in depths to 300 feet, using proven offshore oil field construction with ABS-certified design. Thousands of jack-up platforms have been installed around the world... The design is certified by ABS for wind turbines as well as met towers. The design is suitable for depth to 300 feet. In contrast, no monopole foundation for a wind turbine has ever been certified, much less built and proven, for water deeper than 100 feet.	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years. Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted. Furthermore, Section 2.1.7 of the DEIS and Section C.5 in Appendix C of the FEIS includes information on alternatives considered but not analyzed in detail. One such alternative includes alternative foundation types, including jack-up platforms. Information is included in this section, as it was in the DEIS, specifying why alternate foundation types would not be feasible. Therefore, no change to the FEIS is warranted.
101-004	Jackup platforms are known, effective, and eliminate most of the impacts of constructing and decommissioning an offshore wind farm. Their use in the Vineyard Wind project will eliminate the most significant impact of concern on endangered whales protected by law. NEPA requires assessment of reasonable alternatives, especially concerning affected endangered species.	Section 2.1.7 of the DEIS and Section C.5 in Appendix C of the FEIS includes information on alternatives considered but not analyzed in detail. One such alternative includes alternative foundation types, including jack-up platforms. Information is included in this section, as it was in the DEIS, specifying why alternate foundation types would not be feasible. Therefore, no change to the FEIS is warranted.
101-005	The EIS and the supplement are defective because they do not include the reasonable and obvious alternative of mobile jackup foundations. It is very likely that the EIS will be challenged in court and will be found defective, and the EIS will have to redone. This will delay the project, costing the proponents and governments more money and raising the cost of the project which will be passed on to rate payers. BOEM must include a reasonable analysis of the foundation technology alternatives in the Final EIS to avoid this.	Chapter 2 of the DEIS, Chapter 2 and Appendix D of the SEIS and Chapter 2 of the FEIS includes a reasonable range of alternatives considered as well as alternatives considered but eliminated. Therefore no changes to the FEIS are warranted.
102-001	[The Vineyard Wind project] has tons of long-term beneficial impacts for the local community. For example this project will help to generate over 3,000 jobs for people nearby in the area. Provide clean, renewable and cost-effective electricity for 400,000 homes and businesses in Massachusetts. Additionally, within the first 20 years of the project ratepayers will be saving over \$1.4 billion in energy related costs.	Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind. Section 3.6.2.1 of the FEIS notes that the estimated job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.

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103-001	I have been concerned about impending climate change since Earth Day 1970. Now it is an impending Climate Crisis (or worse) due to our relative inaction and the obstructionism and the ultimate failure of Cape Wind. No solution is perfect, but Vineyard Wind and subsequent projects appear now the only prospect for getting close to 100% renewable electricity for Massachusetts by 2050. The negative impact on marine fisheries and migratory birds have been well studied and in my opinion are dwarfed by the importance of this and other renewable energy projects for sustaining life on earth as we know it (including the lives of fish and birds).	Thank you for your comment.
104-001	It is imperative that we, as global citizens, wake up to the reality of climate change and aggressively pursue ways to limit the devastation. Any project that focuses on clean, non-carbon energy should be brought on-line. Off-shore wind is one of very few initiatives that can make a substantial impact. The demonstration project off of Block Island has shown how effective off-shore wind can be.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
104-002	Slowing climate change would be a good enough reason to develop off-shore wind. When you add to that the benefits to public health from fewer particulates (from burning fossil fuels), the value of this project should be obvious.	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
105-001	I urge you to approve the proposed Off-Shore Wind projects. These projects are critical to helping us meet our energy demands, while reducing environmental harm caused by traditional fossil fuels energy sources. After 10 years of planning, outreach, environmental reviews, and design adjustments, it is time to move forward and join the rest of the world in embracing off-shore wind technology.	Thank you for your comment.
105-002	The projects will also provide jobs as they create a new industry for the state.	Job projections for the Vineyard Wind 1 Project are provided in Section 3.6.2 of the FEIS, and were also provided in the DEIS. National projections of jobs and investment for future offshore wind are provided in Section 3.6.1.
106-001	I agree with the BOEM decision to include cumulative impacts of the build out of additional offshore wind projects in neighboring lease areas, and future projects in the Vineyard 1 lease area. Approval and construction of the Vineyard 1 project will open the door to additional offshore wind construction. How would future projects be limited once the first is in place?	BOEM will comply with NEPA and all other procedural requirements separately for each future proposed offshore wind project within federal waters. BOEM will make a separate decision on each COP submitted.
106-002	I agree with the draft EIS conclusions that the cumulative impact of the proposed action will be major for commercial fisheries, for hire fisheries, navigation and vessel traffic, scientific research and studies, and military and national security. The EIS conclusions are based on responses from the US Marine Fisheries Service, the US Coast Guard and Navy, and marine research organizations.	Thank you for your comment.

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106-003	I disagree with the draft assessment assumption that if the Vineyard Wind 1 project is not built, it will be replaced with other offshore wind projects to meet state mandates. Other projects may be restricted for the same reasons Vineyard 1 may be rejected for BOEM permit approval. For example, if Vineyard 1 was rejected because of visual impacts of being too close to shore, any future project a similar distance from shore could also be rejected.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed because of the need to meet mandates/demand. This assumption also allowed BOEM to assess the maximum-impact scenario in terms of potential impacts.
106-004	I disagree with the draft EIS conclusion the cumulative impact of the proposed action will have moderate negative impacts, and minor benefits on tourism. In deciding the impact on viewshed the draft EIS quotes from a BOEM commissioned study from Parsons and Firestone (page 3-86)... The summary of the study findings, and the study itself have several flaws. The Parsons/Firestone study used visualizations of a 579' tall turbine compared to the Vineyard current plan of using 837' tall turbines, and the turbines will be as close as 14 miles from shore. The taller turbines have the equivalent visual impact of moving the turbines 5 miles closer to shore in the Parsons/Firestone study, or equivalent to 10 miles. At 10 miles, survey respondents stated their recreational beach experience would be worse with turbines visible by a three to one margin (29 percent to 10 percent at 10 miles shown in Figure 3 below). Trip loss is expected to be 14 percent compared to trip gain from curiosity trips of 2.6 percent (see study Figure 5...).	Although research findings in the SEIS have not been updated to address the 14 MW turbines, Sections 3.9.1 and 3.9.2 of the FEIS have been updated to include and evaluate the updated Vineyard Wind visual simulations. The simulations provide views of the 14 MW WTGs as well as simulations for Vineyard Wind 1 wind turbines combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment . These simulations, combined with the Parsons and Firestone study and other sources cited in the SEIS reflect the best available data, and are sufficient to support a reasoned choice among alternatives; therefore, no further change to the FEIS is warranted.
106-005	In deciding the impact on viewshed the draft EIS quotes from a BOEM commissioned study from Parsons and Firestone (page 3-86)... The summary of the study findings, and the study itself have several flaws... curiosity trips are a one-time event, while trip loss tends to be permanent. Also, negative responses about visible turbines were followed up, and adjusted for a measure of certainty while positive responses had no such follow up, or correction. The Parsons/Firestone study sample included people involved in beach activities (65 percent), and people who simply visited the beach area, but not the beach itself (35 percent) who would not be expected to oppose visible wind turbines. The Parsons/Firestone report stated property values would fall, but did not quantify by how much.	Section 3.10.1.1 of the SEIS notes the following findings from the Parsons/Firestone survey: (1) Reported trip loss (respondents who stated that they would visit a different beach without offshore wind) averaged 8 percent when wind projects were 12.5 miles (20 kilometers) offshore, 6 percent when 15 miles (24.1 kilometers) offshore, and 5 percent when 20 miles (32 kilometers) offshore; and (2) About 2.6 percent of respondents were more likely to visit a beach with visible offshore wind facilities at any distance. The SEIS did not base findings on one-time beach visits from those who wanted to see wind turbines (the "curiosity trips"). The SEIS reflects study findings that the overall impact of visible WTGs on recreation would be long-term, continuous, and adverse; that certain seaside locations on the southern coast of Nantucket and Martha's Vineyard could experience a small reduction in recreational and tourism activity; and that the visible presence of WTGs from limited shore locations would be unlikely to affect shore-based recreation and tourism in the geographic analysis area as a whole (as opposed to just the beach area). The Parsons and Firestone study and other sources cited in the SEIS reflect the best available data, and are sufficient to support a reasoned choice among alternatives; therefore, no change to the FEIS is warranted.

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106-006	Contrast the Parsons/Firestone study with the study by Lutzeyer et.al. (2017), “The Amenity Costs of Offshore Wind Farms: Evidence from a Choice Experiment” ³ . The Lutzeyer study worked with beach home rental companies, and surveyed only people who had recently rented a house on, or near the beach. The study found 38 percent of beach renters would likely not come back to a beach with daytime visible turbines regardless of the distance as shown in the study quote below. In addition, others would return only with a rental discount depending on the distance...	Section 3.10.2.1 of the SEIS provided a finding from the cited study (Lutzeyer et al. 2017), stating that nighttime views of aviation hazard lighting for WTGs close to shore (5 to 8 miles [8 to 13 kilometers]) would adversely impact the rental price of properties with ocean views. This study did not address the relationship between lighting, nighttime views, and tourism for WTGs 15 or more miles (24.1 or more kilometers) from shore. Therefore, no change to the FEIS is warranted.
106-007	The Lutzeyer study also showed nighttime visualizations of red flashing aircraft warning lights, and respondents stated even higher rates of objection with 55 percent not likely to return to a beach with nighttime visible turbines. In a query to Parsons/Firestone I learned they also showed nighttime visualizations but did not report the results. Since BOEM paid for the study the nighttime survey results should be demanded by BOEM.	Section 3.10.2.1 of the SEIS stated that Vineyard Wind had committed to use ADLS to reduce the time when nighttime aviation lighting is activated, and that within the viewshed of the geographic analysis area, the use of ADLS for offshore wind projects would reduce the impact of nighttime aviation safety lighting to negligible. Vineyard Wind would also use white or light grey color as described in Appendix D to reduce visibility against the horizon. Therefore, no change to the FEIS is warranted.
106-008	Orsted has volunteered to install aircraft detection lighting systems (ADLS) that use radar to detect the presence of nearby aircraft to turn the warning lights on. Otherwise the lights are off reducing nighttime lighting by up to 99 percent. These systems have been approved by the Federal Aviation Administration that controls such systems up to 12 nautical miles from the coast, and by BOEM for greater distances.	Section 3.10.2.1 of the SEIS stated that Vineyard Wind had committed to use ADLS to reduce the time when nighttime aviation lighting is activated. Therefore, no change to the FEIS is warranted.
106-009	While the ADLS mitigates this issue for the Vineyard Winds 1 project, no such commitment has been made for other lease areas. While no exact cost could be determined for an ADLS could be determined there are several references the systems are very expensive, and thus not be offered voluntarily in every circumstance. For example, Orsted has discussed ADLS for the Skipjack project off the Delaware coast, but has not volunteered to install it. Without such systems the nighttime aircraft warning lights would constitute a major negative impact.	Section 3.10.2.1 of the SEIS stated that Vineyard Wind had committed to use ADLS to reduce the time when nighttime aviation lighting is activated. The SEIS also concluded that nighttime lighting of offshore wind turbines would have an adverse impact on the visual quality of the landscape, but within the viewshed of the geographic analysis area, the use of ADLS for offshore wind projects would reduce the impact of nighttime aviation safety lighting to negligible. Therefore, no change to the FEIS is warranted.
106-010	Martha’s Vineyard and Nantucket will face a cumulative 56 miles of continuous turbines on the southern horizon coming as close as 14 statute miles from seven separate proposed lease areas. The Martha’s Vineyard Commission reports the combined direct economic impact of tourism on the two islands was about \$333 million in 2016, with about 2,000 jobs, along with about \$26 million in state and local tax revenue. The U.S. Bureau of Economic Analysis estimates an indirect multiplier of 1.43 bringing the total economic benefit to about \$475 million a year.	The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. The FEIS in Sections 3.9.1 and 3.9.2 has been updated to address new visual simulations provided by Vineyard Wind that provide views of the Vineyard Wind 1 14 MW wind turbines as well as simulations of Vineyard Wind 1 combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
106-011	A 10 percent loss in net tourism using the Parsons/Firestone study would yield a Gross State Product loss of \$47.5 million a year. The Net Present	Section 3.10.1.1 of the SEIS notes the following findings from the Parsons/Firestone survey: (1) Reported trip loss (respondents who stated that

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	Value of the loss over the expected twenty year life of the Vineyard [Wind] 1 project is \$576 million at a 7 percent discount rate, and \$827 million at a 3 percent discount rate. Even a 1 percent tourism loss, given the lower population in the southern part of the islands, comes to about \$58 to \$83 million loss using the same discount rates. In either case, the cumulative impact is a potentially major impact, not a moderate impact as stated in the Draft Environmental Impact Study, and there are no offsetting minor benefits. The 1 percent loss becomes quite significant for projects closer to high impact tourist zones. I estimate the Net Present Value of a 1 percent loss of tourism in the Delaware and Maryland beach area would be about \$1 billion.	they would visit a different beach without offshore wind) averaged 8 percent when wind projects were 12.5 miles (20 kilometers) offshore, 6 percent when 15 miles (24.1 kilometers) offshore, and 5 percent when 20 miles (32 kilometers) offshore; and (2) About 2.6 percent of respondents were more likely to visit a beach with visible offshore wind facilities at any distance. The SEIS did not base findings on one-time beach visits from those who wanted to see wind turbines (the "curiosity trips"). The SEIS reflects study findings that the impact of visible WTGs on recreation would be long-term, continuous, and adverse, and while certain seaside locations on the southern coast of Nantucket and Martha's Vineyard could experience a small reduction in recreational and tourism activity; and that the visible presence of WTGs from limited shore locations would be unlikely to affect shore-based recreation and tourism in the geographic analysis area as a whole. Therefore, no change to the FEIS is warranted.
106-012	BOEM in Docket 2020-0005 is appropriately: Using cumulative impact of neighboring offshore wind projects to consider the environmental impact of the Vineyard Wind 1 project.	Thank you for your comment.
106-013	BOEM in Docket 2020-0005 is appropriately: Concluding that the cumulative impact of the proposed action will be major for commercial fisheries, for hire fisheries, navigation and vessel traffic, scientific research and studies, and military and national security.	Thank you for your comment.
106-014	BOEM needs to correct: The draft EIS conclusion the cumulative impact of the proposed action will have moderate negative impacts, and minor benefits on tourism is wrong. A 10 percent loss in net tourism using the Parsons/Firestone study would yield a Gross State Product loss of \$47.5 million a year. The Net Present Value of the loss over the expected twenty year life of the vineyard 1 project is \$576 million at a 7 percent discount rate, and \$827 million at a 3 percent discount rate. Even a 1 percent tourism loss, given the lower population in the southern part of the islands, comes to about \$58 to \$83 million loss using the same discount rates. In either case, the cumulative impact is a potentially major impact, not a moderate impact as stated in the Draft Environmental Impact Study, and there are no offsetting minor benefits	Sections 3.10.1.1 and 3.10.2.1 of the SEIS use the findings of the Parsons/Firestone survey to conclude that visible WTGs would have a long-term, continuous impact on the use and enjoyment of recreation and tourist facilities. Specifically, a small proportion of visitors to south-facing coastal or elevated locations may alter their behavior; however, this changed behavior is unlikely to meaningfully affect the recreation and tourism industry as a whole (Section 3.7.2 of the SEIS). Therefore, no change to the FEIS is warranted.
106-015	BOEM should require the Parsons/Firestone team release the results of their nighttime visualization survey as BOEM paid for the study, and adjust the authors conclusions taking into account the impact of taller turbines effectively making the turbines appear 5 miles closer.	Coastal nighttime views of WTGs would result entirely from the aviation safety lighting. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address night sky impacts, and Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation safety lighting on the wind turbines.

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107-001	Vineyard Wind's project sets a precedent for responsible development that is critical to reduce fossil fuel emissions to stem the tide of the climate crisis.	Thank you for your comment.
107-002	The SEIS demonstrates that wildlife and habitat can be protected with offshore wind energy development.	Thank you for your comment.
108-001	The Supplemental Environmental Impact Statement affirms that offshore wind energy CAN be developed in a way that protects wildlife and habitat.	Thank you for your comment.
108-002	Among [Vineyard Wind's] benefits is the probable reduction of emissions from fossil fuel power-generating facilities and improved air quality. Climate change is omnipresent and offshore wind energy sources represents a sane and risk-averse methodology.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
109-001	I support the proposed Wind Energy Facility because wind is an essential future resource for moving toward clean energy. Wind is free and wind turbines look better than fossil plants anyway!	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
111-001	Above all other considerations, we should get on with this wind project because it will seriously contribute to reducing air pollution and global warming while having amazingly little negative impact on our planet's ecosystem.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
111-002	The proposed project is well situated to exploit abundant wind resources while being located near coastal cities that will use the energy produced efficiently.	Thank you for your comment.
111-003	In addition, it is my hope that jobs and related industrial support will arise in connection with this development benefitting the industries and workers of the Eastern United States.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
111-004	With respect to the additional transit lanes under consideration since 2019, it appears the additional lanes may hamper unnecessarily the viability and efficiency of the proposal causing delay, delay beginning more or less from 2010 that after all these years should come to an end. The 1 X 1 nautical mile turbine layout is an adequate response to commercial fisheries concerns. The Coast Guard study that found the additional lines unnecessary is appropriate and persuasive.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
112-001	we should get on with this wind project because it will seriously contribute to reducing air pollution and global warming while having amazingly little negative impact on our planet's ecosystem.	Greenhouse gas emissions, climate change, and air quality were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.

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112-002	In addition, it is my hope that jobs and related industrial support will arise in connection with this development benefitting the industries and workers of the Eastern United States.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
112-003	it appears the additional lanes may hamper unnecessarily the viability and efficiency of the proposal causing delay, delay beginning more or less from 2010 that after all these years should come to an end. The 1 X 1 nautical mile turbine layout is an adequate response to commercial fisheries' concerns. The Coast Guard study that found the additional lines unnecessary is appropriate and persuasive.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
113-001	The proposed project is well situated to exploit abundant wind resources while being located near coastal cities that will use the energy produced efficiently.	Thank you for your comment.
113-002	In addition, it is my hope that jobs and related industrial support will arise in connection with this development benefitting the industries and workers of the Eastern United States.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
113-003	Above all other considerations, we should get on with this wind project because it will seriously contribute to reducing air pollution and global warming while having amazingly little negative impact on our planet's ecosystem.	Greenhouse gas emissions, climate change, and air quality were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
113-004	With respect to the additional transit lanes under consideration since 2019, it appears the additional lanes may hamper unnecessarily the viability and efficiency of the proposal causing delay, delay beginning more or less from 2010 that after all these years should come to an end. The 1 X 1 nautical mile turbine layout is an adequate response to commercial fisheries' concerns. The Coast Guard study that found the additional lines unnecessary is appropriate and persuasive.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
114-001	I fully support developing clean energy potential off our shores. The Block Island Wind Farm demonstrates the feasibility of this job-creating, wildlife-friendly energy opportunity along the Atlantic Coast. It is so important for combatting climate change that we advance the nation's first utility-scale offshore wind project.	Thank you for your comment.

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114-002	Projects contracted along the Atlantic-coast could generate \$25 billion in annual economic output and 83,000 well-paying jobs by 2030 alone. Whether we reach these goals will depend on swift action, starting with the approval of Vineyard Wind's 800 megawatt offshore wind project.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
114-003	The untapped offshore wind resource along the Eastern Seaboard is one of the most powerful in the world. Offshore wind is within reach of some of the most densely populated areas in the country where energy demands are high and new energy options are few.	Thank you for your comment.
114-004	We can already see the effects of climate change threatening our wildlife and coastal communities. It's time to chart another energy course, and embrace the environmental and economic benefits of responsibly developed offshore wind power. I urge you to act expediently to move the Vineyard Wind project forward and ensure responsibly developed offshore wind power plays a major role in our nation's energy future.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
115-001	I live in MA and often visit Martha's Vineyard and areas near the site and have NO reservations [about the Vineyard Wind project] -except for the ridiculously slow pace of this process in completing a project that should have been done a decade ago!!!	Thank you for your comment.
116-001	I am writing in support of the proposed Vineyard Wind wind farm. I am very concerned about the effects of climate change and believe we must do everything we can to invest in renewable energy sources and reduce our dependence on fossil fuels... The Northeast region must diversify our alternative energy sources, and wind technology is a vital part of that portfolio.	Thank you for your comment.
116-002	I support the plan with the 1x1 nautical mile turbine layout without adding additional transit lanes, as this was deemed unnecessary in the recent US Coast Guard Study and would reduce the carbon reduction potential.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
117-001	As executive director of ACE MV, Adult and Continuing Education of Martha's Vineyard, I am excited to have welcomed our first cohort of students this January, entering into our new certificate program to earn a credential through Bristol Community College as Offshore Wind Technician—specifically to support the new offshore wind initiatives. We enrolled 18 Martha's Vineyard residents to study in a 2-3 year program that will directly prepare them as technicians working on offshore wind turbines. We expect to welcome our second cohort of students in January 2021, and will continue	Section 3.6.2 of the FEIS has been updated to include the Bristol Community College offshore wind training program as one aspect of local investment in the offshore wind industry. As noted in Section 3.6.2, the Vineyard Wind 1 Project would create both short-term construction jobs within the geographic analysis area and long-term jobs. Many of the estimated 80 long-term, year-round operational jobs would be located on Martha's Vineyard due to the location of the operations and maintenance facility and use of Vineyard Haven harbor.

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	this educational program into the future to meet the needs of renewable energy in southeast Massachusetts.	
117-002	There is no comparison between offshore wind and mountaintop removal; the erection of turbines in the ocean and the maintenance of them will have a significantly lower environmental impact and is a much more welcome process than pursuing coal or other fuels.	Thank you for your comment.
118-001	According to the Audubon Society, this habitat warming is having a more devastating effect on birds than wind farms on the eastern seaboard.	Thank you for your comment.
118-002	Now I see [commercial fishermen's] expressed need for a 2-4 mile wide transit lane through wind farms in order for them to get from one side to the other. This cannot be true. No self-respecting sea captain needs even a mile wide channel never mind a 2-4 mile one.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
118-003	To preserve planet Earth for humans and all animal life we must convert from energy based on burning fossil fuels to energy based upon renewable, sustainable sources such as solar panels and wind farms [including Vineyard Wind].	Thank you for your comment.
119-001	Our region's economic vitality and quality of life are interdependent with our natural environment. Through our green initiative, we have undertaken efforts to address climate change, leveraging all of our resources. As noted in the SEIS, "the Proposed Project and other future offshore wind projects will in fact probably lead to reduced emissions from fossil fuel power-generating facilities and benefit air quality."	Thank you for your comment.
119-002	We commend the Bureau of Ocean Energy Management (BOEM) and the federal and state agencies who have engineered and conducted such an engaged, collaborative process. We also commend all involved for their collaboration in arriving at approaches that respect the concerns of all major stakeholders.	Thank you for your comment.
119-003	Thank you for all you have done to move this project to the point where it can most optimally achieve its objective, while minimizing concerns relative to related industries, natural wildlife, ocean life and surrounding communities.	Thank you for your comment.
120-001	Offshore wind resources in the Atlantic Ocean are an important resource for the densely populated Eastern seacoast. The offshore wind industry could create many thousands of jobs in both development and maintenance of this non-polluting resource. And save rate payers money while avoiding the fast spreading environmental crises.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.

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120-002	Offshore wind energy can be developed in a manner that protects wildlife and habitat, and will by reducing climate change protect these and other habitats from destruction. The proposed Project (and other future offshore wind projects) will probably lead to reduced emissions from fossil fuel power-generating facilities and benefit air quality.	Greenhouse gas emissions, climate change, and air quality were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
120-003	Vineyard Wind 1 will avoid emissions of almost 1.7 million tons of carbon dioxide per year, the equivalent of removing 325,000 cars off the road	Greenhouse gas emissions, climate change, and air quality were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
120-004	Vineyard Wind along with other developers of the New England Wind Energy Areas in late 2019 proposed to advance all future projects in their lease areas with a uniform 1 x 1 Nautical Mile (NM) layout. The United States Coast Guard (USCG) has since determined that this type of "standard and uniform grid pattern" layout would "maximize safe navigation"	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
120-005	The commercial fishing industry proposal of additional transit lanes (reflected in Alternative F of the SEIS), which would eliminate 30% of the areas of the area's potential energy production, 3,300 megawatts, or enough to power 1.65 million homes. This is unnecessary and unacceptable	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
121-001	Offshore wind energy generation is one of many pieces in the very large puzzle needed to ensure a safe and secure world for future generations. Therefore, the Vineyard Wind Project MUST happen. Massachusetts must lead the country in a clean energy revolution for offshore wind because revolutions are what we do best!	Thank you for your comment.
122-001	I support the Vineyard Wind project for a variety of reasons, chief among which is the positive impact it will have on our environment. Massachusetts should lead the way in converting our energy dependence from fossil fuels to renewables, and the proposed project is a major step in accomplishing that leadership.	Thank you for your comment.
122-002	The Vineyard Wind project will also result in a substantial number of high-quality jobs. Vineyard Wind is an outstanding project to put people to work helping to convert to renewable energy and I support it fully.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
123-001	the [Massachusetts Maritime] academy agrees with the New England Wind Energy Area (NE WEA) leaseholder's plans to provide 1+ mile spacing between turbines, the largest space between turbines of any wind development currently operating on the globe, to allow for safe navigation and fishing within the wind farm.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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123-002	Wind Power generation being considered along the Atlantic Coast will have a direct and positive impact on reduction of greenhouse gasses while providing an economic stimulus measured in billions of dollars.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS. Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
123-003	Wind Power generation has been accepted and proven effective for 20 years in Europe. The concept of offshore wind power generation off the Atlantic Coast must now go forward with necessary permitting, enthusiasm and support from all involved parties.	Thank you for your comment.
124-001	I support the Vinyard Wind project to go forward asap without the proposed reductions in density. We need the renewable energy and this has been studied and debated for decades.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
125-001	I support this project not only because of the thousands of jobs it will create, ...	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
125-002	...but because it will give Massachusetts a chance to be a part of the solution when it comes to fighting climate change by reducing greenhouse gas emissions.	Thank you for your comment.
125-003	Not only does this [Vineyard Wind Project] have a positive effect on the climate it also has many public health benefits as many communities suffer numerous negative effects on their health due to carbon emissions.	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
126-001	Projects like these are critical to the future of our country.	Thank you for your comment.
127-001	I am appealing to you to support the future of clean energy. A large scale offshore wind farm such as Vineyard Wind would be the right step in that direction.	Thank you for your comment.
127-002	I urge you to support the 1x1 nautical mile uniform turbine layout. This compromise was proposed jointly by developers in response to commercial fisheries' concerns. This compromise will result in a 30% reduction of potential energy production across wind areas (~13,500 megawatts will be eliminated). This will Create hundreds of 1 nautical mile (larger than a mile) wide lanes for fishing and transit within MA & RI wind farms.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
127-003	A recent study showed that the US Coast Guard support the wind farm and opposed adding additional transit lanes within wind farms. This option reduces offshore wind buildout (additional ~4,000 megawatts eliminated) which will massively impair carbon reduction potential.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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127-004	It [additional transit lanes] will also Impair states' abilities to meet renewable energy targets.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
127-005	Vineyard Wind has made agreements with the host community much like the ones Nantucket made with Harwich years ago to have electricity sent over to the Island from Harwich, MA. That agreement has worked great all these years, I foresee the wind farm agreement made by Vineyard Wind with the host community on Cape will work as well. The parties involved have all signed on so therefore I don't see a stumbling block for this project to move forward.	Thank you for your comment.
127-006	This offshore wind farm will create jobs, provide ratepayer savings, and reduce carbon emissions on a large scale.	Thank you for your comment.
128-001	...I know the Vineyard Wind project in its' present form is the right project at the right time. The scaled back version is a good compromise that should now move forward. As I look at the Nantucket project more than 25 years later I know we made the right decisions and you would be hard pressed to find any residual impact at all.	Thank you for your comment.
129-001	State of the art wind turbines along the Atlantic Coast will be among the most, if not the most, efficient means of generating electricity. That means we can have the direct benefits of low-cost power, more jobs, more revenue for governments and adequate profits for investors.	Section 3.7.1 and 3.7.2 of the SEIS include, as a beneficial impact of offshore wind, the long-term contribution of offshore wind to energy security and resiliency. In addition, Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment in offshore wind resulting from growth of a wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
129-002	But of much greater significance will be the indirect benefits, or externalities, of less harm to public health and less property damage from forest fires, floods and strong winds. The current Covid crisis provides a painful example of the kinds of threats that will be faced in the future if we fail to cut carbon emissions.	Thank you for your comment.
130-001	An emphasis on wind energy is crucial in protecting our planet as we wane off environmentally harmful energy sources. The additional benefits to the surrounding economy further show how important and impactful this project will be.	Thank you for your comment.
131-001	am concerned about properly tracking climate changes because it is key to helping all stakeholders understand the urgency of moving forward on this project and the wind facilities that are scheduled to be installed along the coast.	Thank you for your comment.

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132-001	If we want to avoid catastrophic climate collapse, we must stop burning fossil fuels today. Offshore wind gives us an immediate and technologically possible solution..... The coast of New England is no different. Warmer waters are already affecting marine life, and if this process continues, our entire fishing ecosystem might collapse. It is not the question of "how will offshore wind affect the fishing industry?". The question we have to ask is "will we build the offshore wind fast enough to prevent the marine life collapse going on right now?"	Thank you for your comment.
133-001	The fishing issue is bigger than that represented by this area of the Atlantic, and needs to be viewed in the context of the impacts of Ocean Acidification, declining marine environments and fish stocks.	The effects of ocean acidification in the context of climate change were assessed in the SEIS and the FEIS. The conditions of marine environments and fish stocks were also assessed in order to establish baseline conditions against which proposed Project impacts could be analyzed.
133-002	We can do everything possible to accommodate the fisherman and still we will lose in the end because bigger forces are at work impacting our fish. And yet, the fishermen need help, but it goes beyond limitations that possibly will impact them on these projects.	Thank you for your comment.
133-003	I call on all the New England states to work with the fisherman and help them maintain their livelihoods. New England has a long tradition of working as a community to help fellow citizens. We should not back away from that now. In other words, I do not believe this project can be viewed solely in the context of the microenvironments in which these wind farms will be located.	Thank you for your comment.
133-004	As for the impacts on Military and Science – they have areas where they worked that could be impacted. It’s a big ocean. If the priority is high enough why can’t they move their boundaries to accommodate their training exercises, and their monitoring activities? This may be naive, however, all of these issues were created by people and can be changed by people. This project should not be delayed because of human created obstacles.	Section 3.12 of the FEIS addresses potential impacts to military and national security uses and scientific research and surveys. BOEM coordinates with the Department of Defense and the U.S. Coast Guard throughout the process of identifying lease areas and approving COPs in order to identify and minimize conflicts with military and national security concerns. As described in the FEIS, the level of impact to military and national security uses is anticipated to be minor for the Proposed Action, and moderate for USCG SAR operations. In the context of reasonably foreseeable environmental trends and planned actions, the overall level of impact to military and national security uses is anticipated to be minor, and major for USCG SAR operations.
133-005	We know by now that when a new technology—like Wind, or—looking in another arena like Facebook comes into a space there will be unforeseen consequences that we can’t even imagine—even though BOEM has done as thorough of a job as possible with what we know today. Vineyard Wind is a company that has deep experience with a demonstrated track record who is able to anticipate some of the issues we may not even see.	Thank you for your comment.

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133-006	The East Coast has a need for short and long term energy supplies, and given the strategic priorities of our states – clean energy. Vineyard Wind is here to provide it. I urge you to take the greater context into account in moving this project forward.	Thank you for your comment.
134-001	Vineyard Wind 1 will supposedly create roughly 3,600 jobs for local residents in Martha's Vineyard as well as the state of Massachusetts over time...	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Most of these jobs would be in southeastern Massachusetts, and many of the estimated 80 long-term, year-round operational jobs would be on Martha's Vineyard.
134-002	...and at the same time it will be removing 1.7 million tons of carbon dioxide from the atmosphere which is an environmentally beneficial task that helps push the world towards using renewable and reusable sources of energy.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
134-003	Over 400,000 homes and businesses in Massachusetts will have access to this new, clean, and renewable source of energy.	Thank you for your comment.
134-004	A prominent issue in regards to transitioning fully to wind energy, is the view. Many people believe these WTG's are hideous to the eye, and do not want them visible around the radius of their homes.	Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations and night sky impacts. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation lighting. Vineyard Wind would also use white or light grey paint color as described in Appendix D to reduce visibility against the horizon. New visual simulations provide views of the 14 MW WTGs as well as simulations for Vineyard Wind 1 wind turbines combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment
134-005	Taking this into consideration, BOEM has created a way to limit the visibility of these turbines through ALDS, or Aircraft Detection Lighting System, which will greatly limit the visual impact of lights on the turbines. The paint is also non - reflective and off-white, further decreasing visibility.	Section 3.10.2.1 of the SEIS stated that Vineyard Wind had committed to use ADLS to reduce the time when nighttime aviation lighting is activated, and that within the viewshed of the geographic analysis area, the use of ADLS for offshore wind projects would reduce the impact of nighttime aviation safety lighting to negligible. Vineyard Wind would also use white or light grey color as described in Appendix D to reduce visibility against the horizon. Therefore, no change to the FEIS is warranted.
134-006	For economic reasons, studies have shown that European offshore wind facilities have not had an impact in the number of tourists they typically see. On top of this, it has been stated that Block Islands WTG's provide an excellent place for fishing and shell fishing. 68% of respondents indicated that the visibility of turbines would neither improve or worsen their experience. This is over 50% of respondents.	The comment refers to one of the findings from the study "Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism" (Parsons et al. 2018); other results of the study are summarized in Section 3.10.1 of the SEIS. In addition, a 2018 study and literature review used in the SEIS and referred to in this comment (Smythe et al. 2018) provided material summarized in Section 3.10.1 of the SEIS. Therefore, no change to the FEIS is warranted.

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134-007	Overall, after years of planning and researching, BOEM has created a plan to vastly benefit not only the environment, but the economy and living conditions of hundreds of thousands Massachusetts residents.	Thank you for your comment.
135-001	...we believe that the Supplemental Environmental Impact Statement (SEIS) submitted in December 2019 fully addresses the concerns which were raised by other stake holders when reviewing the first EIS. We strongly urge BOEM to approve this SEIS and allow this project, which is critical to the entire US offshore wind industry, to move forward.	Thank you for your comment.
135-002	Specifically, we want to point out that Vineyard Wind has revised the overall grid layout for the placement of turbine towers to allow for 1 nautical mile (NM) between each tower, in response to commercial fishing industry concerns for vessels transiting the lease site. We recognize their legitimate worries for how the project will impact fishermen. It is clear that Vineyard Wind has taken their issues seriously.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
135-003	The re- design of the layout, which has the support of the United States Coast Guard , will come at considerable expense to the developer. The longer transmission cables will incur costs, as well as the operational cost of 84 borings at the new locations. And the company has committed a further \$17 million to a fund to mitigate any impacts to fishing that may occur.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
135-004	However, we believe the current demand by commercial fishing interests for a 4 NM wide transit corridor is unnecessary and will make the project financially unfeasible. More to the point, it will jeopardize the future of offshore wind, with major negative impacts immediately for both jobs and the regional economy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
135-005	Vineyard wind will help Massachusetts produce its own clean renewable energy. For generations, the citizens of the Commonwealth have been dependent on imported fossil fuels to power our homes and economy, and always sending a sizeable portion of our earnings to out-of-state power generators. Wind energy will reverse that outward cash flow, and reduce carbon emissions as well.	Thank you for your comment.
135-006	The Vineyard Wind project offers lifelong careers with excellent wages and benefits as our national job market is undergoing fundamental changes. As a trade union, we know that offshore wind is not about “a job”- it’s a career in a growing industry. Today, apprenticeships and technical certificate programs are the entry points , and Vineyard Wind LLC has already demonstrated meaningful commitment to workforce development with its Windward Force Fund. The company has contributed more than \$200,000 to Mass Clean Energy Center Workforce Grant program. Pile Drivers Local 56	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project is committed to, including job training for offshore wind. This information was also provided in the DEIS.

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	was awarded \$100,000 in May of 2019 by the CEC to train members in the Global Wind Organisation (GWO) Basic Offshore Safety program. We have so far graduated 24 men and women, journeymen and apprentices from the training facility at Mass Maritime Academy, with plans to train at least 36 more. Vineyard Wind both “talks the talk” and “walks the walk” in its commitment to growing the workforce in New England.	
135-007	Wind energy substantially reduces the amount of heat-trapping gases we put into the atmosphere. This project offers us the opportunity to make a difference in our own lives, but more importantly, in the lives of our children and grandchildren.	Thank you for your comment.
136-001	AIM strongly supports Vineyard Wind’s proposal and its commitment to building the turbines in a grid with 1 nautical mile (NM) between turbines in the east-to-west direction and 1 NM between turbines in the north-to-south direction. The United States Coast Guard (USCG) has since determined that this type of standard and uniform grid pattern layout would maximize safe navigation.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
136-002	AIM strongly supports the development of offshore wind energy as a major new source of electric power for Massachusetts consumers. Directed by state legislation, the state has undertaken several competitive procurements of offshore wind energy in recent years. The long-term power contracts that have emerged from these procurements will deliver large amounts of carbon-free electricity for many years to come to Massachusetts consumers, including many of our member companies.	Thank you for your comment.
136-003	The construction and operation of Vineyard Wind I will yield economic benefits to Massachusetts. Nearly 4000 jobs will be created in the area, directly in construction and operation and indirectly through existing and new supply chains. These jobs and industries will not exist if Vineyard Wind is not approved and construction does not begin soon.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Additional indirect and induced job estimates are provided in Tables 3.6-3 and 3.6-5.
136-004	Further, the benefits will be more than local. Certain materials cannot be sourced locally and will need to be purchased throughout the Northeast region and maybe throughout the United States, creating additional demand and jobs.	Because the FEIS focuses on the geographic analysis area, it uses the Vineyard Wind 1 Project job projections for Massachusetts, provided in Section 3.6.2.1. Although not addressed in the FEIS, it is true that the project would also generate business from purchases outside the immediate area.
136-005	Also, the carbon reduction benefits - estimated to be the equivalent of removing 325,000 cars from the road - will benefit the entire United States and contribute to a necessary worldwide reduction in greenhouse gas emissions that will help mitigate climate change. The benefits in jobs and to the environment will accrue even more once additional offshore wind projects follow Vineyard Wind’s example and begins construction soon after.	Thank you for your comment.

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136-006	We can no longer delay offshore wind development – too much economic and environmental benefits depend on it and the Vineyard Wind project has been studied extensively. Without it there is no chance we will stop the negative impacts of climate change. We urge the Bureau of Ocean Energy Management to do everything within its power to make Massachusetts and the United States the new leader in clean energy development.	Thank you for your comment.
137-001	I'm here today to speak in support of the Vineyard Wind project because we believe that clean, renewable energy is essential to preserving public health, and protecting both our facilities and the communities we serve from the impacts of climate change. Offshore wind also has the potential to reduce New England's notoriously high energy costs and help energy-intensive businesses like health care recover from the financial impacts of the COVID crisis.	Thank you for your comment.
137-002	Over the last few months, we have seen all too clearly the disproportionate impact that COVID has had on the lives and health of low-income communities and communities of color who are disproportionately burdened by air pollution from the burning of fossil fuels, making them more vulnerable to the impacts of this deadly respiratory disease.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
137-003	In order to effectively combat climate change, and protect the health of the communities our hospitals serve, we must not only transition to renewable energy but do so in a way that brings new renewable energy sources here to our region to replace the power plants that are burning fossil fuels and harming our health.	Thank you for your comment.
137-004	Power from offshore wind is not just cleaner, it could also reduce the cost of energy, which would help energy-intensive businesses like health care recover more quickly from the financial impacts of COVID. Vineyard 1 alone is expected to save ratepayers more than \$1.4 billion in energy-related costs over the life of the project, money that is essential for our region's economic recovery, and our future economic prosperity. These benefits are, of course, in addition to the 3,600 jobs, many unionized, that this project will create which will also contribute to our region's economic recovery.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
137-005	I also want to briefly touch on the topic of the proposed transit lanes envisioned in alternative F. The size of these lease areas has already been substantially reduced, and the spacing between turbines has been substantially increased, to safely accommodate fishing and other ocean uses. The addition of the proposed transit lanes on top of those accommodations would mean 4,000 fewer megawatts of wind power coming online which, according to Health Care Without Harm's "Energy Climate Calculator" would translate to an estimated additional 52.5 premature deaths from air	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	pollution and an additional 25.3 ER visits for asthma attacks every year. or 1325 premature deaths from air pollution and 625 ER visits over the 25-year life of the project.	
137-006	As we know, the health impact of our existing fossil fuel powered electric generation falls disproportionately on low-income communities and communities of color. By failing to consider these impacts - impacts that could be mitigated by generating more clean renewable offshore wind power, I'm concerned that this analysis fails to account for the negative impacts on Environmental Justice communities that alternative F would have. This is, of course, on top of lost jobs and business for our region due to the smaller project that would result.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects). Sections 2.2.2, 3.6.4, and 3.7.4 of the FEIS have been revised to note that Alternative F may reduce the capacity of offshore wind power generation in the RI and MA Lease Areas, resulting in a reduction of the potential benefits to minority and low income populations that could result from reduced fossil fuel power generation.
137-007	New England is blessed with some of the best offshore wind resources on the planet, which projects such as this can turn into an abundant source of clean inexpensive energy that can power a healthy, resilient, and economically thriving future for our region. We urge you to allow this critical project to move forward without further diminishment or delay.	Thank you for your comment.
138-001	In my opinion and speaking for millions of people on this Earth who support renewable energy, this project must go through. We must devote our time to renewable energy and this large wind project would provide energy that would help Americans be less dependent on fossil fuel energy. The U.S is so far behind in renewable energy compared to many parts of Europe. We must be diligent and support this project now so that it can be started and completed in a short time span.	Thank you for your comment.
138-002	I have seen the renderings of what the turbines will look like from shore, they are barely visible and will not have a large impact on enjoyment of Martha's Vineyard's oceans.	The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. The FEIS in Sections 3.9.1 and 3.9.2 has been updated to address new visual simulations provided by Vineyard Wind that provide views of the 14 MW wind turbines as well as simulations of Vineyard Wind 1 combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
138-003	Additionally, greenhouse gas emissions from traditional energy sources are acidifying our ocean, decreasing the population of marine creatures like Scallops and will hurt the fishing industry.	The SEIS and FEIS discuss the baseline conditions of marine organisms, including the effects of climate change and ocean acidification.
139-001	BOEM has conducted a fair and balanced proceeding that recognizes the protection of critical environmental resources, navigation, commercial fisheries, development of clean sustainable technologies, and the cultivation of economic activities to create high-tech, clean energy jobs in the US. The	Thank you for your comment.

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	approach includes a thoughtful siting process using collaborative communication with all stakeholders.	
139-002	CCAT appreciates the solutions-oriented planning process to avoid, minimize, and mitigate impacts on navigation, wildlife, and commercial fisheries.	Thank you for your comment.
139-003	There is public need for the project to develop renewable energy resources that have zero emissions, are sustainable, and indigenous to the US.	Thank you for your comment.
139-004	There is also public value for the project that will provide significant economic value to transform port cities, including Bridgeport, New London, and New Bedford into offshore wind hubs with direct and indirect supply chain jobs.	Section 3.6.2.1 of the FEIS has been updated to identify completed and planned improvements to ports within the geographic analysis area. Although the discussion does not include Bridgeport and New London, because the Vineyard Wind 1 Project does not intend to use these ports, the discussion in 3.6.1 provides projected investment resulting from east coast offshore wind development, which would include port improvements as well as supply chain (manufacturing and logistics) investments.
139-005	CCAT recognizes the potential for long term environmental effects and irreversible and irretrievable commitments of resources associated with the project and believes that they have been avoided, minimized, mitigated, and outweighed by the public need and benefits for the proposed project.	Thank you for your comment.
139-006	CCAT recognizes the opportunities to find alternatives to the proposed project and project development components and believes that all alternatives have been adequately addressed and the proposed project presents the best alternative to achieve the desired public benefits for renewable, sustainable indigenous energy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
139-007	In terms of alternatives associated with the grid layout, we are in general agreement that a standard and uniform grid pattern should be designed and adopted for offshore wind development without delay. It appears that the proposed 1.0 nautical mile by 1.0 nautical mile grid layout (1 X 1 NM) is reasonable for the development of the proposed wind project and will provide an adequate margin of safety for commercial fishing and navigation, and that no additional navigational lanes will be necessary. The 1 X 1 NM grid layout has advantages to provide to navigation, turning, and predictable passage for both large commercial ships and fishing vessels.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
139-008	In addition to this uniform grid layout, the wind facilities will have marking, lighting, electronic communications, navigational charting (paper and electronic), and bulletins with notice to mariners.	The FEIS addresses this comment in Section 3.11.2.
139-009	We are also pleased to see a decommissioning plan for all facilities. The downside to the proposed layout spacing is that it reduces the area available	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	for facilities which reduces the opportunity to develop zero emission electric energy power.	
139-010	Nonetheless, the 1 X 1 NM grid layout is a reasonable trade off and balances the need for these facilities with protection of environmental resources, fisheries and commercial fishing, navigation, and recreational use of the site area.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
139-011	CCAT does not support the widening of this 1 X1 NM spacing or the creation of a four-mile transit corridor, which will further reduce the availability of the project area to produce renewable power.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
139-012	Unless BOEM finds hard credible evidence that requires a corridor wider than the 1 X1 NM grid, we believe that the proposed grid is more than adequate for navigation and commercial fisheries and that this proposal for leasing and development should be approved without delay.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
139-013	...we find that the project is needed; that potential impacts have been avoided, minimized, mitigated, and outweighed by the public need and benefits for the proposed project; and that alternatives have been fully addressed. We thank BOEM for this opportunity to comment and urge BOEM to approve the project, grid layout, and lease without delay.	Thank you for your comment.
140-001	Large-scale renewable energy projects like this are long overdue in the United States. Other countries, particularly in Scandinavia, have many established successful wind power projects that are contributing significantly to energy production ...while reducing carbon dioxide emissions that would be generated by fossil fuel based generating plants. The Vineyard Wind Project will be a model project that may lead to similar projects in other places.	Thank you for your comment.
141-001	As climate change is the seminal challenge of our generation, any clean energy development is essential to mitigating its impacts.....Offshore wind energy is a vital resource that must be tapped in order to meet New England's climate change mitigation goals.	Thank you for your comment.
141-002	The Supplemental Environmental Impact Statement (SEIS) for Massachusetts' Vineyard Wind 1 project sets a precedent for all future offshore wind projects across the nation. The SEIS reinforces our belief that offshore wind energy can be developed in a manner that protects wildlife and habitat every step of the way, and that projects such as Vineyard Wind's should advance as quickly as responsible development will allow.	Thank you for your comment.
141-003	The SEIS states that, "the proposed project and other future offshore wind projects will in face probably lead to reduced emissions from fossil fuel powergenerating facilities and benefit air quality." It states that in the absence of offshore wind development, "additional, more polluting, fossil fuel energy	Thank you for your comment.

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	facilities would come or be kept online to meet future power demand, fired by natural gas, oil, or coal.” Offshore wind energy is a vital resource that must be tapped in order to meet New England’s climate change mitigation goals.	
141-004	Continued fossil fuel production poses detrimental impacts to our public health by increasing the chance of heart attack, respiratory disorders, stroke, asthma, and more. Offshore wind energy holds over 50% of the potential clean energy resources in the region and will help New England avoid almost 1.7 million tons of carbon dioxide per year, equivalent to removing 325,000 cars off the road -- in turn protecting our public health.	Thank you for your comment.
141-005	Responsibly developed offshore wind must take wildlife protection into account. CTLCV is pleased to see that the SEIS puts a focus on marine wildlife protection, however, going forward, federal and state governments need to adopt measures that specifically avoid, minimize, and mitigate underwater noise, ship strikes, and turbine collisions to protect the endangered North Atlantic right whale.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals from noise and ship strikes. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
141-006	Vineyard Wind 1 alone will create 3,600 jobs for local residents and will save ratepayers more than \$1.4 billion in energy-related costs over the 20-year contract with Massachusetts. That does not include the other offshore wind projects currently in contract in New England.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
141-007	...Vineyard Wind 1 has made commitments to job training programs on Martha’s Vineyard and Massachusetts workforce development programs.	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project is committed to, including job training for offshore wind. This information was also provided in the DEIS.
141-008	Vineyard Wind 1’s turbine layout has been constructed with input from the fishing industry as well as the U.S. Coastguard.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
141-009	As technology advances, the ability to avoid, minimize, and mitigate potential impacts to wildlife and the environment will only grow stronger.	Thank you for your comment.

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141-010	The climate crisis and ensuing health crisis demand that we stand up these projects as fast as their responsible development will allow, and we believe it's time to move forward.	Thank you for your comment.
142-001	The viewsheds from the south, west and southwest are pristine and of incalculable cultural value. These are the beaches where by Wampanoag communities and their ancestors traversed from the Vineyard to the Island and vice versa for thousands of years....Today, these locales are heavily trafficked by tourists during the long summer days and make for glorious picture perfect sunsets[.]BOEM must move carefully before these cultural seascapes are put in jeopardy? Nantucket's night sky, with a bear minimum of light pollution, is highly treasured and potentially at risk too.	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. The description of impacts is located in Sections 3.8.2-3.8.5, and when considered against the criteria determining the intensity of impacts (i.e., whether they are minor, moderate, etc.), located in Section 3.8.6, the impacts are of a moderate nature. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations and night sky impacts. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation lighting. Vineyard Wind would also use white or light grey paint color as described in Appendix D to reduce visibility against the horizon. New visual simulations provide views of the 14 MW WTGs as well as simulations for Vineyard Wind 1 wind turbines combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
142-002	The highly endangered N. Atlantic Right whale migrates along this general marine highway (Jacksonville to Stellwagen Bank).	As discussed in the Section 3.4.2 of the FEIS and in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, as discussed in the Biological Opinion, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.
142-003	Though the timeline to reach a conclusion on the process for this project is compressed, the impact of erecting these monumental windmills is generational.	Thank you for your comment.

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143-001	Addressing climate change is the single most important action for our species to take. Offshore wind is an important part of addressing this issue. Please do what you can to increase New England's portfolio of renewable energy	Thank you for your comment.
144-001	It isn't if we didn't know that our energy model was potentially going to warm the planet. This was actively being addressed back in the late 1970's. Many scientists formed the U.S. Council on Environmental Quality under the Carter Administration to adopt more renewable energy alternatives to avoid what they accurately predicted would be a climate crisis. That climate crisis is upon us and many of us activists are beyond disappointed in our lack of action over the past forty-plus years. Offshore wind energy is one of a bevy of solutions that is a must in order for us to have any way of staving off a 3 degree C warming disaster in the next few generations. I've reviewed the Vineyard Wind information and fully support this ambitious endeavor. We simply have run out of time due to inaction by leadership and must act now.	Thank you for your comment.
145-001	There should be a large environmental insurance policy put on this (and all) wind farm projects before anything is approved!	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.
145-002	The oil coming out of those units will decimate the wildlife and fishing industry.	Chapter 3 and Appendix A of the SEIS addressed the potential for accidental releases and discharges associated with the proposed Project as well as potential impacts from those events. Therefore, no change to the FEIS is warranted.
145-003	[The oil coming out of those units will decimate the wildlife]...And tourism and the federally protected seals!	Section 3.3.7.3 of the DEIS and Section 3.5.2 of the SEIS discussed the potential impacts of accidental releases, including oil, on marine mammals. Therefore, no change to the FEIS is warranted.
145-004	What if the storm that is coming up the coast this weekend, was a Category 5 Hurricane?? or if it is like the 1938 "Long Island Express!" The windfarms will not stand a chance!!	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years. Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted.

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146-001	I have been extremely impressed with the level of diligence and efficiency displayed by BOEM in the EIS process, as well as the level of thoroughness with which the report has been presented. I was on the recent virtual meeting and it further solidified my view that there has been extensive work and study put into ensuring the Vineyard Wind proposal and project are sound, and well thought out.	Thank you for your comment.
146-002	Additionally, I believe the commercial aspects--specifically, the impacts to the fishing and marine commerce--are being addressed in a meaningful and diligent manner. I have personally spoken with several members of the commercial fishing industry who have shared, often off-the-record, that their biggest concern is not with the turbines, or their placement themselves, but with the amount of additional traffic will be experienced with service vessels at the New Bedford Harbor areas. That must be addressed through careful logistical study(ies) and planning, yet I believe that is outside of the purview of your report.	Sections 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts of increased vessel traffic on commercial fisheries; therefore, no change to the FEIS is warranted.
146-003	Additionally, over the past year-plus, I have been involved with numerous "meet the buyer" events and "blue economy" gatherings that have been sponsored by or at the very least, included Vineyard Wind. I continue to be impressed by their level of commitment to a safe, controlled, and well-executed solution for the much needed (first major) American wind farm.	Thank you for your comment.
147-001	If we are going to meet the required energy needs in New England without increasing the use of fossil fuels we must rely on renewable energy such as wind energy. It is for that reason that I support the proposed Vineyard Wind Energy expansion project.	Thank you for your comment.
148-001	The RICRMC [Rhode Island Coastal Resources Management Council] strongly encourages BOEM to adopt Alternative D2 in the EIS as the preferred alternative for the Vineyard Wind project and require the developer to construct the wind farm in a uniform grid pattern with 1 x 1 nautical mile spacing between all turbine foundations (including the OSS platforms) in an East-West, North-South orientation as recommended by the U.S Coast Guard in their June 14, 2020 final Massachusetts Rhode Island Port Access Route Study (MARIPARS). We request BOEM to require the USCG MARIPARS recommended wind farm configuration as a condition of COP approval not only for the Vineyard Wind project, but for all southern New England offshore wind projects.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
148-002	The Alternative D2 configuration in a uniform grid of 1 x 1 nautical mile spacing between all turbine foundations (including the OSS platforms) in an East-West, North-South orientation is entirely consistent with the MARIPARS recommendation and the offshore wind industry's November 1,	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	2019 collaborative proposal for wind farm layout in the southern New England offshore renewable energy lease areas. The RICRMC believes it is imperative that BOEM condition all COP approvals accordingly so that there is regulatory certainty for the offshore wind industry and stakeholders with assurance that there will be a predictable and uniform wind farm pattern that accommodates and facilitates safe navigation, commercial and recreational fishing activities, and USCG search and rescue operations.	
148-003	In addition, we are mindful of federal law that governs development activities on the outer continental shelf (OCS) that requires "the right to navigation and fishing therein shall not be affected." See 43 U.S. Code § 1332. We expect BOEM to conduct its NEPA review of the Vineyard Wind project, and all other southern New England wind farm projects on the OCS, in accordance with this federal law.	The EIS and public process comply with the procedural requirements of NEPA. Section 3.11 of the FEIS provides a detailed analysis on the impacts the proposal would have on navigation and analyzes alternatives and mitigations that would avoid, minimize, or mitigate such impacts.
148-004	Lastly, although not a consideration within the Vineyard Wind EIS, the RICRMC strongly recommends that BOEM require as a condition of COP approval the installation of automatic identification system (AIS) transmitters on all turbine and electric service substation foundations for each and every wind farm project within the southern New England lease areas to increase navigational safety, especially under less than ideal navigation conditions.	As discussed in Section 3.11.2 of the FEIS and as recommended by the USCG, Vineyard Wind would install AIS transponders on select WTGs and ESPs, to promote safe navigation during limited visibility (e.g., fog or night) and adverse weather conditions. Currently, BOEM does not require AIS transmitters on all WTGs and ESPs and it is outside the scope of the FEIS to determine if these measures would be implemented for other offshore wind projects.
148-005	Stakeholders have expressed concern that under some circumstances there is the potential for vessel radar interference resulting from wind turbine generator (WTG) foundations. The USCG addressed this issue in the recent Final MARIPARS and concluded that "the USCG is not aware of an authoritative scientific study that confirms or refutes the concern that WTGs will degrade marine radar." See Final MARIPARS (June 14, 2020) at 25.	Section 3.11.2 of the FEIS includes a discussion of potential radar interference. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
148-006	Despite the uncertainty of vessel radar degradation within a wind farm, AIS transmitters on WTG foundations would provide safety equipment redundancy and allow a vessel operator to "see" foundation locations on a vessel chart plotter without the aid of radar. Thus, if radar degradation becomes an issue or radar malfunction occurs, the AIS on WTG foundations would provide additional navigation safety. Accordingly, BOEM should condition all wind farm COP approvals with a requirement for the installation of AIS transmitters on all offshore wind farm structures.	As discussed in Section 3.11.2 of the FEIS and as recommended by the USCG, Vineyard Wind would install AIS transponders on select WTGs and ESPs, to promote safe navigation during limited visibility (e.g., fog or night) and adverse weather conditions. It is outside the scope of the FEIS to determine if these measures would be implemented for other offshore wind projects. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
148-007	The last sentence in Footnote 3 should be modified to reference the applicable BOEM regulations and to indicate that BOEM will condition that any movement in turbine foundations will not result in diagonal lanes less than 0.6 NM as follows: "BOEM will require as a condition of COP approval	The executive summary has been updated to note that "if approved, BOEM plans on requiring as a condition of COP approval that any movements in turbine location, as may be permissible pursuant to 30 CFR 585.634, do not shrink the diagonal lanes to less than 0.6 nautical mile."

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	that any movements in turbine location, <u>as may be permissible pursuant to 30 CFR 585.634</u> , should not shrink the diagonal lanes to less than 0.6 nautical mile."	
148-008	The BOEM regulations permit micro-siting of turbine foundations within 500 feet of the COP designated location. However, if two opposing turbine foundations located along a diagonal lane were moved towards one another in the direction of the center line of the diagonal lane the maximum allowed distance of 500 feet, then the diagonal lane between them would result in a distance of less than 0.6 NM (0.7 NM= 4254 feet - (500 + 500) = 3254 feet., which is less than 0.6 NM (3646 feet)) . Thus, in such a circumstance the 3254 foot (0.54 NM) distance would not meet the USCG recommended minimum diagonal lane width of 0.6 NM for the northwest to southeast direction.	BOEM's regulations do not specifically address micro siting. The FEIS clarifies that 0.6 nautical mile diagonal lanes would be maintained with any micro siting under Alternative D. The construction, operation, maintenance, and eventual decommissioning of the proposed Project occur within the range of design parameters outlined in the COP, subject to applicable mitigation measures (Appendix D of the FEIS). However, to reduce impacts to complex fisheries habitats and other resources that are the most vulnerable to permanent and long-term impacts, the locations of proposed Project elements would be altered or excluded, should micro-siting not be possible to avoid or minimize impacts. In addition, fewer WTG locations than proposed by the lessee may be approved by BOEM.
148-009	This section should highlight within the text on page ES-3 that Alternative D2 is the only project alternative that BOEM indicates within Table ES-2 that would have moderate cumulative impacts only on navigation and vessel traffic as compared to all other alternatives, which may have major cumulative impacts.	BOEM had decided to keep the executive summary at a high level and not call out specific differences in impact levels in the text; the table speaks for itself in that regard, and the details can be found in the resource sections in Chapter 3 and Appendix A of the FEIS.
148-010	The Alternative D-2 description should include language that clearly indicates that this particular alternative is the only alternative being considered by BOEM that is consistent with the USCG recommendations for a uniform wind farm layout as specified in Section VI on page 3 8 of the USCG MARIPARS Final Report (May 14, 2020) and as is described in the SEIS in§ 2.2.2, p. 2-5. In addition, Footnote 1 should be modified as recommended above in ES-2.	The FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
148-011	Now that the USCG has issued its MARIPARS Final Report on May 14, 2020 the last paragraph on page 2-5 (and ending on page 2-6) should be modified to reflect the USCG recommendation on vessel transit lanes.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
148-012	There are references to the USCG MARIPARS as a "Draft" report within this section on page 3-97. Now that the USCG report is final as of May 14, 2020 this section and similar text in other sections throughout the SEIS, including the appendices, should be revised to reflect the final USCG MARIPARS report status along with its recommendations. There are 26 occurrences within the SEIS referencing the MARIPARS report as "Draft."	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
148-013	The discussion within the fourth paragraph on this page should indicate that Alternative D2 is entirely consistent with the final USCG MARIPARS report recommendation for wind farm layout and orientation.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.

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148-014	Now that the USCG Final MARIPARS is final, this section should include added text that indicates that Alternative D2 is consistent with the USCG MARIPARS recommendations for a uniform 1 x 1 NM grid oriented with East-West rows and North-South columns as described within § 3.13.2.4 on page 3-116.	Section 3.11.4 of the FEIS includes a discussion of the Final MARIPARS study.
148-015	Similar text describing Alternative D2 as consistent with the MARIPARS recommendations as found in §§ 3.13.2.4 (page 3-116), 3.13.2.5 (page 3-117) and 3.14.2.3 (page 3-129) should be added to any discussion of Alternative D2 throughout the SEIS.	Sections 3.11.4 and 3.11.6 of the FEIS includes a discussion of the Final MARIPARS study.
148-016	The text of the last paragraph in this section should reflect the USCG final MARIPARS report status and recommendation regarding transit corridors.	The FEIS has been updated in the appropriate chapters or sections to incorporate the Final MARIPARS.
148-017	The discussion on this page should reference the final USCG Final MARIPARS and its recommendations concerning additional transit corridors.	Section 3.11.5 of the FEIS includes a discussion of the Final MARIPARS study.
148-018	The second paragraph should be modified to reflect the final MARIPARS report status and recommendations for a uniform 1x1 NM grid oriented East-West and North-South in the southern New England WEA. In addition, since this section indicates that there is sufficient information for BOEM to make a reasoned choice among the alternatives, it would reason that this section should also indicate that Alternative D2 is consistent with the MARIPARS recommendation as well as the collaborative proposal put forth by the five southern New England offshore wind leaseholders on November 1, 2019 for a uniform 1x1 NM wind farm layout for the entire southern New England WEA.	Section 2.1.3 and Section 3.11 of the FEIS incorporate, where appropriate, the Final MARIPARS.
149-001	Vineyard Wind is a responsible and highly community minded company. Since the inception of Vineyard Wind 1 the company has done an exemplary job at engaging the public, working with experts and scientists, and refining their proposal. The proposal for Vineyard Wind 1 is the result of more than 10 years of study and dialog.	Thank you for your comment.
149-002	Massachusetts and New England needs ocean wind energy and the Vineyard Wind 1 project. It will generate clean, sustainable energy for more than 400,000 homes and businesses and effectively reduce carbon emissions by nearly two tons annually.	Thank you for your comment.
149-003	The issue of adding transit lanes need not be revisited. The United States Coast Guard has already endorsed the 1x1 NM layout finding that the standardized spacing layout would be best for navigational safety. In fact, the Coast Guard specifically notes that additional transit lanes are potentially less safe than the 1x1 NM layout.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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149-004	The economic impact of fishers not being able to fish in the Wind Energy Area where Vineyard Wind 1 is sited is less than .05 percent according to various studies. That negligible impact assessment assumes that fishers cease to fish in the entirety of the lease areas and or fail to shift fishing to other areas nearby, a highly unlikely scenario.	Section 3.11 and Table 3.11-3 of the SEIS discusses the average annual percentage of total revenue exposed to offshore wind (7 percent or less), including Vineyard Wind 1, and Section 3.10 and Table 3.10-4a and Table 3.10-4b of the FEIS discusses the value of landings by FMP for the WDA and as a percentage of total coast-wide FMP (less than 2 percent). Therefore, no change to the FEIS is warranted.
149-005	...adverse impact on the environment, on fish stocks, and on the economics of the fishing industry have not been shown.	Section 3.3 and 3.10 of the FEIS evaluate potential adverse and beneficial impacts from offshore wind development on finfish and commercial and for-hire recreational fisheries.
149-006	Enough is known, however, about the adverse impact on the environment and the economy, including the livelihood of fishers, if nothing is done to develop renewable energy such as the Vineyard Wind 1 project. Warming waters due, in part, to carbon emissions, are but one example of a far greater threat to fishers and others than Vineyard Wind 1....Time is of the essence to begin construction of the Vineyard Wind 1 project so that Massachusetts and New England can begin to see the benefit of clean, renewable energy, and less carbon impact on our environment.	Thank you for your comment.
150-001	I have concerns about this SEIS with regard to impacts to fisheries. Page 3-23 last paragraph mentions the cold pool and its importance to fish and invertebrates and it is also mentioned again on 3-35 for sea turtles and marine mammals. However, possible vertical destratification is later described as a "good" thing from an increase in primary productivity...which will then be supposedly cleared and eaten by the anticipated increase of mussels on the structures from the "reef effect." These are all hypothetical outcomes. The cold pool is an extremely unique feature that is critical to major molluscan fisheries such as clams. Temperature destratification due to turbine movement could cause permanent damage to a unique ocean feature. The summary section for structures states that there will be minimal impact because salinity and temperature change are the biggest driver of seasonal migration - - however, earlier in the document it was stated that structure and disturbance could cause temperature destratification so there are contradictions in reasoning.	Sections 3.4, 3.5, and 3.6 of the SEIS discussed the cold pool and potential effects of offshore wind development. Furthermore, Section 3.6.1 of the SEIS provided a discussion of the potential impacts of WTG structures on the cold pool formation and the subsequent potential impacts to marine mammals. Additional discussion of the uncertainty around marine mammal response to WTG structures and how the structures would influence development of the cold pool was provided in Appendix H of the SEIS. As discussed in these Sections, changes to the local oceanographic and climatic conditions caused by the presence of structures would be localized and would be expected to vary seasonally and regionally, and as such would not be expected to influence migration patterns. Therefore, no change to the FEIS is warranted. How the rate of cold pool breakdown is influenced by external factors such as weather and future offshore wind facilities is not well known. Potential impacts on the cold pool are dominated by factors other than the Proposed Action; nevertheless, the FEIS considers impacts of reasonably foreseeable environmental trends and planned actions, including the Proposed Action.
150-002	In addition, the SEIS states that noise should not be a factor because these are "temporary impacts." However, it will take 6-10 years for foundation production....102 days of pile driving at 6 hrs/day. Plus, there are many anticipated wind projects along the east coast, so the effects are compounded.	Sections 3.3.6.3, 3.3.7.3, 3.3.8.3, and 3.4.5.3 of the DEIS discussed the potential acoustic impacts to finfish, marine mammals, sea turtles, and commercial fish, respectively, during pile driving activities. Further details regarding acoustic effects to marine mammal species are provided in Appendix F of the DEIS and FEIS. Additional discussions of acoustic

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		impacts on ESA listed marine mammals and sea turtles were provided in the BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Sections 3.5.1, 3.6.1, and 3.11.1 of the SEIS provide a discussion of potential acoustic impacts on finfish, marine mammals, sea turtles, and commercial fish, respectively, as a result of pile driving. Additionally, Sections 3.3.2, 3.4.2, 3.5.2 and Appendix D of the FEIS discuss updated monitoring and mitigation that would be implemented to avoid, minimize, and mitigate adverse impacts. These measures include, but are not limited to, avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures that would benefit these species. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. Additional discussion of the uncertainty around the potential for acoustic impacts on marine mammals and sea turtles resulting from pile driving activities was provided in Appendix H of the SEIS. As discussed in the Biological Opinion (NMFS 2020), the consequences of Level A harassment as a result of exposure to pile driving noise would be "minor degradation of hearing capabilities..." and the PTS anticipated is considered a "...minor auditory injury." Level B harassment is expected to result in "...low-level, temporary behavior modifications..." NMFS expects exposures to be brief and that behavior responses would be temporary, with behavior returning to as baseline state after the pile driving stops or the individual swims far enough away to avoid exposure to disturbing levels of noise (NMFS 2020). Further, NMFS (2020) concluded that these behavior responses are not expected to impact individual health, survival, or reproduction. An updated discussion of acoustic impacts on sea turtles as a result of pile driving noise is provide in Section 3.5.1 and 3.5.2 in the FEIS. As discussed, sea turtles would exhibit an avoidance response before receiving the 24 hour exposures in shown in Table 3.5-6 of the FEIS and BOEM anticipates unavoidable, moderate temporary impacts on individual sea turtles from pile driving. However, these moderate effects are expected to occur only in a very small number of turtles, and the population would likely recover after pile-driving activity has ceased. There have been no documented sea turtle mortalities associated with pile driving and sea turtle anatomy may make them resistant to percussive shock waves (Madin 2009). Further, as discussed in the NMFS Biological Opinion, take of sea turtles due to pile driving activities would be limited to harassment only, and no injury would be expected. Additionally, given the

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		expected short duration of exposures, sea turtle hearing is expected to return to normal shortly after exposure ends (NFMS 2020).
151-001	As a life-long resident of the Atlantic Seacoast, I am aware of the energy resources of the ocean: wave, tidal and offshore wind energy; and at the same time of the urgent need for more energy to serve these highly populated shores....Vineyard Wind will be the perfect project to begin our harvesting of this almost unlimited resource....All the studies and agreements are in order and any hesitation puts our welfare at risk. Power blackouts, economic downturns and climate disaster wait for those countries that continue to rely on polluting resources.	Thank you for your comment.
152-001	Choosing to build it [Vineyard Wind Project] with the one-mile spacing of turbines under option D2, or to further delay, and possibly kill it through proposals such as option F or G, is also a moral decision with possible life and death consequences.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
152-002	...I have seen first-hand how dirty and dangerous energy projects impact communities of color and low-income communities; how their lives and livelihoods bear the brunt of pollution. I've seen kids with rare cancers, high rates of coronary and respiratory diseases, greater illness and death from COVID-19 due to compromised respiratory systems.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
152-003	Further permitting delays to Vineyard Wind will increase the likelihood of killing it, and leaving New England to the mercies of fossil fuel companies. Their environmental justice impacts would far exceed the Environmental Justice impacts on low-income fishing workers from the one-mile layout of wind turbines.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
152-004	And the continuing of ocean warming and acidification from burning fossil fuels would accelerate the crashing of fish stocks, causing far worse impacts on the fishing industry. The impacts of wind energy have to be weighed in that context.	Thank you for your comment.
152-005	It is past time for the U.S. to join other developed nations with projects like Vineyard Wind, that can provide clean energy, local jobs, and that have far less impact on human and environmental health than fossil fuels.	Thank you for your comment.
152-006	The Coast Guard states that the one-mile spacing plan (D2) is safe for shipping and fishing, and deems additional transit lanes unnecessary. The additional transit lane would likely make Vineyard Wind financially unfeasible. Please give this project the green light with the D2 spacing plan.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
152-007	...ask that special attention be paid to training and hiring people from local communities of color and low-income communities to build and maintain Vineyard Wind as partial recompense for the disproportionate damage they	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction

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	have already suffered from polluting energy projects. Please place climate justice, environmental justice, and racial and economic justice at the center of your decision making and permit this project.	of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
153-001	I believe that this project is vital for our green future in Massachusetts, especially one that is inclusive, diverse, and feasible. It will create thousands of unionized jobs on the South Coast of the state, help us transition away from dangerous fossil fuels, and create a positive feedback loop of more green energy production in our state.	Thank you for your comment.
153-002	...as an avid bird-watcher I am glad to see that this project has taken important steps to ensuring that the wind energy created will not harm birds or disrupt their migratory patterns. The Mass. Audubon's support of this project is a good sign of this.	Thank you for your comment.
154-001	I want to urge the BOEM to expedite approval of a robust option for the Vineyard Wind project. The scientific community agrees that we must greatly reduce our greenhouse gas emissions to mitigate the worst impacts of climate change, and we have about ten years to accomplish this. If we fail, the cumulative impacts of climate change will likely overwhelm societies' ability to adapt. The stresses induced by climate change will endanger our very civilization.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information. Table 1.3-1 of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
155-001	Global warming is driving food and water insecurity and causing competition for basic resources, fueling socioeconomic tensions, increasingly often leading to mass displacement[.] Offshore wind energy is critical for meeting clean energy goals in New England, and the emission reductions necessary to stop the most catastrophic impacts of climate change, holding over 50% of the potential clean energy resource in the region.	Thank you for your comment.
155-002	Vineyard Wind 1 will create 3,600 jobs for local residents[.] Vineyard Wind 1 will save ratepayers more than \$1.4 billion in energy-related costs over the 20-year contract with Massachusetts[.] A recent study by the American Wind Energy Association (AWEA) found that the offshore wind industry will create more than 80,000 jobs in the next ten years, with economic output reaching upwards of \$25 billion per year by 2030	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment resulting from growth of a wind energy industry along the Atlantic coast. Jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
155-003	Vineyard Wind has pledged to sign the nation's first offshore wind Project Labor Agreement (PLA) for Vineyard 1 to ensure fair compensation and the highest construction standards for the project	Although the Project Labor Agreement is not addressed in the FEIS, Section 3.6.2 provides projections of estimated direct job creation by the Vineyard

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		Wind 1 Project in Massachusetts, and primarily in southeastern Massachusetts.
155-004	Vineyard Wind has contributed \$200,000 to support the Mass Clean Energy Center's 2019 workforce development grants that went to six educational and workforce institutions in the state to develop and implement training programs[.] This grant funding helped support the Offshore Wind Technician Certificate training program on Martha's Vineyard, which will train local residents for the operations and maintenance jobs for the 25 year life of the project. There are currently 14 students enrolled, including 3 women.	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project would provide, including job training for offshore wind. This information was also provided in the DEIS. In addition, the FEIS has been updated to include the community benefits agreement between Vineyard Wind and Vineyard Power.
155-005	Vineyard Wind along with other developers of the New England Wind Energy Areas (WEAs) in late 2019 proposed to advance all future projects in their lease areas with a uniform 1 x 1 Nautical Mile (NM) layout. The United States Coast Guard (USCG) has since determined that this type of "standard and uniform grid pattern" layout would "maximize safe navigation" in the WEAs. (MARIPARS, 32)	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
155-006	The commercial fishing industry has proposed additional transit lanes of at least 4 NMs (reflected in Alternative F of the SEIS), which would eliminate 30% of the areas of the area's potential energy production, 3,300 megawatts, or enough to power 1.65 million homes	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
155-007	The 1x1 NM uniform layout creates over 200 transit lanes throughout the entire wind project area The USCG has assessed the uniform 1 x 1 NM layout, without any additional transit lanes, and compared it to proposals with transit lanes in the MARIPARS (Massachusetts Rhode Island Port Access Route Study) that was released in May 2020. The USCG has endorsed the 1 x 1 NM layout, finding that the standard and uniform grid pattern will "would allow for safe navigation and continuity of USCG missions through seven adjacent wind farm lease areas over more than 1400 square miles of ocean." (MARIPARS, 33)	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
155-008	Vineyard Wind's project is precedent-setting for responsible development. As technology advances, the ability to avoid, minimize, and mitigate potential impacts to wildlife and the environment will only grow stronger. The climate crisis and ensuing health crisis demand that we stand up these projects as fast as their responsible development will allow, and we believe it's time to move forward.	Thank you for your comment.
156-001	...concerned about our state's need to decarbonize the electric power sector as soon as possible as a key step in addressing climate change. I am impressed that Vineyard Wind has taken seriously new concerns raised about its project and has responded with viable alternatives. I urge BOEM to respond as soon	Thank you for your comment.

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	as possible by accepting the options it deems most appropriate. We cannot afford to wait any more to get the Vineyard Wind project up and running.	
157-001	The fishing and shipping industries are not subsidized. The Off-Shore Wind should not be either, not in capital costs, in operational costs or in market share. At an energy density 1000X smaller than conventional energy sources, they [Vineyard Wind] would probably not survive.	Thank you for your comment.
158-001	The American Wind Energy Association forecasts the US Atlantic offshore wind industry to see investment up to \$57B with installation of 30GW of wind by 2030 and could support as many as 83,000 jobs. Of those jobs, approximately 3,600 will be created by Vineyard Wind 1...	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment resulting from growth of a wind energy industry along the Atlantic coast. Jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
158-002	..Vineyard Wind has contributed \$200,000 to support the Mass Clean Energy Center's 2019 workforce development grants that went to six educational and workforce institutions in the state to develop and implement training programs. This grant funding helped support the Offshore Wind Technician Certificate training program on Martha's Vineyard, which will train local residents for the operations and maintenance jobs for the 25-year life of the project.	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project would provide, including job training for offshore wind. This information was also provided in the DEIS.
158-003	...Vineyard Wind has pledged to sign the nation's first offshore wind Project Labor Agreement (PLA) for Vineyard 1 to ensure fair compensation and the highest construction standards for the project.	Although the Project Labor Agreement is not addressed in the FEIS, Section 3.6.2 provides projections of estimated direct job creation by the Vineyard Wind 1 Project in Massachusetts, and primarily in southeastern Massachusetts.
158-004	The expedited advancement of the 800-MW Vineyard Wind Project would do just that, invigorating economic growth and putting local residents back to work. Furthermore, Vineyard Wind will serve as a blueprint for how wind projects are treated in the future.	Thank you for your comment.
159-001	I've watched with alarm the acceleration of climate change and the threat it represents. It is front and center here on Cape Cod, and it threatens every aspect of life on the Cape and Islands and beyond....Projects such as Vineyard Wind are increasingly essential if we are going to slow the advance of climate change and the looming crisis it represents.	Thank you for your comment.
159-002	Wind energy, along with solar energy can be a major part of the recovery we need after the last disastrous five months, and counting, due to Covid-19.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from

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	These energy sources are largely clean energy and have tremendous employment opportunities, with hundreds of well paying jobs, along with providing a much needed boost to local economies.	growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis. Additionally, Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
160-001	I strongly support the uniform grid plan with 1 nautical mile spacing. This would allow both maximum energy production and safe navigation.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
161-001	A project the size of Vineyard Wind will inevitably have impacts on other users of the ocean, human and otherwise. As the initial DEIS and now the Supplement make clear, those impacts have been carefully studied, and effective steps are being taken to minimize or compensate for those impacts. And the most important effect of the project will be its beginning a commercial-scale transition to renewable wind energy along the Eastern seaboard. This will be a major step toward mitigating the existential threat posed by climate change.	Thank you for your comment.
162-001	We urgently need to take action on climate change, and this project is a big step towards a sustainable future. Offshore wind energy is critical for meeting clean energy goals in New England, and the emission reductions necessary to stop the most catastrophic impacts of climate change, holding over 50% of the potential clean energy resource in the region. Vineyard Wind 1 will avoid emissions of almost 1.7 million tons of carbon dioxide per year, the equivalent of removing 325,000 cars off the road... We need action on climate change and during this time of economic uncertainty we need more jobs. Please approve the Vineyard Wind Project.	Thank you for your comment.
162-002	There has been concern about the impacts the Project would have on wildlife, but evidence indicates that the project could be completed with minimum disruption. Vineyard Wind signed a landmark agreement with the National Wildlife Federation, Natural Resources Defense Council, and Conservation Law Foundation to protect the highly endangered North Atlantic right whale during project construction and operation. While the Supplemental EIS does not assume that all developers will adopt these measures, it does note that doing so would protect marine wildlife.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
162-003	The Project will fuel economic development. Vineyard Wind 1 will create 3,600 jobs for local residents and Vineyard Wind has pledged to sign the	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to

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	nation's first offshore wind Project Labor Agreement (PLA) to ensure fair compensation and the highest construction standards for the project.	3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
163-001	Offshore wind is critical to reaching ambitious and necessary greenhouse gas reduction goals for Rhode Island and neighboring states.	Thank you for your comment.
163-002	The fishing industry is concerned about the overall development of offshore wind, but it is important for us all to recognize that the much bigger risk to the fishing industry is climate change itself. Warming ocean waters have already impacted the lobster fishery in Rhode Island and southern New England.	Section 3.11 of the SEIS and Section 3.10 of the FEIS discusses impacts from climate change on fisheries; therefore, no change to the FEIS is warranted.
163-003	Climate change is the existential crisis of our time. Responsible development of offshore wind is critical to our rapid transition to renewable energy.	Thank you for your comment.
164-001	[Vineyard Wind 1 offshore wind development] will create clean energy, much needed clean energy jobs, and an infrastructure to create more in the future	Thank you for your comment.
164-002	Numerous scholarly, government, intergovernmental, and private industry studies have shown that off-shore wind energy is a proven, very cost-efficient technology that provides clean-energy, local and regional jobs, enhanced energy independence, excellent public relations, preparation for future fossil-fuel and climate-change related regulations and public demands, and even enhanced insulation from potential climate change related lawsuits. Reducing fossil fuel use has also been shown to reduce public health costs associated with the impact of air pollution on asthma rates, lung-related ailments, and other issues. In addition, studies show that most of the arguments against off-shore wind have little or no basis in fact and that all potential, actual downsides of off-shore wind are both far less significant than their upsides and can be addressed relatively easily... Off-shore wind is also a key energy technology of the present and the future - and one in which the USA is falling behind. The opportunity to utilize our excellent natural, clean-energy resources in the northeast USA should be a regional and national priority.	Thank you for your comment.
164-003	This project would represent a significant private sector investment in clean energy jobs in a region hard hit by the economic impact of the historic COVID-19 pandemic.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
164-004	After more than ten years of exhaustive study and analysis, including the Supplemental Environmental Impact Statement, and extensive public consultation to determine where offshore wind could be built with the least possible impact on existing industries and the environment, I can see no	Thank you for your comment.

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	reasonable public policy or environmental reason that the project should not be approved and implemented without further delay.	
164-005	Vineyard Wind 1 represents the first major offshore wind development in the United States – and again, the USA lags seriously behind our global competitors in deploying this critical clean-energy, job producing technology. A final permit approval will provide the needed certainty for future developments and capital investment along the East Coast.	Thank you for your comment.
165-001	I think that VW has submitted a safe and cost-effective initial design and has collaborated responsibly and responsively with all stakeholders over time....I think that the United States should more aggressively transition to renewable energy sources for the good of the environment. I believe the Vineyard Wind project is a prime application of a time-tested technology that furthers that objective.	Thank you for your comment.
166-001	As per the document ,the wind turbines will have a MAJOR effect on the commercial fishing industry- This is totally unacceptable! Not only will the turbines have an effect on Marine life, it will have a major effect on the Fishing community as a whole!	Thank you for your comment.
167-001	Yes to Vineyard Wind. We need clean energy now. Warming oceans, above-average temperatures every year, wild storms -- the signs that it's time to quit fossil fuels are all HERE, close to home, now. What an exciting modern initiative towards getting off fossil fuels. As a bonus, this will be a job creator, always positive but, given the pandemic, crucial.	Thank you for your comment.
168-001	I am writing in support of Vineyard Wind and the expansion of offshore wind energy. The untapped offshore wind resource along the U.S. Eastern Seaboard is one of the most powerful in the world and is within reach of densely populated areas where energy demands are high and new resource options are few. Vineyard Wind's environmental impact statement adequately addresses climate change, wildlife protection, job creation, and the fishing industry. Vineyard Wind and similar offshore wind projects should move forward rapidly to quickly transition us to a clean-energy economy.	Thank you for your comment.
168-002	According to the United Nations, climate change is the defining crisis of the current area, with no corner of the globe immune from its consequences. In October 2018 a UN Intergovernmental Panel on Climate Change special report projected that limiting warming to the 1.5C target this century will require an unprecedented transformation of every sector of the global economy over the next 12 years. Less than two years later, in March 2020, climate scientists calculated that global warming has already exceeded by over 2C pre-industrial average global temperatures, accelerating self-reinforcing changes. Climate change is driving species extinction, food	Thank you for your comment.

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	insecurity, water shortages, increasingly numerous, intense, and destructive wildfires, floods, storms, and droughts, as well as sea-level rise and the spread of novel diseases.	
168-003	Because of low wind resources on land in New England, offshore wind is critical to develop; accounting for over 50 percent of the potential clean energy resource in our region. Vineyard Wind 1 will avoid emissions of almost 1.7 million tons of carbon dioxide per year, the equivalent of removing 325,000 cars off the road.	Thank you for your comment.
168-004	The state environmental impact statement reinforces my belief that offshore wind energy can be developed safely in such a way that protects wildlife and habitat. Vineyard Wind has signed a landmark agreement with the National Wildlife Federation, Natural Resources Defense Council, and Conservation Law Foundation to protect the endangered North Atlantic right whale during project construction and operation; federal and state governments can adopt measures to further avoid, minimize, and mitigate underwater noise, ship strikes, and turbine collisions.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts, including noise and ship strikes, to marine mammals and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
168-005	The offshore wind industry could create 83,000 jobs by 2030 and deliver \$25 billion in annual economic input by that same year. Vineyard Wind 1 specifically is projected to create 3,600 local jobs at fair wages. Furthermore, Vineyard Wind has contributed \$200,000 to support the Mass Clean Energy Center's 2019 workforce development grants develop and implement training programs, including the Offshore Wind Technician Certificate training program on Martha's Vineyard, which will train local residents for the operations and maintenance jobs for the 25 year life of the project. There are currently 14 students enrolled, including 3 women. The project is expected to save ratepayers more than \$1.4 billion in energyrelated costs over the 20-year contract with Massachusetts.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. This section also lists grants provided by Vineyard Wind, including a grant program for offshore wind training. Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment resulting from growth of a wind energy industry along the Atlantic coast. Jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.6.2.1), and the FEIS provides additional detail and analysis.
168-006	To preserve fishing areas, the turbines are proposed in a grid layout to maximize safe navigation, creating over 200 transit lanes throughout the project. The United States Coast Guard as assessed and endorsed this 1 x 1 nautical mile layout, finding that the standard and uniform grid pattern will "would allow for safe navigation and continuity of USCG missions through	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	seven adjacent wind farm lease areas over more than 1400 square miles of ocean."	
168-007	Vineyard Wind's project sets a precedent for responsible development. As technology advances, the ability to avoid, minimize, and mitigate potential impacts to wildlife and the environment will only grow stronger. The climate crisis and ensuing health crisis demand that we stand up these projects as fast as their responsible development will allow, and I believe it is time to move forward.	Thank you for your comment.
169-001	I fully support the Vineyard Wind LLC Proposed Wind Energy Facility. We need to move as aggressively as possible toward renewable energy to deal with the continuing effects of Climate Change including rising water levels threatening coastal communities.	Thank you for your comment.
170-001	I have been closely following the implementation of the Massachusetts Global Warming Solutions Act, which has recently been amended to require a 90% GHG emissions reduction from 1990 levels by 2050. At a high level, this plan is to replace nearly all fossil fuels used in the buildings and transportation sectors in Massachusetts by electricity, and provide huge quantities of low CO2e electricity. An Offshore Wind infrastructure that can provide the majority of the energy used in Mass. is absolutely indispensable to meeting the legally mandated Mass. GWSA GHG emissions reductions.	Thank you for your comment.
170-002	As the Executive Summary of the 2018 UN Emissions Gap Report 2018 states: https://unepdtu.org/wp-content/uploads/2019/11/un-egr19-es-4e-extra.pdf "However, since this did not happen, the required cuts in emissions are now 2.7 per cent per year from 2020 for the 2C goal, and 7.6 per cent per year on average for the 1.5C goal. Evidently, greater cuts will be required the longer action is delayed." and "Further delaying the reductions needed to meet the goals would imply future emissions reductions and removal of CO2 from the atmosphere at such a magnitude that it would result in a serious deviation from current available pathways. This, together with necessary adaptation actions, risks seriously damaging the global economy and undermining food security and biodiversity." So given Vineyard Wind - and other offshore wind projects to follow - are essential to address the existential threat of Climate Change, I support immediately permitting this project.	Thank you for your comment.
170-003	The US Coast Guard has approved the plan for 1x1 nautical mile installation grid in response to commercial fishing concerns. Substantial concessions have been made to support the 1x1 nautical mile installation grid, which reduces the size of the potential build-out and impairs the CO2 reduction potential. The US Coast Guard has deemed additional transit lanes within wind farms as unnecessary, so I believe this issue is now resolved.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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170-004	The US has fallen far behind Europe, which has successfully deployed dozens of large scale Offshore Wind projects in the waters off Germany, Belgium, Denmark and the UK, with these impacts:... OSW in Europe has become a well understood, readily executed technology that is essential to mitigating climate change - and that expertise resides in Europe, which is why Vineyard Wind is importing this technology. I see this as a substantial strategic disadvantage to the energy security of the US, so we should immediately begin deploying, and learning from, large scale OSW in the US.	Thank you for your comment.
170-005	The US has fallen far behind Europe, which has successfully deployed dozens of large scale Offshore Wind projects in the waters off Germany, Belgium, Denmark and the UK, with these impacts:... There is a large amount of real world performance data supporting the economy and efficacy of OSW, a proven technology about which we in the US have very little first hand experience, having only 5 operating OSW turbines in all of the US.	Thank you for your comment.
170-006	The US has fallen far behind Europe, which has successfully deployed dozens of large scale Offshore Wind projects in the waters off Germany, Belgium, Denmark and the UK, with these impacts:... There are now well established processes for permitting large scale OSW in Europe, facilitating the rapid deployment of vast wind farms. We need to learn how to do this much more quickly in the US.	Thank you for your comment.
170-007	With the current COVID crisis and the potential impact to the construction of office space, and other employment, projects like Vineyard Wind can provide well paying jobs on our shores, and these projects could prove very helpful to the US recovery from the COVID crisis. A US OSW industry has the potential for many tens of thousands of well paying jobs, and tens of billions of dollars in beneficial economic impact over the next decade - so we need all these OSW benefits to begin to ramp up in the US immediately.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
170-008	The displacement of fossil fuels from buildings (electrification) is part of the Mass. GWSA plan, and would avoid catastrophes like the Merrimack Valley gas explosions: https://en.wikipedia.org/wiki/Merrimack_Valley_gas_explosions , as well as long term and enduring health impacts to children: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5800116/	Thank you for your comment.
170-009	Fossil Fuel combustion is an important source of PM 2.5 particulate matter which has substantial health impacts: https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm . The true cost of using large quantities of fossil fuels are not always obvious - but exist at an enormous scale: https://www.ucsusa.org/resources/hidden-costs-fossil-fuels	Thank you for your comment.

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170-010	In May 2020, a new record high of atmospheric CO2 was reached, in spite of the suppression of economic activity due to COVID: https://www.esrl.noaa.gov/gmd/ccgg/trends/ . For these, and a variety of other reasons, I urge you to promptly approve the Vineyard Wind project, and start the US on a path to leadership in the OSW industry. Each day we burn more fracked natural gas to generate electricity increases global warming impact that will remain for many decades.	Thank you for your comment.
171-001	As a property owner on Martha's Vineyard and citizen who is concerned about preserving our environment, I am dismayed at the interminable length of time it has taken to start developing offshore wind energy on a commercial scale in the US. We all know from multiple studies that the Northeast US is one of the most desirable places on earth for the development of wind energy. The studies have been more than thorough and exhaustive.	Thank you for your comment.
171-002	The Vineyard Wind developers have been incredibly patient is working out solutions which protect the interests of the fishing industry. The 1 X 1 NM layout has significantly reduced the economic return of the developers, and yet, they have agreed to compromise in order to meet al possible concerns about fishing and navigational interests.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
171-003	Significant capital has been invested in preparing to launch the Vineyard Wind project. Residents on Martha's Vineyard, as a result of the developers strenuous efforts to communicate and explain every aspect of their plan, are enthusiastically behind the project.	Thank you for your comment.
171-004	Of special concern to many of us is that if additional constraints are placed in the way of the Vineyard Wind project, the entire offshore wind industry is likely to collapse, resulting in the loss of tens of thousands of good paying jobs, and losing a major opportunity to reduce damage to our oceans through increased acidification and increased temperature.	Thank you for your comment.
171-005	I sincerely hope that BOEM will approve the project as proposed by Vineyard Wind with the 1 X 1 NM layout as rapidly as possible. It is time the US joined the company of so many nations around the world in safely and effectively harnessing the benefits of offshore wind energy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
172-001	I feel a strong responsibility to advocate for all we can do to reduce our green house gas emissions to as low as possible, and reduce our carbon footprint. As you know, Massachusetts is committed to eliminate at least 90% of GHG emissions from energy use in the state by 2050. As responsible stewards of the earth, and as parents of children, we must reach this goal. We will not meet this important goal without significant new sources of energy; and we won't be able to employ people in the coal and oil business, since that sector is in decline and will continue to fight essential changes to save our planet.	Thank you for your comment.

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	We CAN, however, reduce our GHG emissions and employ about 1,000 people, by supporting offshore wind turbines - a great source of green, renewable energy. The Vineyard Wind project is a major step in the right direction.	
174-001	I am writing to express my support for the Vineyard Wind project to go forward without further delay. This project has been studied for several years, revealing that it is a responsible approach to counteract our current and future climate change crisis. There are several reasons I am supportive [of the Vineyard Wind project]. First, we need to reduce carbon emissions in order to address the harmful effects of climate change. Second, studies have shown the environmental impacts of this project are negligible.	Thank you for your comment.
174-002	...current jobs in the fishing industry will be preserved and thousands of more jobs will be created [by the Vineyard Wind Project].	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
174-003	If we are to address climate change so that future generations aren't burdened with resulting catastrophes, action needs to be taken at the federal, state and local levels. Communities need to take positive steps to reduce CO2 emissions and limit the effects of climate change. This project is an opportunity for the residents of Cape Cod and the islands to make a positive contribution. I am impressed that the energy generated by the turbines is expected to reduce carbon emissions by 1.6 million tons per year, an amount that would be equal to taking 325,000 cars off the road. Most importantly, wind energy is clean and renewable and this particular project is estimated to provide cost competitive energy to over 400,000 homes and businesses in Massachusetts.	Thank you for your comment.
174-004	The fishing industry has been particularly concerned about the impact of this project, but Vineyard Wind has diligently addressed their concerns. The current plan to have slightly more than 1 mile between turbines will provide more than 200 transit lanes for vessels allowing for safe navigation and fishing within the grid of the wind farm.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
174-005	The fishing industry will continue to provide local jobs and thousands of more jobs will be created by this project.	Section 3.6.2 of the FEIS has been updated to note the cooperative effort between the Port of New Bedford, Vineyard Wind, and MassCEC on a supply chain for offshore wind that includes the fishing industry.
174-006	I am opposed to the 2 mile transit lanes within the wind farm. The US Coast Guard has stated that this requirement is unnecessary.am opposed to the 2 mile transit lanes	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	within the wind farm. The US Coast Guard has stated that this requirement is unnecessary.	
175-001	I am in full support of the Vineyard Wind project because renewable energy systems are going to be a crucial part of the future in the United States and the rest of the world. Getting a start on this now will be extremely beneficial and will create thousands of jobs, not only in Massachusetts, but across the nation as the renewable energy market expands.	Thank you for your comment.
176-001	A wind farm off the coast is a perfect step in the right direction to a wide use of renewable energy! I am in favor of this decision.	Thank you for your comment.
177-001	In recent years I have partnered with my brother and purchased a few commercial fishing licenses with the intent to fish them after rehabbing a fishing vessel... We had a fire on board during the repairs and were forced to sell that vessel to recoup some losses. With the declining fish quota allocations we thought we had enough quota to proceed. With the wind farm moving forward and the potential of fishing grounds lost along with a lot of uncertainty with placement of turbines and cables that would create a fishing hazard especially during inclement weather, and constantly changing fishing regulations, we have given up on our dream to rehab another fishing vessel to fish our licenses.	Thank you for your comment.
177-002	The location of the turbines would be on some of the most productive fishing grounds in the world. There is no proof or guarantee that once the work begins there would be no harm to the fish population. The scientific studies out there on the impact of off shore wind on the fish stock seem to be very few and of one sided.	Section 3.4 and 3.11 of the SEIS discussed the impacts from offshore wind development on finfish, invertebrates, and EFH and commercial and for-hire recreational fisheries, including impacts from noise, anchoring, new cable emplacement and maintenance, vessel traffic, and the presence of structures. A stock-specific analysis is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives. The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research).
178-001	Offshore Wind holds many benefits for our region... The climate and our economy can not afford for Offshore Wind to be delayed.	Thank you for your comment.
178-002	Increasing navigational lanes beyond the 11 NM endorsed by USCG threatens offshore wind's future (no to Alternative F).	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
179-001	I support approving allowing Vineyard Wind to proceed without any additional navigation lanes beyond those proposed by Vineyard Wind.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
179-002	Offshore wind is an opportunity to bring money to CT (where I'm from) and other northeast states and should not be delayed further by political appointees in Washington DC.	Thank you for your comment.

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181-001	It is imperative the human race responsibly transition to renewable energy sources as quickly as possible. OSW is undoubtedly a responsible method in achieving this goal. This should have been built 20 years ago.	Thank you for your comment.
182-001	We are greatly in need of the renewable energy this project will generate. Please permit the project to go forward.	Thank you for your comment.
183-001	I am writing today to encourage you to support the Vineyard Wind I project off the coast of Massachusetts. This project is expected to produce enough wind to power 400,000 homes in a densely populated part of our country. This project and others like it will lead to a reduced dependence on fossil fuel power generating facilities. In today's Boston Globe (originally appeared in the New York Times) there is an article on the rising number of fracking oil firms that are filing for bankruptcy. The tanks at many of these wells are abandoned and are leaking methane and other planet warming pollutants into the air, unchecked. The companies failed to keep the reserves on hand to properly shut down the wells and the leaks continue unabated. This is further evidence of our need to move away from fossil fuels.	Thank you for your comment.
183-002	Vineyard Wind I will create 3,600 jobs for local residents and more than 80,000 jobs over the next ten years. It will save ratepayers more than \$1.4 billion in energy-related costs over the 20 year contract with Massachusetts and will avoid emissions of almost 1.7 metric tons of carbon dioxide per year, the equivalent of removing 325,000 cars from the road.	Thank you for your comment.
184-001	The planet needs so much more clean energy! Our population continues to grow and we are dependent on electricity, let's use what we know about clean energy now and move forward to help the planet.	Thank you for your comment.
184-002	It's time for fisherman and the shipping industry to share the ocean with wind turbines. Wind happens over water.	Thank you for your comment.
184-003	Bringing so many new jobs to the island is a huge benefit. I love that the plan includes going into the high school to expose and train local kids to the current pertinent jobs and valid careers of the future in sustainable energy.	Section 3.6.2 of the FEIS notes that many of the Vineyard Wind 1 Project operations and maintenance jobs would be on Martha's Vineyard, and lists the grants and community programs that Vineyard Wind 1 is committed to, including job training for offshore wind. This information was also provided in the DEIS.
185-001	...this project is precedent setting. The decisions made now will have ramifications on projects up and down the eastern seaboard. The Vineyard Wind project is vital to moving this industry forward in the fight against climate change, improving public health, addressing longstanding environmental justice issues, and restarting the economy in the wake of the COVID-19 Pandemic.	Thank you for your comment.
185-003	In order to capture the full potential of the US offshore wind workforce, developers and suppliers need certainty to invest in and train a local	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from

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	workforce. Moving toward a 100% US workforce that captures the full economic benefits of this industry will require consistent, predictable projects entering construction for workers to gain experience and qualifications necessary to advance within the workforce and replace the Europeans over time.	growth of the wind energy industry along the Atlantic coast. These sources rely upon varying projections of the growth of the domestic supply chain for offshore wind. Appendix A.4 of the FEIS provides parameters to determine which Atlantic coast offshore wind projects are reasonably foreseeable at this time, but beyond that does not predict future industry growth.
185-004	It's important to note that these projects need to be economically viable, and the industry has gone through an exhaustive process to establish a 1 x 1 Nautical Mile layout based on stakeholder feedback. The 1 x 1 NM layout eliminates at least 30% of the area's potential energy production but addresses the main comments from the commercial fishing industry regarding the need for transit lanes to ensure safe navigation. The 1 x 1 NM uniform layout creates over 200 transit lanes throughout the entire wind project area. The United States Coast Guard (USCG) has determined that this type of "standard and uniform grid pattern" layout would "maximize safe navigation" in the Wind Energy Areas (WEAs) (MARIPARS, 32). So, we ask you to reject alternative F, which calls for a 4 x 4 Nautical Mile layout. Alternative F threatens the viability of this industry and provides no benefit. Additional transit lanes will result in substantial technical challenges, delays, cost increases to consumers, and more environmental impacts from offshore wind development, with marginal gains and, as USCG identifies, potentially greater conflict among transiting and fishing vessels that are "funneled into the corridors thereby increasing traffic density and risks for vessel interaction." (MARIPARS, 7).	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
186-001	The offshore wind industry ... will also substantially mitigate the effects of climate change.	Thank you for your comment.
187-001	As a student attending college in Massachusetts, I feel strongly about my state pursuing initiatives like this to further the goal of 100% renewable energy. This project will prevent 1.7 million tons of CO2 from entering the atmosphere, and is a great step towards a just energy transition. As a member of the generation who will be most impacted by climate change, I believe taking steps to develop reliable renewable energy sources is crucial to preserving our future. In addition to the environmental benefits of this project, the development will be a huge boost to employment in the area, with a potential to create 3,600 jobs and supply 400,000 homes with clean energy. This offshore wind development will benefit the local community.	Thank you for your comment.
188-001	In order to meet the requirements of the Global Warming Solutions Act (GWSA), the power sector in Massachusetts must move continuously towards an overall decarbonization....The proposed Project has been thoroughly vetted. It has been contracted to deliver power to the New	Thank you for your comment.

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	England energy grid to contribute to Massachusetts' renewable energy requirements particularly, the Commonwealth's mandate that distribution companies jointly and competitively solicit proposals for offshore wind energy generation....In addition to providing much needed, clean energy to our power portfolio, the development of offshore wind will stabilize electric prices over the long term.	
189-001	I am before you today to discuss navigation safety, a topic in which I have been deeply involved over the past several years in numerous meetings and conversations with Vineyard Wind, other leaseholders, BOEM, the U.S. Coast Guard, state regulators, the commercial & recreational fishing industry, and many other key stakeholders. The vast majority of those conversations were focused on two key issues: (1) turbine spacing-and-layout, and (2) vessel transit lanes. Orsted would suggest that the recent U.S. Coast Guard Port Access Route Study of the MA/RI WEA, commonly referred to as the Final MARIPARS, completely and satisfactorily addresses both issues.	Sections 3.11.4, 3.11.5, and 3.11.6 of the FEIS include a discussion of the Final MARIPARS study. It is outside of the scope of the EIS to look at the validity of another agency's study. Further, Orsted's opinions or statements on the matter are not relevant to BOEM's NEPA analysis.
189-002	Indeed any balanced examination of the U.S. Coast Guard's MARIPARS report, when compared to the Alternatives proffered in the Supplemental EIS, would lead one to conclude that Alternative D2 provides the best balance of interest between various waterways users, while maintaining and even improving navigation safety, and also preserving the Coast Guard's ability to conduct effective search and rescue.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
189-003	In its final MARIPARS report the Coast Guard made three specific recommendations regarding spacing and layout: 1. Lanes oriented in a northwest to southeast direction, 0.6 to 0.8NM wide. 2. Lanes oriented in an east to west direction, 1NM wide. 3. Lanes oriented in a north to south and east to west direction, 1NM wide, to facilitate helicopter search and rescue. Alternative D2 is the only Alternative in the SEIS that meets all three of the Coast Guard's criteria for navigation safety.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
189-004	Notably, the Coast Guard has clearly stated that not only would transit lanes as proposed in Alternative F fail to preserve navigation safety, such lanes would actually increase risk and make navigation more dangerous.	Section 3.11.5 of the FEIS includes a discussion of the Final MARIPARS study.
189-005	Indeed, in its Federal Register notice announcing the availability of its final MARIPARS report, the Coast Guard stated, and I quote: "Although these larger navigation corridors may appear to provide more area for navigation, they actually provide far less area than the numerous corridors that result from the recommended array and spacing," that recommended array and spacing being Alternative D2 in the SEIS.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
189-006	Additionally, the Coast Guard goes on to say that transit corridors as proposed in Alternative F would make "navigation more challenging, [as]	Section 3.11.5 of the FEIS includes a discussion of the Final MARIPARS study.

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	most traffic would then be funneled into the corridors thereby increasing traffic density and risks for vessel interaction.”	
189-007	The Coast Guard further concluded that the spacing and layout as recommended in the MARIPARS report—and as proposed in Alternative D2—would “provide sufficient space for certain vessels that fish in the WEA to continue fishing after the wind farms are constructed.” Moreover, the Coast Guard found that wider transit lanes, as proposed in Alternative F, would “largely preclude fishing in the WEA.”	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
189-008	Lastly, the Coast Guard concluded that an array layout as recommended in the MARIPARS report and as proposed in Alternative D2 would “result in the functional equivalent of 231 navigation corridors that can safely accommodate both transits through, and fishing within, the WEA.”	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
189-009	For these reasons, among many others, Orsted strongly endorses and supports Alternative D2 over all others.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
189-010	...I would respectfully remind BOEM that Orsted, Vineyard Wind, and all other leaseholders in the MA/RI WEA have unanimously committed to a uniform grid layout, in a north/south orientation, with a minimum 1NM spacing between towers, per our joint letter to the U.S. Coast Guard of November 1st, 2019, provided there is no additional requirement to accommodate transit lanes as proposed in Alternative F.	As stated in the SEIS, and within Section 2.1.5 of the FEIS, the developers’ agreement was reached in order to avoid irregular transit corridors. This agreement alone has resulted in significant reductions in the area available for offshore wind development.
190-001	It is no small feat to forecast the myriad impacts that the development of a new ocean-based renewable resource will have on the human and natural environment, both positive and negative, but BOEM has largely presented a comprehensive, thoughtful and data-driven analysis of the reasonably foreseeable impacts of projected development along the Eastern Seaboard.	Thank you for your comment.
190-002	With the completion of the cumulative impact analysis, and establishment of a methodology that can be broadly replicated across all planned offshore wind projects, we urge Secretary Bernhardt to now lift the department’s hold on the formal environmental review of projects in the queue.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
190-003	We strongly support the adoption of Alternative D2 as the Preferred Alternative for project layout in the Rhode Island/Massachusetts contiguous lease area. As one of the participating developers to the consensus proposal for a uniform 1 nm X 1 nm east-west grid configuration for these specific lease areas, we were heartened to see the solid evidence presented in the SEIS demonstrating the superiority of this approach from a navigational safety perspective, while still respecting the ability of commercial fishermen and other navigators to transit in and through our lease area.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
190-004	We encourage BOEM to defer to the judgment of the US Coast Guard which, in the context of the recently released final Massachusetts/Rhode Island Port	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	Access Route Study (MARI PARS), determined that the grid layout pattern “will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing within the WEA” and declined to recommend further formal or informal vessel routing measures.	
190-005	Conversely, we take issue with the SEIS’ findings that Alternative F, contemplating a dedicated 4-mile wide transit corridor, could “technically and economically meet the purpose and need.” As an example, the Responsible Offshore Development Alliance (RODA) proposal for a 4nm wide transit lane (the basis for Alternative F)—if adopted and extended to other projects—would result in the loss of over 50 wind turbine locations from our South Fork, Revolution, and Sunrise Wind projects that currently have existing PPA obligations. This equates to nearly a 25% loss in total wind turbine locations needed to support our state Power Purchase Agreements. In light of this significant constraint on our developable footprint and attendant production loss, we believe the SEIS conclusion of technical and economic feasibility with respect to Alternative F is misplaced.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
190-006	It is hard to reconcile the SEIS’s qualitative assessment that future offshore wind development will result only in minor net economic benefits to the region, with the study’s recognition of significant new investment in ports and harbors, manufacturing and other supply chain activities, and workforce development. Our company alone is in on its way to investing \$15 billion over the next decade in the U.S. The FEIS should reflect a more favorable rating of offshore wind as a domestic economic development engine consistent with ongoing and planned investments.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
190-007	For many of the cumulative impact parameters considered in the SEIS, BOEM chose not to incorporate widely accepted or legally mandated mitigation strategies. Thus, the “bottom line” impact of the 22 GW build-out must be considered a worst-case scenario and not representative of as-constructed project impacts. The FEIS should place the impact assessment in proper context.	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is

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		a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
190-008	Since the SEIS acknowledges that ongoing climate change would contribute to cumulative impacts, it is important to re-emphasize the positive climate impact that renewable energy provides to terrestrial and marine fauna and local communities. For example, Orsted's Ocean Wind project is expected to avoid emissions of over 100 million tons of carbon dioxide, almost 200 thousand tons of sulfur dioxide, and over 80 thousand tons of NOx over the life of the project. Offshore wind thereby results in a net reduction of regional air pollution.	The FEIS, like the SEIS, addresses the positive climate impacts of the proposed Project and future offshore wind projects in Section A.8.1. Section A.8.1 of the FEIS has been updated to include additional benefits of offshore wind to health and climate change.
190-009	At the same time, we stand ready to help the Northeast recover long-term from this unprecedented economic crisis by creating thousands of good local jobs and investing hundreds of millions of dollars in local ports to develop homegrown clean energy that will combat climate change and power our communities for decades to come.	As was the case for the SEIS and DEIS, the effects of the proposed Project to demographics, employment, and economics are addressed in Section 3.6 of the FEIS.
191-001	I am grateful for the expanded analysis, this is a regional issue not a sub-lease scale issue. You have not considered all the foreseeable impacts however, this is a good start.	Thank you for your comment.
192-001	This SEIS is incomplete. An important fact is omitted. According to NOAA's West Coast researchers, avian mortality is greater due to domestic feline activity than to rotary wind energy devices.	Avian mortality as a result of domestic feline interactions is not relevant as we are discussing impacts to avian species on the Atlantic OCS. As such, the information relative to the annual avian mortality attributed to domestic felines was omitted.
193-001	I'm against the building of wind farms without sufficient data to determine whether or not they will harm the environment.	Thank you for your comment.
194-001	Vineyard Wind alone will generate at least 3,600 jobs and reduce costs for ratepayers by an estimated \$1.4 billion, according to the Massachusetts Department of Energy Resources. A recent report from the American Wind Energy Association found that by 2030, the offshore wind sector will employ more than 80,000 people from North Carolina to Maine and lead to \$25 billion in annual economic output. That kind of economic potential, if realized, would be a game changer for people in our region and across the country, the kind of investment that can rebuild communities and create new opportunities for families.	As was the case for the SEIS and DEIS, the effects of the proposed Project to demographics, employment, and economics are addressed in Section 3.6 of the FEIS.

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194-002	But just as important as the economics is the effect the development of this industry will have on our environment and our efforts to reduce the catastrophic effects of climate change. Coastal communities are at a far greater risk from climate change, not only due to the impacts of coastal erosion and severe storms, but also because our economic health is closely tied to a healthy, stable environment. Vineyard Wind 1 will generate clean, renewable, cost-effective power for over 400,000 homes and businesses across the state while reducing carbon emissions by almost 1.7 million tons per year, the equivalent of taking 325,000 cars off the road.	The FEIS, like the SEIS, addresses the positive climate impacts of the proposed Project and future offshore wind projects in Section A.8.1.
194-003	In contrast, if the project fails to move forward, the SDEIS outlines the cataclysmic impact that climate change will have on our oceans, including ocean acidification, ocean warming, and sea level rise, and other effects that are likely to contribute or lead to “permanent changes of unknown intensity” (3-2) to terrestrial and coastal fauna, “the decline of benthic resources with calcareous shells” (3-14), “noticeable temporary and permanent adverse impacts” on finfish and invertebrate communities (3-30), “long- term, possibly high consequence risks to marine mammals (3-38), and “long-term, high- intensity risk to sea turtles” (3-49).	The FEIS, like the SEIS, addresses the positive climate impacts of the proposed Project and future offshore wind projects in Section A.8.1.
194-004	[If the project fails to move forward,] we would also see a burgeoning industry once again stalled, that could shake the confidence of those seeking the regulatory predictability that leads to a stable, prosperous industry. The offshore wind industry cannot get off the ground without a clear pathway forward.	Thank you for your comment.
194-005	Late last year, after hearing from many stakeholders, the developers of the New England Wind Energy Areas (NE WEA) came together and proposed uniform, 1 x 1 nautical miles spacing between turbines, a layout that was recently endorse by the United States Coast Guard (USCG). In the recently released MARIPARS report, the USCG found that the standard and uniform grid pattern “would allow for safe navigation and continuity of USCG missions through seven adjacent wind farm lease areas over more than 1400 square miles of ocean.” (MARIPARS, 33)	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
194-006	Alternative “F” slashes the generation capacity the Commonwealth and other New England states have demanded and puts the entire region at risk of not meeting energy demand even as many of New England’s fossil fuel and nuclear power plants are retiring. Section 2.2.2 of the SEIS states “the addition of all six of the 4-nautical mile transit lanes proposed by RODA would reduce the technical capacity of the Rhode Island and Massachusetts (RI and MA) Lease Areas by approximately 3,300 MW, which is 500 MW less than the current state demand for offshore wind in the area” and further	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.

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	“BOEM recognizes that implementation of Alternative F could further erode project economics and viability.” Implementation of those additional transit lanes will only further constrain the economic and environmental benefits of the industry.	
194-007	States in our region have set ambitious goals for carbon reduction, and offshore wind is a major component of reaching those goals; in fact, they cannot be reached without this industry.	The FEIS, like the SEIS, addresses the positive climate impacts of the proposed Project and future offshore wind projects in Section A.8.1.
195-001	[I] appreciate all the effort to minimize noise during build out....The vibrations generated during operation: Will these vibrations be buffered somehow to minimize noise that would affect transient and permanent wildlife in the area? What buffering system will be employed? Could noise level exceed levels harmful to surrounding wildlife under certain conditions, e.g., high winds, wave action, mechanical noise transmitted down towers from gearbox?	Sections 3.4, 3.5, 3.6, and A.8.3 of the SEIS and Sections 3.3, 3.4, 3.5, and A.8.3 of the FEIS discussed the potential impacts of WTG operational noise. Based on measurements from existing wind farms, BOEM expects no impact of WTG operational noise that would require mitigation. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017). Therefore, no change to the FEIS is warranted.
196-001	I believe that alternative G is not a responsible action as there are many devastating consequences of using our existing energy strategy and reliance on fossil fuels. First, all fossil fuels are more impactful to the environment than alternative energy supplies, notably wind power. They are emitting greenhouse gases which are warming our oceans, raising their levels and turning them more acidic. Both of these pose a much greater threat to our fishing industry than a well organized set of offshore turbines. Second, unlike off-shore drilling for oil, once built, there is little to no risk to the environment. Both oil and gas drilling operations have been permitted in ecologically sensitive areas and we have seen the devastation when those have had leaks and spills. Wind power does not have any danger of ongoing ecological devastation.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
196-002	It is important to note that states who have clean energy goals, like Massachusetts, cannot achieve those if the spacing of the turbines are reduced beyond the proposed 1x1 nm grid....The Coast Guard has determined that having multiple, predictable lanes to shore is far more effective for safe passage than 6 specific lanes which are 4 nm apart. As such, Alternative F is not a viable solution and should be abandoned.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
196-003	Lastly, we are all aware that burning fossil fuels emits pollutants. These cause respiratory problems, notably asthma, which kills many people prematurely every year. The COVID-19 pandemic has shown us that anything that compromises our breathing and health should be avoided. This is especially true for disadvantaged communities where they have been affected at an even greater rate. Approving this project will go a long way towards reducing the health impacts upon these communities.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).

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197-001	Please know [that the Vineyard Wind 1 Project would be] detrimental to our fishing livelihoods. No research has been done on how 14MW will affect the fish that call that fragile ecosystem home.	Section 3.4.2 of the SEIS discussed the likely effects on finfish, invertebrates, and EFH and Section 3.11.2 discussed likely effects on commercial fisheries and for-hire recreational fishing. A stock-specific analysis is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives. The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research).
197-002	Vineyard Wind is creating artificial structures that will draw predatory fish.	Section 3.4 of the SEIS discussed the reef effect on finfish and the potential attraction of predatory fish. Therefore, no change to the FEIS is warranted.
197-003	With all the electricity running through the ground, the highly alert forage fish will move on.	Sections 3.3 and 3.4 of the SEIS addressed the potential impacts of EMF on finfish and invertebrates and determined that the impacts would be negligible to minor. Therefore, no change to the FEIS is warranted.
197-004	If I was to have a collision with one of the eight hundred foot structures, I think we would lose that battle.	Section 3.11.2 of the FEIS discusses impacts due to the presence of structures. With implementation of the self-imposed measures by Vineyard Wind described in Section 3.11.2, non-Project vessels transiting between the Proposed Action ports and through the WDA would be able to avoid Proposed Action vessels and structures through routine adjustments to navigation. Sections 3.11.1, 3.11.2, 3.11.4, and 3.11.5 discuss navigational safety. The impacts of a vessels collision with a WTG or ESP foundation on that vessel and crew have been considered in assigning the impact ratings.
197-005	We have just put on a new fourteen thousand dollar Furuno Radar and I am still not confident that it won't be messed up with a false echo from the windmill.	Section 3.11.2 of the FEIS includes a discussion of potential radar interference. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
197-006	If you were to build these structures, I am not certain I would be able to fish around them anymore. After thirty summers of fishing in this area, we will have to tie up because we no longer have a summer off shore fishery.	Section 3.11 of the SEIS discussed how development in a Wind Lease Area could cause fishing vessel relocation, increased conflict, increased operating costs, and lower revenue. Section 3.10 and 3.11 of the FEIS discuss impacts from offshore wind development to vessel navigation and maneuverability. Therefore, no change to the FEIS is warranted.
197-007	Lastly, with our net, doors and sensors we have sixty thousand dollars in the water behind the boat. If we were to lose our gear in one of your cables or structures, that could put us out of business.	Section 3.11 of the SEIS discussed the impacts from offshore wind development on commercial fisheries, including impacts from the presence of structures on fishing gear, and Vineyard Wind's voluntary financial compensation measures for potential gear loss. Sections 3.10.2, 3.10.8, and Appendix D of the FEIS were updated to discuss potential mitigation measures. BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions

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		between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth.
198-001	The 1x1 pattern that all developers in the north east have jointly committed to is more accommodating to marine traffic than any offshore wind farm in the world and has been signed off by the US Coast Guard. The additional 4x4 navigational channels are unnecessary and will only further delay and reduce the positive economic and environmental benefits. Potentially this could scuttle some or all of the proposed projects and set us back another decade.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
198-002	Europe figured this out in the 90's. The fact that the United States is still tripping over itself in 2020 is extremely frustrating. We're now in the third decade of talking about offshore wind as if it's akin to landing a man on Mars. The benefits are clear and vastly outweigh the negatives. The rest of the world is making this happen.	Thank you for your comment.
198-003	Please agree to the proposed 1x1 pattern and let these projects move forward. American jobs and American lives are on the line.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
199-001	I have always said it's a dumb idea to put anything out in the ocean. Salt water destroys everything. Wires especially, much less any other moving parts. Why not put the turbines at Interstate off-ramps? There is at least an acre or two at each one. You could put them all the way across the country. They would be close to the population of people that could use the electricity. They would be easy to access. They wouldn't be in SALT WATER. They would need less maintenance due to no SALT WATER. They would be less expensive to build and operate. BECAUSE THEY ARE NOT ON SALT WATER 20 MILES OFF SHORE. And they would be closer to the PEOPLE THAT NEED THE ELECTRICITY much more than just the people at THE COAST .	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
200-001	We urge BOEM to approve the Vineyard Wind Project with the preferred "D2" option (1 nautical mile spacing) without delay.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
200-002	We know the technology and cost for wind power has improved dramatically over the past decade. We know first-hand, that project delays make that power more expensive to our ratepayers. We also recognize that the Massachusetts and surrounding offshore wind resource has the unique potential to supply much more electrical energy to the region and potentially more than our state currently uses. Wind power complements our states solar	Thank you for your comment.

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	resources with strong winter and nighttime performance. The project promises to help decarbonize our industry, our building HVAC, and our transportation infrastructure by electrification.	
200-003	To meet the requirements of the Global Warming Solutions Act (GWSA), the power sector in Massachusetts must move continuously towards an overall decarbonization....Municipal Light Departments will need to improve their non-carbon emitting portfolio in the coming years and need options like Vineyard Wind to displace natural gas generation and the potential retirement of Millstone Nuclear as early as 2025.	Thank you for your comment.
200-004	The offshore wind project of Vineyard Wind offers very important potential for Massachusetts municipal utilities as a primary source of future energy for all New England that also will provide many jobs.	Job projections for the Vineyard Wind 1 Project are provided in Section 3.6.2 of the FEIS, and were also provided in the DEIS. This section also includes Vineyard Wind's contribution to the security and resiliency of the local energy supply as a beneficial impact of offshore wind, with the same conclusions as the SEIS.
200-005	New England has used natural gas to displace coal, but our New England grid must start the transition off natural gas and offshore wind is one of the few resources that can make that possible in the timeframe we need.	Thank you for your comment.
201-001	What will the impact be upon the natural ocean life in the waters surrounding these offshore wind facilities?	Chapter 3 of the SEIS and FEIS address the potential impacts to resources, including ocean life.
202-001	We can no longer afford to delay this project while we foolishly pay higher rates for forms of energy that pollute the air we breathe and that contribute daily to the ravages of climate change.	Thank you for your comment.
203-001	Wind turbines kill birds and bats and insects - in killing the insects the blades invite insect eating birds to their death	Section A.8.3.2 provides an updated discussion of bird use of the Atlantic Flyway along the North American Atlantic Coast. Within the Atlantic Flyway, much of the bird activity is concentrated along the coastline concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). Additionally, as depicted in Figures A.8.3-1 and A.8.3-2 in the SEIS, total avian abundance for species with high collision sensitivity and displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. As such, collision and displacement impacts are expected to be low. Additionally, as cited in the SEIS, many of the species that exhibited high avoidance rates in the Skov et al. (2018) study are same species that were modeled as part of the analysis in the SEIS.
203-002	Wind turbines are placed in the migratory bird paths which lead to the bird's death	Section A.8.3.2 provides an updated discussion of bird use of the Atlantic Flyway along the North American Atlantic Coast. Within the Atlantic Flyway, much of the bird activity is concentrated along the coastline

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		concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). Additionally, as depicted in Figures A.8.3-1 and A.8.3-2 in the SEIS, total avian abundance for species with high collision sensitivity and displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. As such, collision and displacement impacts are expected to be low. Additionally, as cited in the SEIS, many of the species that exhibited high avoidance rates in the Skov et al. (2018) study are same species that were modeled as part of the analysis in the SEIS.
203-003	Wind turbines affect the navigation systems of whales and dolphins leading to their deaths	Sections 3.5.1 and 3.5.2 of the SEIS discussed the potential impacts of EMF on marine mammals. As discussed, modeled and measured magnetic fields from AC cables buried to a depth of 3 feet would emit detectable fields up to 82 feet above the cable and 79 feet along the sea floor. Vineyard Wind proposes to bury Project cables to a depth of 5-8 feet, providing greater shielding and reducing field detection distances. Additional discussion of the uncertainty regarding the individual and/or population level impacts of EMF on marine mammals was provided in Appendix H of the SEIS. Given the extremely localized nature of the potential EMF related impacts exposure is expected to be low. Therefore, no change to the FEIS is warranted.
203-004	Wind turbines cause infrasound affecting animals, sea life, birds, and humans	Section 3.3.7.3, 3.3.8.3, of the DEIS and Section 3.5.1 of the SEIS discussed the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017). Therefore, no change to the FEIS is warranted.
203-005	Wind turbines make money for foreign companies not the state or country in which they put the turbine	The SEIS relied on projections of employment, economic activity, local/state tax revenues, known investment in local ports and job programs, and grants to local communities and organizations, to reach a reasonable conclusions of beneficial impact within the geographic analysis area. Section 3.6.1.1 of the FEIS has been updated to include additional information on ongoing port facility improvements and projections of economic investment. The projections support reasonable conclusions that offshore wind would support jobs and businesses within the geographic analysis area.
203-006	Wind turbines do not create hundreds of local jobs	The SEIS relied on projections of employment, economic activity, local/state tax revenues, known investment in local ports and job programs, and grants to local communities and organizations, to reach a reasonable conclusions of beneficial impact within the geographic analysis area. Section 3.6.1.1 of the

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		FEIS has been updated to include additional information on ongoing port facility improvements and projections of economic investment. The projections support reasonable conclusions that offshore wind would support jobs and businesses within the geographic analysis area.
203-007	Wind turbines cost consumers millions of dollars in fees to pay for the subsidies given to foreign companies. Wind turbines increase the cost of electricity threefold making the countries in which it prevails energy poor. Wind turbines cost rate payers money in subsidies when they are forced to stop running	The SEIS relied on projections of employment, economic activity, local/state tax revenues, known investment in local ports and job programs, and grants to local communities and organizations, to reach a reasonable conclusions of beneficial impact within the geographic analysis area. Section 3.6.1.1 of the FEIS has been updated to include additional information on ongoing port facility improvements and projections of economic investment. The projections support reasonable conclusions that offshore wind would support jobs and businesses within the geographic analysis area. The analysis of employment and economic impacts within the geographic analysis area is valid regardless of federal and state subsidies. Ratepayer costs depend on numerous variables beyond the scope of the EIS.
203-008	Wind turbines are not green - they use more fossil fuel than they save	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
203-009	Wind turbines use rare earth minerals which are mined in inhumane conditions and cause much pollution where they are mined	Thank you for your comment.
203-010	Wind turbines cause health problems in humans	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
203-011	Wind turbines cause flicker on nearby properties	The FEIS does not address flicker because the Vineyard Wind turbines, being at least 14 miles offshore, would be too far from shore to cause flicker for observers on land. This effect could be experienced by mariners who are much closer to the turbines than the closest coastline.
203-012	Wind turbines drive fish away and affect the commercial and recreational fishing industry	Section 3.4 and 3.11 of the SEIS discuss the impacts from offshore wind development on finfish and commercial and for-hire recreational fisheries, including impacts from noise, anchoring, new cable emplacement and maintenance, vessel traffic, and the presence of structures. Therefore, no change to the FEIS is warranted.
203-013	Wind turbines cause havoc to shipping lanes	Sections 3.11.2 thru 3.11.5 of the FEIS discuss impacts to vessel traffic. The major ports in the vicinity of the WDA include the ProvPort, Fall River, New Bedford, and Davisville. The primary vessel traffic and commercial shipping lanes serving these ports are outside of the WDA (COP Volume III, Section 5.5.1, Appendix III-I; Epsilon 2020a).
203-014	Wind turbines affect the ability of radar to predict severe weather	Section 3.12 of the FEIS has been updated to specify that weather radar systems were included in the analysis of the Proposed Action, and that the Proposed Action is not anticipated to impact weather radar systems. The

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		FEIS was also updated to 1) Include references to FAA Order JO 7400.2M, (FAA 2019) which implements procedures for conducting aeronautical studies per 14 CFR Part 77, and requires an obstruction evaluation to consider "physical, electromagnetic, or line-of-sight interference on existing or proposed air navigation, communications, radar, and control systems facilities" and provides specific requirements for such an analysis, and to 2) Clarify that BOEM assumes offshore project proponents would conduct radar studies in coordination with BOEM's Information Guidelines for a Renewable Energy Construction and Operations Plan (COP) issued May 27, 2020 and the requirements of 30 CFR 585.621, and these radar studies would identify potential impacts and mitigation to weather radar systems. To develop the information in the FEIS, BOEM relied on the FAA's DOD Preliminary Screening Tool which indicates that the Proposed Action and other offshore wind facilities in the RI and MA Lease Areas are unlikely to impact NEXRAD radar systems; prior FAA determinations for WTGs up to 696 feet for the Proposed Action and up to 1,049 feet for other offshore wind projects in the RI and MA Lease Areas; and Vineyard Wind's project-specific radar evaluations included in the COP (COP Volume III, Section 7.9.2.1.2, Figure 7.9-1; Epsilon 2020a).
203-015	Wind turbines affect the ability of the military to adequately protect our shores	Section 3.12 of the FEIS addresses potential impacts to military and national security uses and radar systems and includes updates to clarify information provided in the DEIS and SEIS. BOEM coordinates with the Department of Defense and the U.S. Coast Guard throughout the process of identifying leasing area and approving the COP in order to identify and minimize conflicts with military and national security concerns.
203-016	Wind turbines will limit the areas in which boats can travel for fear of collisions with the Wind turbine's bases	Section 3.11.2 of the FEIS discusses impacts due to the presence of structures. With implementation of the self-imposed measures by Vineyard Wind described in Section 3.11.2, non-Project vessels transiting between the Proposed Action ports and the WDA would be able to avoid Proposed Action vessels and restricted safety zones (if USCG establishes any such zones within 12 nm of the coast) through routine adjustments to navigation.
203-017	Wind turbines will leak oil into the ocean	Section A.8.2.2 of the SEIS addressed the potential for accidental releases and discharges associated with the proposed Project. Therefore, no change to the FEIS is warranted.
203-018	Wind turbine blades are not recyclable and cause much havoc at landfills	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed

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		Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.
203-019	Wind turbines will destroy the pristine view from our shores for the foreseeable future affecting the economy of every seaside resort	Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations and night sky impacts. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation lighting. Vineyard Wind would also use white or light grey paint color as described in Appendix D to reduce visibility against the horizon. New visual simulations provide views of the 14 MW WTGs as well as simulations for Vineyard Wind 1 wind turbines combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment . Research findings that address the impacts on coastal tourism were provided in the DEIS and Section 3.10.1 and 3.10.2 of the SEIS, and have been carried forward into the FEIS.
203-020	Instead of wasting billions of dollars and adversely affecting millions of people and thousands of businesses, might I suggest you put the money into enhancing the solar energy capabilities with more research. When that research produces an effective solar energy producing system, install that system on every roof in every seaside town and every roof in the sunbelt region. The panels or solar shingles or solar paint will not do the harm that the wind turbines will do. The solar panels will not have to be paid not to turn on in high winds. The solar panels will not harm migrating birds, bats, or ocean wildlife. Solar panels will not harm humans.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
203-021	Or better yet, put those billions of dollars into Fusion Technology. https://www.sciencefocus.com/futuretechnology/meet-the-renegades-building-a-nuclear-fusion-reactor-in-your-neighbourhood/) That is the future. Clean. And immensely powerful. Don't waste my money nor yours on an unreliable, environmentally unfriendly, energy like wind energy.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
204-001	Individually and collectively, state policymakers are making significant and long-term commitments to the development of a U.S.- based offshore wind market. Taken together, the U.S. now represents a nearly 30 GW market through 2035 based strictly on the procurement commitments that are already enshrined in state law.	Section 1.7.1 of the SEIS included a detailed overview of the future of offshore wind in the United States on the Atlantic OCS.
204-002	As part of our U.S. build-out, Orsted has already pledged nearly \$500M towards port facilities at State Pier in New London, CT; Tradepoint Atlantic in Baltimore, MD; Port Jefferson, NY; and Atlantic City, NJ. These ports will serve the diverse needs of the industry for component manufacturing, staging and O&M.	The FEIS is for the Vineyard Wind 1 Project, and therefore identifies major planned improvements to ports within the geographic analysis area for the Vineyard Wind 1 Project. It does not include information on specific offshore wind investments outside the geographic analysis area for Vineyard Wind 1, such as ports in Connecticut, New Jersey, or Maryland. Section 3.6.1.1 of the

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		FEIS has been updated to include additional information on national projections of employment and economic activity resulting from Atlantic coast offshore wind installation. These general projections are used to draw reasonable conclusions about anticipated economic impact within the geographic analysis area.
204-003	Recent commitments by the State of New Jersey for the establishment of a dedicated offshore wind port adjacent to the Hope Creek nuclear facility; and New York’s imminent \$200M RFP for harbor facilities demonstrate the scale and seriousness of this investment. Investments like this will create thousands of jobs, stimulate coastal economies and revitalize U.S. port infrastructure.	The geographic analysis area for demographics, employment, and economics was shown in Figure A.7-7 of the SEIS and has not been changed for the FEIS. New Jersey and New York port improvements are not within the geographic analysis area for the Vineyard 1 Project. Specific projects outside the geographic analysis area were not included in the analysis for the proposed Project; however, the Section 3.6.1.1 of the FEIS has been revised to include additional information on national projections of employment and economic activity resulting from Atlantic coast offshore wind installation. These general projections are used to draw reasonable conclusions about anticipated economic impact within the geographic analysis area.
204-004	Offshore wind procurements including local content requirements are spurring significant investment in a domestic U.S. supply chain. A prominent example of this is Ørsted’s recently announced partnership with EEW, one of the world’s leading producers of steel monopiles, to establish the first U.S.-based offshore wind-related manufacturing facility. This plant, to be located in South Jersey, will be dedicated to the fabrication of foundations for the U.S. and global offshore market. As U.S.-based and foreign suppliers become convinced of the durability and scalability of the U.S. OSW market, they will make the necessary investment in local factories, people, and inventory to support a robust, homegrown supply chain rather than incur the high shipping costs, logistical issues and trade risks associated with sourcing good overseas.	The geographic analysis area for demographics, employment, and economics was shown in Figure A.7-7 of the SEIS and has not been changed for the FEIS. New Jersey and New York port improvements are not within the geographic analysis area for the Vineyard 1 Project. Specific projects outside the geographic analysis area were not included in the analysis for the proposed Project; however, the Section 3.6.1.1 of the FEIS has been revised to include additional information on national projections of employment and economic activity resulting from Atlantic coast offshore wind installation. These general projections are used to draw reasonable conclusions about anticipated economic impact within the geographic analysis area.
204-005	The efficient build-out of offshore wind farms will require fit-for-purpose installation vessels that are U.S. constructed, flagged, and crewed. Dominion Energy has recently confirmed that it is leading a consortium of investors who will commission the U.S.’s first dedicated installation vessel at a cost of approximately \$500 million. Other specialized vessels will be required, such as the purpose-built Crew Transfer Vessels commissioned by Ørsted in 2019 to ferry workers from shore to the wind energy area for construction, and long-term operation and maintenance.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS.
204-006	Offshore wind development is expected to spur the creation of high quality, high wage jobs. These comprise skilled jobs in the construction trades as well as more permanent jobs for the operation and maintenance of the wind farm over its 35+ year expected life. A study by the Workforce Development	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS.

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	Institute found that 74 different occupations, including electricians, ironworkers, and welders are needed during the various stages of planning, development and operations of offshore wind farms. Ørsted is committed to supporting skills development and safety training to stand up a U.S. OSW workforce.	
204-007	The building of a homegrown U.S. offshore wind industry will require capital investment of tremendous breadth and depth. These investments are already underway. While the SEIS recognizes this trend, it nonetheless concludes that the overall economic impact will be minor. It is hard to reconcile this qualitative assessment with the body of the report and the public record. We respectfully request that BOEM reconsider this finding and assign an impact rating commensurate with the major domestic investments made and contemplated by the industry, including but not limited to those identified in the body of the SEIS.	Section 3.6 of the FEIS provides summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. This is a revision from the minor beneficial impact given in the SEIS.
205-001	My only concern is seabirds. In Oregon we have hundreds of windmills providing power along the Columbia River. These windmills are necessary, but there is no question they represent a hazard to birds, in particular eagles. I would hope that these windmills are going to be far from the flyways for migrating birds, to minimize such loss.	Section A.8.3.2 provides an updated discussion of bird use of the Atlantic Flyway along the North American Atlantic Coast. Within the Atlantic Flyway, much of the bird activity is concentrated along the coastline concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). Additionally, as depicted in Figures A.8.3-1 and A.8.3-2 in the SEIS, total avian abundance for species with high collision sensitivity and displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. As such, collision and displacement impacts are expected to be low. Additionally, as cited in the SEIS, many of the species that exhibited high avoidance rates in the Skov et al. (2018) study are same species that were modeled as part of the analysis in the SEIS.
206-001	I write in support of the expedient permitting of Vineyard Wind 1...We are decades behind in pursuing responsibly sited offshore renewables, and a decade of work has gone into the siting, surveying and leasing of the waters off southern New England. Further delay or unnecessary, late-issued restrictions will clearly threaten this and future projects, as stated explicitly in the Supplemental EIS... If we further hinder this industry from a regulatory perspective, we will continue to stand still on addressing climate change (which poses grave threats to our oceans as well as nearly every other environmental resource on the planet), but we will also fail to capture the energy, economic and employment benefits that would come with embracing this new important maritime industry.	Thank you for your comment.

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206-002	[I] support the compromise layout endorsed by the US coast guard, that will facilitate shared use of the oceans.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
207-001	In Massachusetts, offshore wind is the largest renewable energy resource we have. In 2018, Environment Massachusetts Research & Policy Center released a report, Wind Power to Spare: The Enormous Energy Potential of Atlantic Offshore Wind, documenting the potential for offshore wind energy along the Atlantic coast. Our report found that Massachusetts has the highest offshore wind potential of any state in the nation. Massachusetts’ technical potential for offshore wind is equivalent to more than 19 times the state’s annual electricity consumption. Even if our heating and transportation are converted to electric power — a trend that is already underway, and a necessary step toward decarbonizing our economy and preventing the worst impacts of global warming — offshore wind will still be sufficient to power Massachusetts eight times over. Massachusetts’ offshore wind resources, along with our potential for other forms of renewable energy like solar, give us confidence that a future powered by 100 percent clean, renewable energy is feasible. When we achieve 100 percent renewable energy, our air will be cleaner, our communities will be healthier, and we’ll be doing our part to avoid devastating climate change.	Thank you for your comment.
207-002	In Massachusetts, public support for clean energy is strong, and state and local officials are responding to this support with ambitious commitments. In 2016, state officials passed a law committing to 1,600 megawatts of offshore wind energy within 10 years. Two years later, legislators opened the door to doubling that commitment to 3,200 megawatts, and Governor Baker promised he would do so.	Thank you for your comment.
207-003	As the SEIS says, Vineyard Wind and other proposed offshore wind projects will help Massachusetts and other East Coast states to reduce their reliance on polluting fossil fuels. Once completed, the Vineyard Wind project will produce approximately 6 percent of the electricity consumed in Massachusetts while avoiding 1.6 million tons of carbon dioxide annually, the equivalent of taking 325,000 cars off the road. The project will also result in a significant reduction in other pollutants, like nitrogen oxides and sulfur dioxide, that harm public health.	Thank you for your comment.
207-004	Vineyard Wind has shown a commitment to building a cooperative relationship with the project’s host communities. Vineyard Wind is partnering with Vineyard Power, an energy cooperative, to ensure that residents of Martha’s Vineyard experience the economic benefits of offshore wind. The company has also committed to significant investments in	Section 3.6.2 of the FEIS has been updated to reference the cooperative agreement between Vineyard Wind and Vineyard Power. This section also includes information from the DEIS on the grants that would be provided by Vineyard Wind for communities in southeastern Massachusetts.

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	renewable energy and resiliency in communities throughout Southeastern Massachusetts.	
208-001	I have been going to meeting about the wind farms for years and no one can adequately answer my questions about decommissioning. I am also surprised the social justice warriors and the environmental activists sit quietly when the subject of decommissioning comes up. If this project was on land they would be screaming for enough bond monies to cover decommissioning and returning the soil to its previous unmolested state; not here! I believe there will never be enough money bonded to cover the decommissioning so I suggest that if the company in charge of decommissioning defaults, the electric companies that purchased the power be responsible for finishing the decommissioning. I was told in a meeting in RI that the five turbines outside of Block Island will not be removed, just the base will be cut 35 feet below the water line and everything else stays. These wind farms will change the ecosystem and the damage will be forever.	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.
208-002	There is no science to prove or disprove any claims or speculations made by fishermen as to what will happen. BOEM should do a study so we have a valid baseline, which means we should a moratorium for five years.	BOEM intends to assess the impact to fisheries with each project based on actual experiences with previous projects. Currently there are two demonstration-scale offshore wind facilities in the U.S., and the Vineyard Wind 1 project would be the first commercial scale project to provide valuable information to future assessments.
209-001	To reduce the amount of CO2, to reduce the drilling for oil, to reduce fracking should be our paramount goal. VW offers a clean energy source that will provide, not only jobs, but electricity for 400,00 homes and businesses. It will be a role model for other energy developers who trail behind their endeavor. It's the wave of the future staring us in the face and it needs to be given the green light to move forward.	Thank you for your comment.
209-002	Their proposal to allow fishing between the turbines is unlike anything done in Europe. Allowing them to be 1 nautical mile apart seems reasonable enough for any fishing vessel to navigate safely.	Thank you for your comment.
210-001	With Climate Change bearing down on us rapidly, New England expected to see higher and more rapid temperature rises, more extreme precipitation events than the rest of the country, stronger hurricanes, more extreme wind events, and sea-level rise. Therefore, obtaining electricity from a carbon free source such as wind power, which reduces carbon emissions, and thus reduces the pace of climate change, is terribly important.	Thank you for your comment.
210-002	In Marblehead, our Municipal Light Department, which supplies our electricity, is eager to be able to purchase reasonably priced electricity from renewable sources. Local resources are so constrained that we only have 12% Renewable Energy in our portfolio, as well as 26% nuclear. We purchase our	Thank you for your comment.

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	power through PSA and PPA's through MMWEC, Mass Municipal Wholesale Electric Corp. MMWEC needs wind options to provide its 22 Muni Light Plant members and currently it has only one small, land-based wind power source, Hancock Wind, which is built out as much as the location and land area allow, so we are all eagerly awaiting Vineyard Wind as an additional option. Sustainable Marblehead has taken the lead to pass a Warrant Article at Town Meeting in 2018, committing the Town to 100% carbon free energy. Many other towns in the Boston area including Natick, Arlington, Melrose, Concord, Wellesley, Belmont are all actively pursuing zero carbon emissions goals by 2040. This goal is more aggressive than Governor Baker's 2050 goal for Massachusetts. To reach these goals, all these communities will need more renewable energy sources in their portfolio. Therefore, we need more sources of renewable energy, and most of the communities in eastern Massachusetts are too densely populated to have the land area, for either land based wind-power, or solar at utility scale. Thus the offshore wind project of Vineyard Wind holds a very important potential for Massachusetts.	
210-003	I would urge that you adopt Proposed Action Alternative D1, for 3 reasons: 1) Surveying work that was done, to engineer turbine anchors for each unique location, resulted in some WTG not being in strict East West configuration, but all will have 1 nautical mile (NM) spacing. 2) The US Coast Guard has reviewed these alternatives, and has endorsed the 1x1 NM layout of Alternative D1, without need for additional transit lanes or strict East West layout. 3) Other alternatives such as E and F, would result in reducing the generating potential of Vineyard Wind, below what is needed and what would be financially feasible.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
211-001	The wind farms will be built by foreign companies, with foreign workers , and with foreign boats. The wind farm companies will circumvent the Jones Act. The profits will also go to Europe. Once again America loses. The number of American jobs generated is overinflated and not based on reality.	Section 3.6.1.1 of the FEIS references several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
212-001	The damage caused by our fossil fuel use has brought us to the edge of catastrophic consequences. If we are to successfully reduce and mitigate this threat, we have to move forward aggressively by developing clean, renewable	Thank you for your comment.

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	energy sources now. While navigational safety, healthy oceans, protection of migratory birds, and the tourism industry are all priorities, the wind farm represents a way to improve the health of our planet.	
212-002	One of the most disruptive impacts of wind farm development on the ocean's ecosystems is caused by the construction phase. Later, however, fish and other sea life return as the turbine foundations act as artificial reefs that support many layers of the ocean's food chain.	Section 3.4 of the SEIS discussed the reef effect on finfish. Therefore, no change to the FEIS is warranted.
212-003	The Coast Guard's recommended 1.2 mile spacing between turbines will ensure navigational safety for fishermen and other vessels.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
212-004	The proposed density of turbines will allow for substantial energy production.	Thank you for your comment.
213-001	I firmly believe that we need to increase our usage of renewable energy, while simultaneously decreasing our usage of fossil fuels. The Supplementary Environmental Impact Statement (SEIS) covered an expanded cumulative impact study for up to 22,000 MW of offshore wind development. That is the equivalent of a fully built-out market and is approximately twenty-five projects similar in scale to Vineyard Wind's proposed project. Vineyard Wind 1 will produce 800MW of clean energy which will help Massachusetts reach its Clean Energy Standards. This wind farm will also produce enough clean energy to power 400,000 homes. Vineyard Wind 1 will also save ratepayers more than \$1.4 billion in energy costs during the first 20 years of the project.	Thank you for your comment.
213-002	I hope BOEM permits this wind farm to move forward without any delay and to select Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
214-001	I firmly believe that we need to increase our usage of renewable energy, while simultaneously decreasing our usage of fossil fuels. The Supplementary Environmental Impact Statement (SEIS) covered an expanded cumulative impact study for up to 22,000 MW of offshore wind development. That is the equivalent of a fully built-out market and is approximately twenty-five projects similar in scale to Vineyard Wind's proposed project. Vineyard Wind 1 will produce 800MW of clean energy which will help Massachusetts reach its Clean Energy Standards. This wind farm will also produce enough clean energy to power 400,000 homes. Vineyard Wind 1 will also save ratepayers more than \$1.4 billion in energy costs during the first 20 years of the project.	Thank you for your comment.
214-002	Particularly in the aftermath of COVID with the high level of unemployment, this wind farm is needed all the more...Permitting this wind farm to continue progressing without delay will allow these benefits to be realized sooner!	Section 3.6.2 of the FEIS provides estimated job creation in Massachusetts resulting from the Vineyard Wind 1 Project. Section 3.6.1.1 of the FEIS has been updated to provide additional information and analyses of projected national job creation from Atlantic coast offshore wind development.

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214-003	I urge BOEM to permit this project to move forward without delay and choose Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
215-001	"Our utilities are closely connected to our customers and we know that they want climate-friendly energy at a competitive price. Offshore wind offers our region a unique opportunity to meaningfully expand renewable energy without breaking the backs of ratepayers", said John G. Tzimirangas, President and CEO of Energy New England.	Thank you for your comment.
216-001	I am adamantly against any forward construction of the Vineyard wind project. There is simply not been enough scientific data collected about harmful affects of this huge project. Comprehensive,peer reviewed reports on fish ,marine mammals and shellfish should be completed before any other work is done. This project is being built by foreign companies and built by foreign workers this is nothing more than a policing of the American public!	Thank you for your comment.
217-001	I...believe we need to change our primary source of energy. As a world, and particularly as a country, we need to move away from our dependence on fossil fuels and instead shift our focus to renewable energy.	Thank you for your comment.
217-002	Particularly in the aftermath of COVID with the high level of unemployment, this wind farm is needed all the more...Permitting this wind farm to continue progressing without delay will allow these benefits to be realized sooner!	Section 3.6.2 of the FEIS provides estimated job creation in Massachusetts resulting from the Vineyard Wind 1 Project. Section 3.6.1.1 of the FEIS has been updated to provide additional information and analyses of projected national job creation from Atlantic coast offshore wind development.
217-003	I encourage BOEM to allow Vineyard Wind 1 to continue without delay, and to also select Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
218-001	I applaud BOEM's lengthy stakeholder process to appropriately site offshore wind energy on the outer continental shelf.	Thank you for your comment.
218-002	The wind lease areas sited on the outer continental shelf ensure a minimal impact to residents and mariners while maximizing the potential for new large-scale renewable energy. Renewable energy is vital to reduce carbon emissions, reduce reliance on fossil fuel power generation, and slow the effects of climate change to which Cape Cod is particularly vulnerable.	Thank you for your comment.
218-003	Vineyard Wind is working to develop offshore wind responsibly to minimize impacts to marine life, benthic habitat, and residents in the town of Barnstable...While the SEIS shows there will be some impact associated with the project, these are overwhelmingly negligible to moderate.	Thank you for your comment.
218-004	At every turn, Vineyard Wind has demonstrated willingness to listen and modify their project to address reasonable stakeholder concerns. This perspective has lead to a host community agreement with the Town of Barnstable, adjusting turbine spacing to accomodate transit and commercial fishing activities, (a significant compromise resulting in a reduction of total generation capacity by roughly 13,000 megawatts total in the region),	Thank you for your comment.

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	adjusting cable landfall locations, proposed use of Automatic Detection Lighting Systems to reduce visual impacts, mitigation funds for fishermen, and innovations to improve real-time marine mammal monitoring technology.	
218-005	...Vineyard Wind and the Town of Barnstable are working cooperatively to co-locate critically important municipal wastewater infrastructure concurrently with Vineyard Wind's installation of transmission cables in Barnstable roadways. While this wastewater infrastructure is part of the town's Master Plan for wastewater expansion, the Vineyard Wind's plans allows the town to speed up the installation timeline while saving millions in road construction costs. Long-term, this wastewater infrastructure will help address issues with nitrogen-loading in the region's lakes, rivers and bays, a problem that causes health, safety, and environmental issues. Tackling this major water quality issue on Cape Cod is vital to maintaining our health and economy and Vineyard Wind has proven to be a strong partner and ally in assisting with local solutions, demonstrating how public-private partnerships can ultimately benefit entire communities.	Section 3.6.2 of the FEIS lists grants and community assistance that Vineyard Wind would provide in southeastern Massachusetts. The detail provided in this comment is an example of the outcomes that can result from Vineyard Wind's investment in local communities.
218-006	I was pleased to see the SEIS acknowledges the existing impacts of climate change on marine life and habitat...As outlined in the SEIS, almost every resource examined is currently subject to pressure from climate change, including coastal habitats (3-6), benthic resources (3-11), finfish, invertebrates and essential fish habitat, marine mammals (3-37) and sea turtles (3-44). The SEIS notes that climate change, if not addressed, would result in ocean acidification, ocean warming, and sea level rise, and other effects that are likely to contribute or lead to "permanent changes of unknown intensity" (3-2) to terrestrial and coastal fauna, "the decline of benthic resources with calcareous shells" (3-14), "noticeable temporary and permanent adverse impacts" on finfish and invertebrate communities (3-30), "long term, possibly high consequence risks to marine mammals (3-38), and "long-term, high intensity risk to sea turtles (3-49). Launching the US offshore wind industry is a significant and necessary step towards combating its adverse effects and preserving natural resources for future generations.	Thank you for your comment.
218-007	I was pleased to see the SEIS...acknowledging the beneficial economic impacts of this project.	Thank you for your comment.
218-008	Offshore wind energy is well-established in Europe and the Vineyard Wind 1 project has been extensively reviewed. While I support efforts to responsibly permit offshore wind energy from the first, it is time to move forward with large-scale offshore wind projects without delay, starting with Vineyard Wind 1. I urge BOEM to approve Vineyard Wind 1 without delay.	Thank you for your comment.

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219-001	We must do everything in our power to mitigate climate change, so that young people such as myself will have a future to look forward to. One key part of climate change mitigation will be to approve renewable energy projects like Vineyard Wind 1 (VW1). That is why the proposed Wind Energy Facility must begin construction/operation as soon as possible and must maximise the amount of clean power generated.	Thank you for your comment.
219-002	To this end, I ask BOEM to: (1) Support "Alternative D2," the 1x1 nautical mile turbine layout - a compromise proposed in response to commercial fisheries' concerns.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
219-003	(2) Oppose "Alternative F" that would add 2+ mile wide transit lanes within wind farms because it A) reduces offshore wind buildout B) massively impairs carbon reduction potential and C) is unnecessary for navigational safety per the US Coast Guard	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
219-004	(3) Support offshore wind jobs, ratepayer savings, and reduction of carbon emissions on a large scale	Thank you for your comment.
219-005	(4) Stop Delaying: this has been studied and debated for decades. Oppose the no-action Alternative G	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
220-001	Now is the time to transition to an electric lifestyle powered by renewable energy generation. We cannot afford to delay the offshore wind industry any longer.	Thank you for your comment.
220-002	I fully support Vineyard Wind 1 under the assessment of the Supplementary Environmental Impact Statement through alternative D2, in specific regard to the proposed 1x1 nautical mile turbine layout deemed permissible by the U.S. Coast Guard.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
220-003	As a third generation resident on Martha's Vineyard I am hoping that our communities make the right choice. Private views, property values, and sentiment for the fossil fuel industry should not outweigh the immediate climate crisis that is manifesting on the very shores of Island residents. Switching to cleaner/renewable energy sources is an imperative step in the process of minimizing human impact on our planet, and preserving this beloved island!	Thank you for your comment.
330-001	I ask you to support this win[d] farm and not simply be beholden to Big Oil for our energy needs.	Thank you for your comment.
563-001	Wind energy will help save our planet for our children and grand children. We must make it happen.	Thank you for your comment.
573-001	We are running out of time to take meaningful action toward mitigating the worst effects of climate change.	Thank you for your comment.

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604-001	I believe that wind energy is part of a sustainable future for today's children...	Thank you for your comment.
614-001	This is crucial to the continuation of our species.	Thank you for your comment.
631-001	It is a no brainer that wind farms will be an essential weapon to combat the impending threat we all face from climate change. Please stand tall and brave and do the right thing for ONCE. Leave the politics out of it. On a trip to Europe we were so amazed at the amount of wind farms we saw and felt dismayed that our beautiful country does not possess the wisdom and fore site we need from our politicians to move these projects in the right direction.	Thank you for your comment.
631-002	No one has the right to argue their view will be ruined from their waterfront home. What a joke, as those homes are usually the first to experience the wrath of mother nature. We don't have the luxury of time.	The potential impacts of climate change on coastal communities, and the potential role for offshore wind in addressing climate change, is addressed in the SEIS, Section 3.7.1 and 3.7.2. The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations provided by Vineyard Wind that provide views of the 14 MW wind turbines as well as simulations of Vineyard Wind 1 combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
669-001	Nothing is perfect but as far as supplying this energy we need, offshore wind is as close as we are likely to get. Wind, unlike much of what we depend on, doesn't pollute and won't run out.	Thank you for your comment.
734-001	Offshore wind is essential to our future energy needs and to control climate change. Please move forward with Vineyard Wind and other projects to make this a reality.	Thank you for your comment.
752-001	I am hopeful this technology can be expanded in all other coastal areas where the wind makes it feasible.	Thank you for your comment.
765-001	I am writing to you as a supporter of the Union of Concerned Scientists, the Natural Resources Defense Council, the Sierra Club and other environmental organizations...Thank you for championing this critical issue relating to renewable energy and climate change.	Thank you for your comment.
787-001	I totally support the effort to harness this form of energy to provide less polluting energy needs into the future	Thank you for your comment.
812-001	We need to look forward and act boldly toward clean energy, which must be the energy of the future. We need to look forward and act boldly toward clean energy, which must be the energy of the future.	Thank you for your comment.
812-002	These travel lanes [Alternative F] do not seem to be part of a productive way forward. Thank you for your consideration and attention.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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828-001	Our environment is dependent on utilizing eco-friendly ways to produce energy.	Thank you for your comment.
841-001	I think offshore wind farms are better than those on land, especially as there are no residential homes nearby.	While the FEIS does not compare offshore versus onshore wind energy development, Section 3.9.2 of the FEIS (and the SEIS) note that almost all wind turbines from offshore wind development included in the FEIS analysis would be more than 15 miles offshore.
900-001	... I am very concerned for the health and viability of the planet our children and future generations will inherit. We have a duty to our communities, families and most importantly, children to ensure their safety and well being through sustainable policies.	Thank you for your comment.
902-001	Our planet is suffocating itself and depleting its natural resources. Once we've dug up the fossil fuels and coal, they can't be replaced -- not in our lifetime, at least. But wind is so much cleaner and it's renewable. That gives us far more bang for the buck, and it should last longer as well.	Thank you for your comment.
928-001	I support Vineyard Wind and a smaller boundary between each generator.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
956-001	Some environmentalists have expressed concern for migrating birds, but we know domestic cats kill many more than turbines could, however, purple blades have proven to significantly reduce mortality. I hope plans will keep this in mind.	Thank you for your comment.
957-001	Your study shows that electricity generation via offshore wind turbines will be safe and effective in the Northeast waters. Offshore wind is a valuable resource for electricity production as it can have low impact on the environment and high gains that reduce overall carbon emissions.	Thank you for your comment.
1002-001	To help fit offshore wind into our marine environment, developers planning to install offshore wind projects in the US Northeast have agreed to a standard layout of the turbines, with one nautical mile between each. This approach will create hundreds of "transit lanes" between turbines for boat travel.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
1038-001	With temperatures soaring in northern California and fire season upon us the move to wind and solar energy become even more urgent. In addition the jobs created to build these utilities are much needed during this time of economic crises.	Thank you for your comment.
1051-001	Locating enormous turbines that are obsolete the moment they are erected in precious fishing grounds near and around Cape Cod and Marthas Vineyard is an irreversible error. Wind power is not reliable with long periods of no output during lulls and storms...The wind industry is industrializing the pristine waters off the Massachusetts coast while presenting a clear and	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 3.11 of the SEIS discussed impacts on commercial and for-hire recreational fisheries and Section A.8.3 discussed impacts on birds.

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	present danger to our historical fishing industry and harmful to migratory birds.	
1051-002	The economics of wind power do not justify capital investment without subsidies from the federal government which contribute to a hidden cost through higher federal income taxes.	The SEIS relied on projections of employment, economic activity, local/state tax revenues, known investment in local ports and job programs, and grants to local communities and organizations, to reach a reasonable conclusions of beneficial impact within the geographic analysis area. Section 3.6.1.1 of the FEIS has been updated to include additional information on ongoing port facility improvements and projections of economic investment. The projections support reasonable conclusions that offshore wind would support jobs and businesses within the geographic analysis area. The analysis of employment and economic impacts within the geographic analysis area is valid regardless of federal and state subsidies.
1083-001	It is past time to keep throwing up objections to renewable energy projects - ESPECIALLY while continually permitting dangerous special allowances to carbon based energy facilities and projects...WE NEED CLEAN ENERGY.	Thank you for your comment.
1083-002	The Coast Guard is the expert on the matter of navigation and their assessments should be followed...Please approve the Vinyard Wind project with the densest safe configuration ASAP	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
1115-001	I am writing in support of the renewable energy project, Vineyard Wind 1 (VW1), the first ever utilityscale offshore wind farm in the US. Our current US government has weakened existing environmental rules and protections which are detrimental to mitigate climate change. This impact affects us all as citizens, but disproportionately affects lower-income citizens whom already live in more polluted areas. An estimated 2 million people, mostly communities of low-income and people of color, live near the Superfund sites (polluted land that require long-term response to remove hazardous waste contamination) most vulnerable to climate change. As a country, we need solutions to improve our environmental impact.	Thank you for your comment.
1115-002	Vineyard Wind 1 (VW1): VW1 is an 800MW project that will be located 15+ miles off the coast of Martha's Vineyard and will provide clean, renewable and cost-effective electricity to 400,000 homes and businesses in MA.	Thank you for your comment.
1115-004	VW1 will remove almost 1.7 million tons of CO2, 1,000 tons of NOx and 860 tons of SO2 from the atmosphere annually - the equivalent of taking 325,000 cars off the road.	Thank you for your comment.
1115-005	It is imperative that the Bureau of Ocean Energy Management approve this project as soon as possible without transit lanes. Adding transit lanes would further reduce generation capacity by 17,000+ megawatts and make it difficult to meet states' renewable energy target.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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1115-006	I am asking the Bureau of Ocean Energy Management to: Support "Alternative D2," the 1x1 nautical mile turbine layout - a compromise proposed in response to commercial fisheries' concerns. Oppose "Alternative F" that would add 2+ mile wide transit lanes within wind farms because it A) reduces offshore wind buildout B) massively impairs carbon reduction potential and C) is unnecessary for navigational safety per the US Coast Guard. Stop Delaying: this has been studied and debated for decades. Oppose the no-action Alternative G.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
1123-001	We need to cut dangerous greenhouse gas emissions in half by 2030, and totally by 2050 in order to keep global warming below 1.5 degrees celsius to prevent the rapid acceleration and impacts of climate change we are experiencing now. One of the big solutions is to transition to clean energy alternatives which includes wind power. Now is the time to make the switch to reverse global warming.	Thank you for your comment.
1152-001	Global Heating operates in much the same way as the coronavirus. By the time it is apparent to everyone that action is necessary - it will be too late. We must begin now to build the low-or-no carbon energy systems that we will depend upon in the future.	Thank you for your comment.
1165-001	We absolutely must find and fund clean energy if we are to maintain the standard of living here in the U.S. Other nations have been far ahead of the U.S. in developing clean energy sources.	Thank you for your comment.
1174-001	While I am a supporter of green energy, offshore wind is NOT the answer. It is an ecological disaster with bird strikes.	There is very little existing literature documenting actual collision related mortality with operating offshore wind facilities. As such, the analysis in the DEIS and SEIS relied upon the extensive body of literature on collision mortality with land-based WTGs. As discussed in the SEIS, there are several reasons why there are potential issues with using land based WTG collision mortality estimates in an assessment of potential offshore wind collision mortality, but it represents the best available science to quantify the potential for collision mortality associated with the Vineyard Wind 1 Project and the full build out of offshore wind development on the Atlantic OCS. Additionally, the SEIS discussed two studies of offshore wind facilities in Europe (Desholm 2006 and Skov et al. 2018) that used a variety of monitoring methods to monitor operating offshore WTGs for bird collision mortality. In both cases very little bird mortality was documented. The FEIS was updated to explicitly state these conclusions. Further, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital

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		VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
1174-002	The blades cannot be recycled and are piling up all over the country with nowhere to go.	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.
1229-001	When I was growing up there were proposals for Offshore wind in sight of where I spent my summers. The grown-ups around me objected (to how it would affect the view?!) I went along with them. That was before I saw the absolute horrors of mountaintop removal and even worse the total ecological damage done by fracking. Now is the time for Wind and Solar...If we do not take care of the health of planet Earth, we will have more and more pandemics along with terrifying and destructive weather. We have the power and the ability to turn things around. We just must commit to clean energy NOW!!!	Thank you for your comment.
1231-001	Please approve this project!! We have to take decisive action on the climate crisis and this is an actionable step to do so. Hopefully this is the start of more of these types of projects....Finally, please support offshore wind jobs, ratepayer savings, and overall reduction of carbon admissions.	Thank you for your comment.
1231-002	Please approve Alternative D2 to reach a compromise with fisheries! Please do not approve Alternate F and G - we don't need more transit lanes (even the Coast Guard says it is unnecessary), and we can't delay actions like this further!	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
1235-001	I'm writing in strong support for offshore wind power development in the Northeast. I am deeply concerned about the climate crisis, and offshore wind is a key component in addressing our need for low-carbon electricity.	Thank you for your comment.

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1290-001	I hope you choose to support [offshore wind] as an effective resource. Other countries have proven the effectiveness of offshore wind as a low-impact and cost-effective resource. We would be unwise not to take advantage of it. It has been a proven means for countries to provide cheap, clean energy.	Thank you for your comment.
1321-001	I strongly support proceeding with the permitting process for Vineyard Wind, BUT ONLY IF THEIR EFFECT ON BIRDS HAS BEEN STUDIED AND ACCOUNTED FOR!	There is very little existing literature documenting actual collision related mortality with operating offshore wind facilities. As such, the analysis in the DEIS and SEIS relied upon the extensive body of literature on collision mortality with land-based WTGs. As discussed in the SEIS, there are several reasons why there are potential issues with using land based WTG collision mortality estimates in an assessment of potential offshore wind collision mortality, but it represents the best available science to quantify the potential for collision mortality associated with the Vineyard Wind 1 Project and the full build out of offshore wind development on the Atlantic OCS. Additionally, the SEIS discussed two studies of offshore wind facilities in Europe (Desholm 2006 and Skov et al. 2018) that used a variety of monitoring methods to monitor operating offshore WTGs for bird collision mortality. In both cases very little bird mortality was documented. The FEIS was updated to explicitly state these conclusions. Further, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
1347-001	I support the Vineyard Wind project. We need an urgent shift to renewable energy sources, and this is a strong proposal as-is. MA needs to expand our green jobs, and energy sector.	Thank you for your comment.
1382-001	I strongly support efforts to wean the US off of fossil fuels since global warming is the number one problem in the world.	Thank you for your comment.
1437-001	I am encouraged that the Bureau is considering offshore wind in the Northeast. It is critical for us to invest in wind power and solar for our future	Thank you for your comment.

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	and for our health. Fossil fuel companies emit dangerous air particulars into our air , increasing sickness . Wind power is great solution for generating energy for our needs. Please help move to protect our planet and ourselves. The larger areas we have for wind power benefits all of us.	
1440-001	Wind turbines will help fish to thrive in the waters around their bases.	Section 3.4 of the SEIS discussed the reef effect on finfish. Therefore, no change to the FEIS is warranted.
1457-001	Our dependence on high carbon producing electricity is one of the issues facing us as we try to protect our environment, so I am, along with concerned scientists, offering you this letter.	Thank you for your comment.
1565-001	With climate change heating up dramatically, shifting from fossil fuels to renewable energy such as wind energy should be an obvious choice.	Thank you for your comment.
1573-001	Wind energy has no drawbacks even to the oil industry if they would invest in it rather than fight it.	Thank you for your comment.
1610-001	We are at an important turning-point and must make decisions based on solid science. Wind is clearly one of our most promising sources of clean energy as we move forward toward a more sustainable, healthy world.	Thank you for your comment.
1612-001	It is essential that we shift our energy production away from the burning of fossil fuels and toward clean and renewable energy at this time. Please support this shift where possible.	Thank you for your comment.
1670-001	Because climate change is a looming crisis worse than covid, in both its long-term harm to human life and our livelihoods, as well as the economic damage of dealing with the problem, clean energy must be prioritized in this country... Please give offshore wind, in particular the Vineyard Wind project, the green light.	Thank you for your comment.
1684-001	This would be a great step in implementing action for addressing rising climate change.	Thank you for your comment.
1689-001	I strongly support offshore wind farms and encourage your agency to approve Vineyard Wind, a large offshore wind farm to help the East Coast meet our energy needs.	Thank you for your comment.
1689-002	However, I oppose unnecessarily limiting the size of the wind farm through the extra transit lanes considered as Alternative F, as unnecessary and damaging for clean electricity generation in that area and as setting a bad precedent for future approvals.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
1721-001	We need clean air to breathe and to continue down the road of fossil fuels is nothing short of suicide. We need clean energy.	Thank you for your comment.
1746-001	If the Coast Guard feels the one-mile separation is safe for navigation, that should satisfy you. They are the experts.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
1757-001	Get onboard with Vineyard Wind. Get off oil and gas. Europe has had wind projects for 20+ years. It is way past time to utilize renewable energy.	Thank you for your comment.

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1779-001	As an educator and environmental scientist I am familiar with our current energy situation with regards to greenhouse gas emissions. It is absolutely critical that we move quickly to establish alternative and renewable energy sources.	Thank you for your comment.
1793-001	Offshore wind is a major source for growing our economy, for reducing electricity bills, and addressing our need for low-carbon electricity...We need strong investment in offshore wind to ensure our economic future.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
1816-001	Projects such as these are critical for diversifying our energy grid, improving our economic resilience, reducing emissions of greenhouse gases and other pollutants and reducing our dependence on fossil fuels and legacy technologies.	Thank you for your comment.
1831-001	Clean renewable energy is necessary for the future of America. We need to use all options for energy to lower costs for consumers. I live in a 1 bedroom apartment and it can cost \$100 a month for heating/cooling. That is too much for such a small space.	Thank you for your comment.
1865-001	I believe that if the U S Coast Guard has approved a specific design for a wind farm, then the project should conform to that layout; primarily because any change would have to go through a vetting process, thereby delaying the project.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
1886-001	We MUST move forward with clean and cheap energy. Wind is a critical part of that solution.	Thank you for your comment.
1907-001	I do want to know if potential impacts on marine life, especially marine mammals such as whale and dolphins, was considered. Wind towers generate sound and I wonder how that sound will carry through the water and what impacts that might have?	Section 3.3.7.3, of the DEIS and Section 3.5.1 of the SEIS discussed the potential impacts associated with the proposed Vineyard Wind 1 Project, including the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017). Therefore, no change to the FEIS is warranted.
1966-001	This is another opportunity to ensure that the future for us, our children and grandchildren will experience an environment that is healthy and safe. I urge you to show a commitment to cheaper, cleaner energy.	Thank you for your comment.
2125-001	The move from fossil fuels to renewable energy sources is one of the greatest and most urgent issues faced by humanity. But to access that cleaner, greener energy, further-reaching power grids are required. Our cable solutions are the backbone of	Thank you for your comment.

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	these next-generation grids, making connections where it was previously impossible. Our offshore wind solutions bring power from sea to shore, with larger, higher density cables and longer connections meaning we can harness renewable energy sources where they're at their strongest and most abundant.	
5090-001	I can speak from Virginia's experience, sustainable clean energy is the only way forward.	Thank you for your comment.
10048-001	Do NOT require unnecessary extra travel lanes, which will reduce the area available for wind turbines!!!	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10073-001	Clearly we need more, LESS POLLUTING ENERGY THAT IS WELL CONSTRUCTED. HOPING WE CAN DO THE SAME ON THE WEST COAST!	Thank you for your comment.
10077-001	Wind energy will be extremely important in the very near future, if not immediately.	Thank you for your comment.
10098-001	Alternative F would be detrimental to this wind shore project, please reject it.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10098-002	The Northeast needs the low-carbon electricity that offshore wind energy will provide.	Thank you for your comment.
10110-001	Obviously offshore wind is a proven commodity. There is no excuse for not adding this to the mix of reliable and potentially bountiful renewable energy options for the U.S...Can you steer clear of the politics and dark money, sufficiently, in order to help advance the cause of moving reliable renewable energy forward.	Thank you for your comment.
10137-002	I urge you to proceed with the permitting process for Vineyard Wind, and to oppose the extra transit lanes considered as Alternative F, which would unnecessarily encumber the project and reduce its efficiency and efficacy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10142-001	We must START THINKING ABOUT AIR POLLUTION AND THE EFFECTS ON OUR RESPIRATORY SYSTEMS. WE SHOULD BE EMBRACING NEW TECHNOLOGIES.	Thank you for your comment.
10147-001	I fully support the development and use of off-shore wind turbines with "reasonable" precautions taken for marine life, shipping, fishing, and recreational boat traffic. Don't kill a good idea with unreasonable guidelines and red tape.	Thank you for your comment.
10155-001	The Cape is already experiencing higher sea level. Places I learned to love as a child are markedly different. Climate change is real and it is time to do everything we can to bring it under control. My family came to North America in 1683, and in studying their history I have enjoyed getting to know the Netherlands. Now there is a country where science and engineering are making a difference for the better. Time we follow their lead with turbines	Thank you for your comment.

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	off shore and on shore, energy efficient transportation, stewardship of the land and waters.	
10176-001	Please do not make this process even more costly and cumbersome to the department and the break thru companies who have already invested so much time and money. The extra transit lanes are not necessary and will only cause delay and chaos in ocean Wave powered energy. The environmental assessments and studies have all been done and approved. The extra transit lanes appear to be a mechanism to delay and sideline this exciting new technology! Please do not succumb to this politically motivated attempt to promote dirty oil dependence in our country!	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10187-001	I am very hopeful that clean wind energy will help us to maintain clean air, clean water, and meet our energy needs.	Thank you for your comment.
10196-001	Our nation--and the entire world--needs to transition to renewable energy as soon as possible; extra transit lanes would reduce the area for offshore wind turbines, thus restricting our country's ability to generate clean energy and, quite possibly, setting a bad precedent for future renewable energy projects. Don't let this happen!	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10239-001	Offshore wind is likely to be one of the most important renewable energy sources in the years to come. In addition to the Vineyard Wind project, I urge your agency to support expedited plans to develop offshore wind projects off the northern California and Southern Oregon coast.	Thank you for your comment.
10311-001	I am alarmed every day by melting at both poles of our planet, by higher planetary temperatures, wildfires, increasingly damaging storms. Because it is crucial to transition to clean energy, I strongly support proceeding with the permitting process for Vineyard Wind.	Thank you for your comment.
10311-002	I strongly oppose one proposal (Alternative F) under consideration that would limit the area available for wind turbines and reduce the amount of clean electricity generation.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10314-001	This is as critical as the Covid issue. Unprecedented Climate Change needs a full on response.	Thank you for your comment.
10321-001	Another consideration, which seems to be forgotten, is wave action reciprocal power generation which should also be examined. A country like ours with as much coastline as we have should be giving this potential energy source serious consideration.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
10335-001	Fossil fuel dependency has ravaged our natural world, and will continue to do so at a pace that is unsustainable for life as we know it. Coastal communities like those on the Vineyard are already experiencing the effects of climate change. Fish populations that have inhabited these waters for generations are migrating farther north to seek colder waters. Additionally, we are seeing	Thank you for your comment.

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	warm water fish like great white sharks more frequently off of our coast. And as the seas continue to rise, the fabled harbors of Menemsha, Vineyard Haven, Oak Bluffs, and Edgartown will be the first to go. The time is now to change the way we live and embrace the transition to an electric lifestyle that affords the same comforts of modern living that we are accustomed to. More importantly, it is imperative that we secure renewable energy resources capable of meeting our current and future electricity demands. Vineyard Wind 1, an 800 MW project with the potential to power over 400,000 across the cape, the islands, and the commonwealth that will essentially eliminate 1.6 billion metric tonnes of CO2 emissions each year, marks the beginning of a renewable future in Massachusetts and across the country. It must not be delayed any more	
10335-002	I fully support the Vineyard Wind 1 project under the assessment of the Supplement to the Draft Environmental Impact Statement, including the 1 x 1 nautical mile turbine layout deemed acceptable by the U.S. Coast Guard.... Vineyard Wind 1 represents the crucial first step in the right direction for our energy future. I urge you to approve the project in accordance with alternative D2 without further delay.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10335-003	Vineyard Wind 1 has conducted the requisite surveying and research to ensure that the project minimizes environmental impacts, especially those associated with the critically endangered North Atlantic Right whale.	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. A detailed analysis of impacts to ESA listed species is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ and the Biological Opinion issued by NMFS on September 11, 2020. Further, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
10335-004	In addition, Vineyard Wind 1 presents an unparalleled economic opportunity. Project development and maintenance will bring billions of dollars to the region and provide well paid jobs for thousands of workers across many disciplines... During a time of significant economic uncertainty with the effects of the coronavirus expected to last for years to come, Vineyard Wind 1 offers much needed economic security for islanders and Massachusetts residents alike.	Section 3.6.2 of the FEIS and Tables 3.6-3, 3.6-4 and 3.6-5 provide estimated job growth, tax revenues, and economic input from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts.

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10335-005	Through a partnership between Vineyard Wind and ACE MV, the project works to guarantee that long term operations and management positions will be filled by island residents.	Section 3.6 of the FEIS includes proposed mitigation, such as a local hiring plan, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval.
10335-006	The proposed project also projects over \$1.4 billion dollars in ratepayer savings over the next 20 years.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
10335-007	In specific regard to the SEIS, BOEM claims that Vineyard Wind 1 and offshore wind development as a whole will only have minor beneficial impacts. Frankly, I believe BOEM is vastly underestimating the long-term benefits of offshore wind and should consider that Environmental Justice communities include diverse groups whose health and well being will be positively impacted by clean offshore energy development.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
10346-001	I urge you to go forward with this project - the future, and possibility of so many new jobs, is brighter moving away from fossil fuel energy as other countries have.	Thank you for your comment.
10350-001	Let's not waste any more time. We need to move ahead for climate and people. Both are hurting, as is our planet. The science is clear.	Thank you for your comment.
10375-001	THERE IS NO QUESTION THAT TO PRODUCE ENOUGH RENEWABLE ENERGY TO ELIMINATE FOSSIL FUEL USE FOR SUCH, WE NEED TO DEVELOP MUCH OFFSHORE WIND PROJECTS.	Thank you for your comment.
10380-001	Time is short to mitigate the worst effects of climate disruption. Even using IPCC data, which is so thoroughly reviewed that it is out of date when published, we are already at a point where irreparable harm is being done. The world cannot afford to be overly cautious and restrained in our quest for carbon free energy.	Thank you for your comment.
10395-001	Global warming needs to be fought against by clean energy and this is one way to do it.	Thank you for your comment.
10399-001	In this age, when we are threatening the survival of humans because of global warming, it is definitely time to support non polluting, methods of producing needed power.	Thank you for your comment.
10413-001	It [offshore wind] also just seems to be the best choice on a "local" scale, through the amount of jobs it is expected to generate.	Section 3.6.2 of the FEIS and Tables 3.6-3, 3.6-4 and 3.6-5 provide estimated job growth, tax revenues, and economic input from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment

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		in offshore wind resulting from growth of a wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
10414-001	I wholeheartedly support the Vineyard Wind Project. We need the clean energy... Let's go. Let's get started.	Thank you for your comment.
10414-002	We don't need the extra transit lanes.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10431-001	USA should immediately be moving to renewable energy sources like wind and solar.	Thank you for your comment.
10439-001	We really need to move forward with renewable energy, in the aggregate. The oceans is a very good source for wind, just as many of the plain state.	Thank you for your comment.
10439-002	NOAA and the US Coast Guard and the Army Corp of Engineers are very much trustworthy and thorough; therefore their studies carry a lot of weight. The plan which has been approved to date allows more consolidated power while still allowing space for fishing-at least those boats that stay closer to port. And having the same pattern throughout the wind farm is much safer, less confusing. And since it has a total smaller footprint, the shipping lanes and fishing areas for large commercial boats is more open.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10482-001	It [offshore wind] is proven to work around the world... We should look on both coasts of our country....It is also important to be part of our recovery from the pandemic.	Thank you for your comment.
10521-001	As the skipper of a small classic sailing yacht, I transit the east coast waters every year. Nothing would give me greater pleasure than seeing turbines rising from the sea floor and reaching for the sky to capture the FREE wind that is always there for us to use. On the other hand, the thought or sight of drilling platforms, pipelines and all the other paraphernalia that accompany fossil fuel 'harvesting' horrify me. Expendable and filthy and dangerous all along their route from deep within the earth to our gas tanks and toothpaste tubes, it is time to leave fossil fuels where they belong. In our earth, not upon it!	Thank you for your comment.
10564-001	Wind energy has been identified as the cleanest energy source as it emits zero pollution but also does not involve harmful chemicals to be recycled at end of life.	Thank you for your comment.
10568-001	To lower our use of fossil fuels, we must turn to offshore wind...Developing clean energy is one of the most important actions to limit climate change quickly; therefore, I strongly support continuing to pursue the permitting process for Vineyard Wind.	Thank you for your comment.
10606-001	If you can't pilot a ship through a mile wide gap, you shouldn't be piloting a ship.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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10708-001	Following the guidelines set forward WITHOUT Alternative F, the beauty of our coastlines, the safety of marine mammals and the use of lanes for ship travel can coexist with Renewable Energy Development!	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10717-001	I'm very much in support of this proposal! Wind energy will be a huge factor in any change we have of mitigating the climate change crisis. As a parent, I want my kid to have a future that is safe, secure, and healthy - let's do this for our kids...Let's delay no further - let's take positive action!...We have a chance to create jobs, save money, and reduce our emissions dramatically.	Thank you for your comment.
10717-002	With that in mind, I want to say that I: Support "Alternative D2", Oppose "Alternative F" and "Alternative G"	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10757-001	Renewable Energy is critical to the future of Humanity and all life on Our World. We cannot stall on such a important matter any longer.	Thank you for your comment.
10758-001	Let us promote and invest in clean energy projects and end those that are environmental destructive.	Thank you for your comment.
10814-001	We are seeing, in the effects of fewer vehicles on roads, that climate change is human caused. Off shore wind generated energy is a huge factor in mitigating fossil fuel emissions. Please be a force for moving ahead.	Thank you for your comment.
10828-001	I am so happy to learn that use of off shore wind is being considered as an option for producing electricity. I hope that we will also consider wave motion as another option.	Thank you for your comment.
10836-001	This is an opportunity to advance our progress in replacing fossil fuels that must not be allowed to lapse.	Thank you for your comment.
10840-001	I hope that you will approve regulations for offshore wind energy that will supply a great deal of energy and will not interfere with navigation and will not have negative environmental impacts. I believe that climate change is a terribly important problem that will prove damaging both to the world ecosphere and to the human race. We must convert to renewable energy sources ASAP!	Thank you for your comment.
10845-001	The fuel for wind energy is free and clean. I feel we are in desperate need of replacing our current expensive fuel dependent, environment polluting and health degrading energy methods with clean, free, abundant wind and solar power. With that in mind, I am in favor of proceeding with the current Vineyard Wind permit without restriction.	Thank you for your comment.
10861-001	Another problem is that Haste Makes Waste & many times in our urgency to do good we move too fast for our own good & the good of others. Someone may suffer as a result & there may be no quick remedies before much suffering by many. So we need to take it slow by testing small areas first & then progressing, realizing that some things will not show up right away. But the first steps above could start earlier.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be

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		considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
10864-001	TAKE A FLIGHT INTO COPENHAGEN. TAKE A LOOK AT THE LONG LINE OF WINDMILLS SNAKING ACROSS THE WATER. IT IS ABSOLUTELY BEAUTIFUL - AND IT DOES NOT POLLUTE THE PLANET.	Thank you for your comment.
10868-001	I believe wind energy is a key element of the new energy economy.	Thank you for your comment.
10878-001	Large offshore wind farms as proposed will greatly improve our clean energy portfolio.	Thank you for your comment.
10942-001	I urge that you allow all proposed offshore wind farms to move forward expeditiously as we have less than 10 years to cut carbon emissions sufficiently to maintain global temperatures below 2 degrees. Not meeting this goal endangers the future of both the US and the world.	Thank you for your comment.
10949-001	Such wide transit lanes [Alternative F] seem to imply that large ships are out of control in sea lanes. I don't believe it.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
10970-001	Due to the destructive nature of offshore oil platforms that have been approved over the years, I am hoping you find the offshore wind project a much smarter, safer, environmentally appropriate alternative.	Thank you for your comment.
10974-001	The worlds community of scientists has already stated that we only have until the year 2030 to reduce our global warming gas emission atmospheric levels to what they were in 1990 or below. If we do not, life on this earth will end abruptly due to global warming another climate change phenomenon!	Thank you for your comment.
11005-001	I strongly oppose the extra transit lanes considered as Alternative F, as unnecessary and damaging for clean electricity generation in that area. If the boats can safely pass, why make it harder to have clean energy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11024-001	WInd energy is essential to the health of our country and to containing damage to the climate.	Thank you for your comment.
11030-001	I think we can all agree that we needed to wean ourselves off fossil fuels like ... twenty years ago! We need all the smarts and help we can get to even begin to mitigate all the needless damage we've done by not embracing clean, green energy sources sooner. Clean, green energy sources like wind.	Thank you for your comment.
11032-001	As an electrical engineer with extensive expertise in U.S. energy policy and technology, I am convinced that offshore wind along with onshore wind, solar, natural gas, hydroelectric, and nuclear, are essential for phasing out coal-fired power plants. This needs to be done as soon as possible.	Thank you for your comment.
11081-001	...[T]he use of fossil fuels contributes to the devastating warming of our climate as well as many other additional environmental problems. By	Thank you for your comment.

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	allowing the construction of this offshore wind farm and additional wind farms, we will be taking an active role in helping stop these impacts.	
11081-002	The Supplementary Environmental Impact Statement (SEIS) covered an expanded cumulative impact study for up to 22,000 MW of offshore wind development. That is the equivalent of a fully built-out market and is approximately twenty-five projects, which are similar in scale to Vineyard Wind's proposed project. Vineyard Wind 1 will produce 800MW of clean energy. This will help Massachusetts be able to reach its Clean Energy Standards. This wind farm will also produce enough clean energy to power 400,000 homes.	Thank you for your comment.
11081-003	Vineyard Wind 1 will also save ratepayers more than \$1.4 billion in energy costs during the first 20 years of the project and more than \$3.7 billion in energy related cost savings over the lifespan of the project.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
11081-004	I urge BOEM to permit this project to move forward without delay and choose Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11084-001	We must utilize all options available to us in the search for how to transition into a renewable energy future.	Thank you for your comment.
11092-001	As a world, and particularly as a country, we need to move away from our dependence on fossil fuels and instead shift our focus to renewable energy.	Thank you for your comment.
11092-002	The Supplementary Environmental Impact Statement (SEIS) covered an expanded cumulative impact study for up to 22,000 MW of offshore wind development. That is the equivalent of a fully built-out market and is approximately twenty-five projects similar in scale to Vineyard Wind's proposed project. Vineyard Wind 1 will produce 800MW of clean energy which will help Massachusetts reach its Clean Energy Standards. This wind farm will also produce enough clean energy to power 400,000 homes.	Thank you for your comment.
11092-003	Vineyard Wind 1 will also save ratepayers more than \$1.4 billion in energy costs during the first 20 years of the project.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
11092-004	Especially in the aftermath of COVID with the high level of unemployment, this wind farm is needed all the more...Permitting this wind farm to proceed without delay will allow these benefits to be realized sooner, and not additional years down the line.	Section 3.6.2 of the FEIS and Tables 3.6-3, 3.6-4 and 3.6-5 provide estimated job growth, tax revenues, and economic input from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts.
11092-005	...I encourage BOEM to allow Vineyard Wind 1 to continue without delay and to also select Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11109-001	One of the most effective tools we have to reduce our greenhouse gas emissions is decarbonizing the electricity grid by building more renewable and low-carbon electricity generation.	Thank you for your comment.

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11123-001	Offshore wind is a key tool for protecting our precious planet, while also reducing electricity bills - while enabling carbon taxes (which we should have implemented decades ago).	Thank you for your comment.
11128-001	I do not think any particular energy option is best from a long term perspective. We should be looking out 20 years into the future and we must continue to promote and explore these alternate methods in order to evolve these technologies to their ultimate potential so that future generations will be allowed to choose what suits the world they live in.	Thank you for your comment.
11136-001	Because of the importance of clean energy, I compassionately support proceeding with the permitting process for Vineyard Wind, particularly with regards to stemming the tide of stopping the accelerated destruction of life sustaining qualities on this planet.	Thank you for your comment.
11149-001	It is crucial that non-carbon energy sources move forward quickly and without too much dilution.	Thank you for your comment.
11164-001	Please support offshore wind and send us into the future with better climate conditions.	Thank you for your comment.
11166-001	Please make sure all your best intentions are put forward and complete this project. Then start the next project. Keep moving ahead until we are free of fossil fuels.	Thank you for your comment.
11181-001	We all have a stake in securing for our children and their children's children a healthy environment. This project is a good start toward that goal.	Thank you for your comment.
11189-001	If the BOEM would consider the precedent set by offshore wind regulators in the European Union, I'm certain such extra transit lanes have likewise been considered to be unnecessary.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11193-001	I believe the Coast Guards findings support my position. Let's go with one mile separation in case it is suitable for particular fields.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11199-001	We need to include clean energy as part of our economic recovery and social justice efforts. Our kids are counting on us to make the right choice.	Thank you for your comment.
11214-001	I also urge finding a way to avoid killing and injuring migrating sea and other birds.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
11215-001	It is imperative that America move to clean energy rapidly. Fossil fuels are killing us, destroying the environment and jeopardizing our future. Offshore	Thank you for your comment.

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	wind is a key tool for addressing these problems and reducing electricity bills and our need for low-carbon electricity as well.	
11224-001	I'm writing in support of the Vineyard Wind project proposed for installation offshore south of Martha's Vineyard, Massachusetts. As a community leader in the Cape Cod region with strong interests in the health of our coastal and ocean environments, the sustainability of our local blue economy enterprises, and the dire need to address carbon emissions to curb climate change, I am completely in support of this project....I urge the BOEM to approve the Vineyard Wind project, which will also pave the way for other sustainable offshore energy production in our region.	Thank you for your comment.
11228-001	This Project will provide new economic opportunities in the offshore wind industry. The offshore wind facilities on Martha's Vineyard alone will provide as many as 40 technical jobs, much needed for our Island community, for the entire expected 25 years of the offshore wind project. In addition, Vineyard Wind will move toward a 100% U.S. workforce that captures the full economic benefits of this industry. Consistent, predictable projects entering construction will allow workers to gain experience and qualifications necessary to advance within the workforce and replace the Europeans over time. Moreover, although Vineyard Wind will utilize many systems and equipment that Europeans have developed and in place right now in order to construct this first U.S. commercial wind farm, Vineyard Wind will push to promote development of U.S. manufacturing plants to construct turbines and component parts for the subsequent wind farm projects as well as to maintain this Vineyard Wind 1 Project over its expected 25 year lifespan.	Section 3.7.1 and 3.7.2 of the SEIS provided information on projected employment and investment from Vineyard Wind, including the location of the operations and maintenance center, with many of the long-term, year-round operations employees, on Martha's Vineyard. Section 3.6.2 of the FEIS has been updated to include information on the Community Benefit Agreement between Vineyard Wind and the Vineyard Power Cooperative. Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
11246-001	I care about moving electricity generation to truly sustainable sources and I care about the health of our oceans.	Thank you for your comment.
11274-001	WE FULLY SUPPORT OFFSHORE WIND AND ESPECIALLY THOSE INSTALLATIONS THAT TAKE BIRD MIGRATIONS INTO CONSIDERATION.	Thank you for your comment.
11275-001	I expect the U.S. to take the lead in wind power in our hemisphere...I would be proud to see offshore wind farms in my state, and hope this project is just the first of many, moving the U.S. toward clean energy and preserving energy independence.	Thank you for your comment.
11283-001	It is time once again for the United States to become a leader. Moving away from fossil fuels and creating a healthier, sustainable future sends the right message to the rest of the world.	Thank you for your comment.
11284-001	As a resident of Rhode Island and follower of our offshore wind development, offshore wind presents clean energy, efficient use of resources,	Thank you for your comment.

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	and a job creator which the potential for new supply chains in the US and in our region...Considering the importance of implementing clean energy systems now and bringing them onto the grid (along with making a model for future offshore wind farms), I support proceeding with the permitting process for Vineyard Wind.	
11284-002	I would also like to promote designating the areas around wind farms to be Marine Protected Areas, particularly restricting bottom towed fishing. It is important to mitigate environmental damage and promote the development of marine ecosystems, and as research has shown that wind turbines can contribute to a net increase in species abundance by creating a habitat for marine life, permitting based on habitat potential would have a positive effect for adjacent fisheries and marine ecosystems.	Section 3.4 of the SEIS discussed the reef effect, and Sections 3.4 and 3.11 discussed that fishing pressure may be substantially influenced by the presence of structures offshore, resulting in reduced local fishing pressure. However, it is not within the authority of BOEM to establish Marine Protected Areas or regulate fishing in a wind lease area or outside of a lease area. Therefore, no change to the FEIS is warranted.
11284-003	I oppose the extra transit lanes considered as Alternative F, as unnecessary and damaging for clean electricity generation in that area.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11289-001	I believe that we need more renewable energy instead of fossil fuels, as fossil fuels contribute to climate change and to additional environmental problems. Allowing the construction of this offshore wind farm and additional wind farms will help in this endeavor.	Thank you for your comment.
11289-002	Permitting the construction of this wind farm will also create numerous jobs. Particularly in the aftermath of COVID-19 with the high level of unemployment, this wind farm is needed all the more...Permitting this wind farm to proceed without delay will allow these benefits to be realized sooner, and not additional years down the line.	Section 3.7.1 and 3.7.2 of the SEIS provided information on projected employment and investment from Vineyard Wind. The FEIS has been updated this information with addition sources and analysis in Section 3.7.2 indicating the possible beneficial impacts of additional future offshore wind projects.
11289-003	Additionally, wind farms are financially viable and can in fact save ratepayers money. The Vineyard Wind wind farm will save ratepayers more than \$1.4 billion in energy costs during the first 20 years of the project. And Vineyard Wind 1 will also save ratepayers more than \$3.7 billion in energy related cost savings over the lifespan of the project.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
11289-004	I urge BOEM to permit this project to move forward without delay and choose Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11295-001	Having lived on Martha's Vineyard for many years, I have witnessed the effects of Climate Change as they have impacted the island community. As a world, and particularly as a country, we need to move away from our dependence on fossil fuels and instead shift our focus to renewable energy. The Supplementary Environmental Impact Statement (SEIS) covered an expanded cumulative impact study for up to 22,000 MW of offshore wind development. That is the equivalent of a fully built-out market and is approximately twenty-five projects similar in scale to Vineyard Wind's proposed project. Vineyard Wind 1 will produce 800MW of clean energy	Thank you for your comment.

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	which will help Massachusetts reach its Clean Energy Standards. This wind farm will also produce enough clean energy to power 400,000 homes.	
11295-002	Vineyard Wind 1 will also save ratepayers more than \$1.4 billion in energy costs during the first 20 years of the project.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
11295-003	There is even research that links fossil fuels to devastating public health and safety risks. According to the New York Time, it was recently reported that "high exposure to air pollution during the final trimester of pregnancy was linked to a 42 percent increase in the risk of stillbirth." We cannot stand to contribute to a future where someone's health and mortality are determined solely based on where they live, the socioeconomics the have, or their ethnicity.	Thank you for your comment.
11295-004	I hope BOEM permits this wind farm to move forward without any delay and to select Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11320-001	[The Vineyard Wind Project] will help the local economy by providing much-needed jobs related to this project. In addition, alternative sources of energy are desperately needed and [the Vineyard Wind Project] will provide enough megawatts of energy to provide enough electricity for over 400,000 homes.	Thank you for your comment.
11320-002	[The Vineyard Wind Project] is also going to be located 15 miles offshore, not in sight of homes which has been the problem in past proposals.	The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations provided by Vineyard Wind that provide views of the 14 MW wind turbines as well as simulations of Vineyard Wind 1 combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
11328-001	I care deeply about increasing America's offshore wind capabilities as a key way to combat climate change.	Thank you for your comment.
11332-001	Offshore Wind holds many benefits for our region. However, increasing navigational lanes beyond the 11 NM endorsed by USCG threatens offshore wind's future (no to Alternative F).	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11332-002	The climate and our economy can not afford for Offshore Wind to be delayed.	Thank you for your comment.
11338-001	I would like to stress how important I think it is that we prioritize low-carbon electricity in the coming years, in order to make a better world for our children and grandchildren. Please proceed with the permitting process for Vineyard Wind.	Thank you for your comment.
11349-001	Offshore wind makes complete sense - It would be well positioned close to the end consumers of the energy produced. Offshore wind is a key tool for	Thank you for your comment.

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	addressing our need for low-carbon electricity before it is too late to slow down the most damaging impacts of climate change - much of which is already inevitable.	
11351-001	As we move closer and closer to irreversible global climate change, it is essential that we transition to clean energy generation. That is why the Bureau of Ocean Energy Management's work assessing offshore wind in the Northeast is so important. Offshore wind is vital to reducing electricity bills and addressing our need for low-carbon electricity.	Thank you for your comment.
11385-001	Please help the environment by getting away from fossil fuels. Wind power is a step in the right direction. Please support this project.	Thank you for your comment.
11766-001	I write to support the Vineyard Wind 1 offshore wind development and urge you to grant its final permits to begin construction. It will create clean energy, much needed clean energy jobs, and an infrastructure to create more in the future....Numerous scholarly, government, intergovernmental, and private industry studies have shown that off-shore wind energy is a proven, very cost-efficient technology that provides clean energy, local and regional jobs, enhanced energy independence, excellent public relations, preparation for future fossil-fuel and climate-change related regulations and public demands, and even enhanced insulation from potential climate change related lawsuits. Reducing fossil fuel use has also been shown to reduce public health costs associated with the impact of air pollution on asthma rates, lung-related ailments, and other issues....Off-shore wind is also a key energy technology of the present and the future - and one in which the USA is falling behind. The opportunity to utilize our excellent natural, clean-energy resources in the northeast USA should be a regional and national priority.	Thank you for your comment.
11766-002	Moreover, this project would represent a significant private sector investment in clean energy jobs in a region hard hit by the economic impact of the historic COVID-19 pandemic.	Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
11826-001	As the President and owner of McAllister Towing, the Bridgeport Port Jefferson Steamboat Company and the Barnum Landing site that will be home to Vineyard Wind's 'Park City Wind' project, I am writing today to express my full support for the Vineyard Wind 1 project and offshore wind development more broadly...With our long perspective on port infrastructure, we have seen port cities like Bridgeport left to die on the vine for far too long. For the first time in generations it feels like we are on the precipice of turning the proverbial tide. The offshore wind industry is in desperate need of port development, a fact that will lead to the creation of thousands of local jobs here in Bridgeport both during construction and operations and maintenance of the wind farms....We know that the health of our ports is vitally important	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis. Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a

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	to our regional economy, and we stand ready to help launch an industry that will dramatically enhance our effort to reduce the effects of climate change.	domestic supply chain for the offshore wind industry in the eastern United States.
11945-001	On balance we found the expanded discussion of cumulative impacts in the SEIS a sound addition to the original analysis presented in the DEIS especially in areas where the scope of analysis (geographic and otherwise) was increased.	Thank you for your comment.
11945-002	We acknowledge and support the description of potential benefits of future wind power generation buildout scenarios and encourage BOEM to continue to use the cumulative impact analysis as an appropriate vehicle for this discussion.	As was done in the SEIS, the FEIS utilizes the same framework and methodology for assessing planned action impacts.
11945-003	Our recommendations below highlight several areas where the cumulative impact discussion could be expanded to clarify the potential for impacts and how cumulative impacts will be addressed... Construction activities account for the majority of air emissions associated with offshore wind energy development. The cumulative impacts from construction will vary over time depending on whether project construction periods for multiple projects are sequential or concurrent. We recommend that the discussion of cumulative air quality impacts be expanded to discuss whether the construction periods for the Vineyard Wind 1 project and other projects in adjacent lease areas will potentially overlap.	The SEIS included a discussion of what projects would overlap with the proposed Project within the geographic analysis area. As noted in the SEIS, the geographic analysis area was defined as the airshed within 15.5 miles (25 kilometers) of each area potentially impacted by the proposed Project, including the lease area, the on-land construction areas, and the mustering port(s). Section A.8.1.1 of the SEIS stated that the future offshore wind projects that may result in air emissions and air quality impacts within the air quality geographic analysis area included projects located within all or portions of the following lease areas: OCS-A-0486, OCS-A-0487, OCS A 0500, OCS-A-0501 South, OCS-A-0520, and OCS-A-0521. Section A.8.1 of the FEIS states that the Proposed Action, when combined with past, present, and reasonably foreseeable activities, could generate up to approximately 2,573,037 tons of construction emissions between 2021 and 2030. Construction overlap between projects would begin in 2022 based on the lease areas within the air quality geographic analysis area. The first year of construction of Sunrise Wind and Revolution Wind would overlap with the second year of the proposed Project construction (2022) and the other wind projects within the air quality geographic analysis area would overlap with the Vineyard Wind 1 Project's operations.
11945-004	We encourage BOEM to take a broad/inclusive view of which projects to include in this part of the air quality analysis by incorporating projects planned for BOEM Lease Areas OCS-A 0517, 0486, and the western portion of 0487. Air emissions associated with the construction and operation of projects planned for these areas and from work to improve ports to support the wind industry, may contribute to air quality impacts associated with the Vineyard Wind project on the OCS, in state waters, or onshore. Current construction schedule projections in the Massachusetts and Rhode Island/Massachusetts lease areas do not appear to coincide, potentially reducing the intensity of construction period impacts but extending the	The geographic analysis areas used in this SEIS for all resource areas are based on the area of effects from the Proposed Action. The SEIS included a discussion of what projects would overlap with the proposed Project within the geographic analysis area. Certain projects were excluded from the geographic analysis area for air quality, because air quality impacts from the Proposed Action were not expected to overlap with those other projects. As noted in the SEIS, the geographic analysis area was defined as the airshed within 15.5 miles (25 kilometers) of each area potentially impacted by the proposed Project, including the lease area, the on-land construction areas, and the mustering port(s). Section A.8.1.1 of the SEIS stated that the future

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	duration of impact over a longer period. Nonetheless, EPA recommends presenting a discussion of the cumulative air quality impacts of the lease areas identified above in the cumulative impact assessment.	offshore wind projects that may result in air emissions and air quality impacts within the air quality geographic analysis area included projects located within all or portions of the following lease areas: OCS-A-0486, OCS-A-0487, OCS A 0500, OCS-A-0501 South, OCS-A-0520, and OCS-A-0521. Section A.8.1 of the FEIS states that the Proposed Action, when combined with past, present, and reasonably foreseeable activities, could generate up to approximately 2,573,037 tons of construction emissions between 2021 and 2030. Construction overlap between projects would begin in 2022 based on the lease areas within the air quality geographic analysis area. The first year of construction of Sunrise Wind and Revolution Wind would overlap with the second year of the proposed Project construction (2022) and the other wind projects within the air quality geographic analysis area would overlap with the Vineyard Wind 1 Project's operations. Therefore, no change to the FEIS is warranted.
11945-005	EPA notes that recent interconnection queues for ISO NE, NYISO, and PJM indicate that new generating entrants will be made up of a mix of natural gas, dual fuel natural gas/oil, solar, wind and energy storage. We recommend that BOEM consider the interconnection queues for ISO NE, NYISO, and PJM when assessing impacts of electric generating units that would likely come online in the No Action Alternative and update the alternative accordingly.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
11945-006	While the current SEIS is based on actions and activities that are "reasonably foreseeable" it is by default an analysis conducted based on our current understanding of the environment in the project areas; how those areas are used by fishery resources, marine mammals, birds and numerous stakeholders; existing technology; construction techniques and other external forces driving wind power development such as the economy and public policy. As projects are constructed BOEM will have the ability to evaluate whether expected impacts occur at the same intensity as anticipated in the cumulative impact analysis. We encourage BOEM to use that knowledge to update and refine the cumulative impact analysis and to focus on how cumulative impacts associated with wind power development will be addressed over time.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
11945-007	In addition to tracking changes to technology and the marine environment over time, we encourage future cumulative impact analyses by BOEM to incorporate impacts from increases in onshore support facilities at repurposed and new port areas developed along the Atlantic seaboard. These support	The FEIS has been updated to address the benefits to port infrastructure. These benefits are addressed for the Vineyard Wind 1 Project, as well as for planned actions that would affect ports within the geographic analysis area. Benefits are discussed under the port utilization IPFs in Sections 3.6.1 and

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	facilities will be necessary to support a rapidly growing wind industry and they have the potential to bring a range of benefits and impacts to host communities.	3.6.2 and Sections A.8.6.1 and A.8.6.2 (Appendix A) of the FEIS. For future projects, each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts including a review of planned actions.
11945-008	We continue to encourage BOEM to expand the executive summary of the cumulative impacts analysis with a focus on providing key takeaways regarding potential impacts and how they will be considered by BOEM across all lease areas. The summary would benefit from a narrative description of all moderate to major cumulative impacts anticipated that explains the causal factors for those impacts and strategies that can be implemented to address each impact. A focus on representing the impacts in a visual manner and providing appropriate supporting narrative summaries would also be helpful. Figure A.7- 17 from Appendix A could be brought forward to the executive summary as a key figure showing the eventual development that provides context for the long term cumulative impacts analysis with respect to a range of impacts including but not limited to marine mammals, navigation, fishermen and fisheries. Enhanced with color shading this figure could also show when each project lease area is expected to be developed (to the degree that information is available) over time, providing further context to understand the cumulative impacts of offshore wind energy development in and adjacent to the project area.	The information presented in the executive summary is purposefully high-level information, and the details of the impacts described are intended to be in the resource-specific sections of Chapter 3 and Appendix A of the FEIS.
11961-001	The new research found that the top 20 companies on the list have contributed to 35 percent of all energyrelated carbon dioxide and methane emissions worldwide, which adds up to 480 billion tons of carbon dioxide equivalent since 1965. That date is notable, since in 1965, the president of the American Petroleum Institute informed his industry about research into climate change caused by fossil fuels. The substance of the report is that there is still time to save the worlds peoples from the catastrophic consequence of pollution, but time is running out, said Frank Ikard in 1965, as Desmog reported.	Thank you for your comment.
11962-001	The wind farms will put the commercial fishing industry of America out of business and make us more dependent on foreign fish imports.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses how offshore wind development will potentially impact commercial fisheries. This includes a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas (Table 3.11-3 of the SEIS) if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Section 3.10 and Appendix D of the FEIS discuss the voluntary revenue compensation funds established by Vineyard Wind and states that impacts or losses for which claims may be filed include lost revenues related to the Project's interference with fishing activities (if any).

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11968-001	...would like to express our concern with Vineyard Winds proposed locations of their Turbine Windmills. The results of fish and the ocean resources has been detrimental in documented Norwegian wind turbines and locally in Narragansett Bay fishing area.. Through their operation these sites have disturbed and dispersed and damaged the fisheries near these turbines. Why is it the fishermen are treated as low hanging fruit that first gets pushed out of traditional fishing grounds to create "Sanctuaries" and Monument" Preserves and left to scrape a living in non traditional fishing areas. Now they are finally seeing they can make a feeble living in these nontraditional areas and we are pushed out to an energy project our tax money and higher energy bills are funding and twenty years from now they will be rotten at the bottom of the ocean... Why are these sites not put in areas we do not fish? There is a big ocean out there and I'm sure the wind blows all over. Is it to help the profits of these multinational corporations instead of we the people? The ones your suppose to look out for! I can only hope that you reconsider these sites and find alternative locations that do not effect hard working fishermen that supply a natural protein, unadulterated by foreign corporations and governments that is a tremendous healthy and economic engine for New England and the better part of the East Coast of these United States.	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing.
11968-002	Are we also giving real consideration to navigation, the right whales and other species that will be harmed by these hundreds of wind projects all over the traditional feeding grounds ?	The DEIS, SEIS, and Section 3.4 of FEIS addresses potential impacts to right whales.
11973-002	The project will provide clean, renewable, and cost-effective electricity to 400,000 homes and business in Massachusetts and save ratepayers more than \$1.4 billion in energy-related cost savings over the life of the project.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
11973-003	Offshore wind is a high capacity, domestic renewable energy resource that will improve energy security and reliability.	Thank you for your comment.
11973-005	We recognize and appreciate your role in understanding and balancing the varying needs of the offshore wind industry, commercial fishing, maritime navigation, and other uses. Late last year, after hearing from many stakeholders, the developers of the New England Wind Energy Areas (NE WEA) collaborated to propose a uniform, 1 x 1 nautical miles spacing between turbines, a layout that was recently endorsed by the United States Coast Guard (USCG). Despite this fact, the fishing industry has proposed additional transit lanes of at least 4 NMs (reflected in Alternative F of the SDEIS), a move that would severely constrain clean energy production and not meaningfully improve navigation or safety. Alternative “F” slashes the generation capacity of the project and puts the entire region at risk of not meeting energy demand even as many of New England’s fossil fuel and	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	nuclear power plants are retiring. For these reasons, we oppose the additional transit lanes outlined in Alternate F. Implementation of those additional transit lanes will only further constrain the economic and environmental benefits of the industry.	
11973-006	This project is the culmination of more than ten years of exhaustive study and analysis, and extensive public consultation, to determine where offshore wind could be built with the least possible impact on existing industries and the environment. To grow a stable and prosperous offshore wind industry and homegrown workforce, we need regulatory predictability and a clear pathway forward. Further delay of Vineyard Wind 1 is not an option.	Thank you for your comment.
11973-007	The rapid deployment of offshore wind is essential to achieve state and regional greenhouse gas emission reduction targets and limit the worst impacts of climate change. Vineyard Wind 1 alone will avoid the emission of almost 1.7 million tons of carbon dioxide per year, the equivalent of removing 325,000 cars of the road.	Thank you for your comment.
11983-001	The US Coast Guard has said that the standard nautical mile distancing in a grid pattern would accommodate the needs of fishermen, shipping, the Coast Guard's own operations, and search and rescue. Alternative F would minimize energy output with little if any benefit to other operations. Please strike it from your list of alternatives.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
11984-001	What brings me here is not a single project, but the chance to comment based on the broad scope of the SEIS, and all the projects that it encompasses. As I expect you fully realize, offshore wind offers exciting prospects: · It can offer large amounts of pollution-free generation, which many states, including along the Eastern seaboard, are demanding. That matters for reducing air pollution from fossil fuel power plants that affects, in particular, the often-marginalized communities that abut those plants. And it matters for reducing climate change's harmful impacts—including on the marine environment and all that depends on it.¹ · Offshore wind generates at times that make it an excellent complement to other renewable energy resources, including because of its strength in winter. · Offshore wind can offer savings to electricity customers, thanks to the strong cost reductions that the industry has achieved, which are themselves thanks in part	Thank you for your comment.

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	to the strong state policies that have prompted larger projects and offered economies of scale. · And offshore wind can offer economic development and jobs, with the creation of an entirely new industry, with all the project study, development, installation, maintenance, manufacturing, finance, and more that the industry entails. That job creation potential seems particularly important with high unemployment and an economy in need of rebuilding.	
11984-002	...this SEIS's conclusion regarding air pollution (p. A-43) is notable: "The proposed Project and other future offshore wind projects will in fact probably lead to reduced emissions from fossil fuel power-generating facilities and benefit air quality. Under the No Action Alternative, additional, more polluting, fossil fuel energy facilities would come or be kept on-line to meet future power demand, fired by natural gas, oil, or coal." Also noteworthy is the text immediately following, in which BOEM suggests that the fossil impacts from not having built the first large-scale offshore wind project in US waters "would be mitigated partially by other future offshore wind projects surrounding the proposed Project area" (p. A-44). Yet it challenging to envision subsequent offshore wind projects succeeding in the near term if a first project failed to proceed not because of its merits but because of the lack of such a smooth, science-based process—hence the importance of this proceeding (as noted below).	Thank you for your comment.
11984-003	One area of consideration deserves particular attention and comment: The spacing and layout of the turbines. When the five New England leaseholders proposed to adopt a uniform 1x1 turbine layout, the same east-west/north-south orientation, that was a solid response to many of the concerns expressed about the prior plans and navigation through the projects. And in its recent MARIPARS study, the US Coast Guard confirmed the appropriateness of that spacing. But spacing the turbines so much farther apart also appreciably reduces the number of turbines and generation possible in the lease areas; Vineyard Wind estimated a 13,000-megawatt reduction for the New England lease areas, with a 30% reduction in potential clean energy. So we voice our strong opposition to the SEIS's Alternative F, which would require additional transit lanes beyond the hundreds provided by the 1x1 fixed orientation layout. Alternative F would lead to a lot more lost potential. Fewer megawatts and	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	less generation would mean more air pollution impacts from the fossil fuel generation that those turbines could have displaced, less savings on electricity bills, fewer opportunities for economic development and jobs, and a heightened impact on marine wildlife from the worsening impacts of climate change. None of those should be acceptable outcomes, and we ask you to reject Alternative F in particular.	
11984-004	In my almost three decades of working in the power sector, I have never seen an opportunity like we're seeing now with offshore wind. The lengthy process to date, and now a strongly supportive SEIS, provide a strong basis for moving forward, with appropriate attention to mitigation. What comes of this process isn't about just one project; it's about every project in the queue behind it, and about fidelity to science, and facts, and good decision making.	Thank you for your comment.
11987-001	The climate crisis will destroy civilization if we don't seriously reduce fossil fuel plants.	Thank you for your comment.
11991-001	We must invest as much as possible in clean, renewable energy, our future depends on it!	Thank you for your comment.
11994-001	Offshore wind is a key tool for building a sustainable future for America. It will lower electricity bills, create jobs, and help to address the urgent need for low-carbon electricity.	Thank you for your comment.
12007-001	There is no reason for any traffic lanes. The law should not allow any traffic that can't fit between or under the turbines. Anything else should be prohibited by law and made to go around, just like the laws that protect our dams around this country.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12008-001	WHILE I AM CONCERNED ABOUT BIRDS AND OTHER ANIMALS FLYING INTO OFFSHORE WINDMILLS, I AM SURE THAT THESE ISSUES CAN BE MITIGATED.	Thank you for your comment.
12017-001	As a Rhode Island resident, I am aware that this project will have some detrimental environmental impacts, especially during construction. But, Vineyard Wind's Draft Environmental Impact Statement Supplement addresses the environmental impact concerns thoroughly.	Thank you for your comment.
12017-002	The environmental catastrophe that is the currently progressing climate crisis should be enough to secure Vineyard Wind's place in our mitigation efforts. After all, the October 2018 Intergovernmental Panel on Climate Change (IPCC) report states that our planet must not exceed 1.5 degrees C of warming. The report goes on to say, we humans must reduce our carbon emissions 45% by the year 2030. It is now nearly two years after the IPCC report and the carbon content of our atmosphere continues to increase. This alone should be enough evidence to ensure that Vineyard Wind's Construction and Operation Plan move forward.	Thank you for your comment.

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12017-003	Many people are losing their jobs, some temporarily, but others may be permanent. This project and, others like it up and down the U.S. Atlantic coast, will provide many good jobs at a time when they will be desperately needed. A recent study found that the U.S. offshore wind industry will create over 80,000 jobs in the next ten years. Vineyard Wind states they expect to create 3,600 jobs for this project. These jobs will be high paying (many unionized) as Vineyard Wind has pledged to sign Project Labor Agreements (PLA's). The green economy is here now and waiting to be tapped.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. Jobs and investment are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
12019-001	We commend the BOEM on the comprehensive and thorough analysis contained in the SEIS. The SEIS confirms our strong belief that offshore wind energy can be developed in a manner consistent with and protects wildlife, sensitive habitat, and maritime uses such as commercial fishing and marine navigation.	Thank you for your comment.
12019-002	We note the statement in the SEIS that “The proposed Project and other future offshore wind projects will in fact probably lead to reduced emissions from fossil fuel power-generating facilities and benefit air quality.” According to the SEIS, without offshore wind development, “additional, more polluting, fossil fuel energy facilities would come or be kept on-line to meet future power demand, fired by natural gas, oil, or coal.” We support the continued development and growth of offshore wind. Offshore wind energy is critical for meeting the clean energy goals of the Cape & Islands region, New England and beyond. The untapped offshore wind resource along the U.S. Eastern Seaboard is one of the most powerful in the world and within reach of densely populated areas where energy demands are high and new resource options are few. In our region, offshore wind holds the potential to provide over 50% of the potential clean energy resource for our region.	Thank you for your comment.
12019-003	In our region, offshore wind holds the potential to provide over 50% of the potential clean energy resource for our region. The potential to create 83,000 jobs and deliver \$25 billion in annual economic input by 2030 are additional important benefits. While we understand that this resource must be built responsibly, to transition our grid to locally sourced clean energy, the need to move forward is urgent, and projects such as Vineyard Wind should advance as quickly as responsible development will allow.	Thank you for your comment.
12019-004	We support the East-West One Nautical Mile Wind Turbine Spacing without transit lanes (Alternative D2). This Alternative would require that the wind turbine generators are oriented in an east-west direction and have a minimum	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	spacing of 1 nautical mile between them. This could reduce conflicts with existing ocean uses, such as commercial fishing and marine navigation. We believe that this Alternative allows for continued coexistence between a new industry and existing marine users, such as the commercial fishing industry, while protecting the marine environment and setting a path forward. Requiring additional transit lanes, deemed unnecessary by the US Coast Guard would result in Project delay and damage to the offshore wind industry.	
12019-005	We also support the Covell’s Beach Landfall Alternative (Alternative B). This Alternative would limit the cable landfall to only Covell’s Beach. We believe that doing this could reduce impacts on environmental and socioeconomic resources, particularly impacts on Lewis Bay.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Vineyard Wind has indicated that New Hampshire Avenue landfall location is no longer a consideration as they have received all the necessary state and local permits for the Covell's Beach landfall site.
12019-006	We believe the SEIS provides sufficient information supporting the development of the offshore wind industry, including the Vineyard Wind Project, and the much-needed clean renewable energy resource it will provide. We urge BOEM to complete this review in a timely fashion, provide a pathway for this project to move forward recognizing the immense refinement and compromise, and avoid unnecessary measures that will further delay and jeopardize our ability to get clean energy into the grid.	Thank you for your comment.
12025-001	Green Energy Consumers affirms that the Supplement to the Draft EIS demonstrates copious environmental, economic, societal, and energy benefits from the proposed Vineyard Wind Project. We urge the Bureau of Ocean Energy management to fully permit the project at the earliest possible opportunity so that these benefits can begin flowing to New England ratepayers, the regional economy, and the environment.	Thank you for your comment.
12025-002	Developing offshore wind in New England over the next five years is essential to achieving the climate goals of Massachusetts, Rhode Island, and other states, as well as meeting the Paris Agreement, to which several Governors have committed through Executive Order. The inexpensive, reliable renewable energy that offshore wind can provide will be our lifeline as we transition to a low carbon future. That transition can’t wait, and every additional delay in the development of Vineyard Wind, the first large scale offshore wind project in the region, is one more significant barrier to meeting our greenhouse gas emissions reductions goals.	Thank you for your comment.
12025-003	Significant alterations to the project, such as the incorporation of wide vessel transit lanes, would reduce the project size, hindering both the economics of the project and the region’s ability to use this clean energy to meet decarbonization targets. Alternative D1 provides the best compromise between natural resource conservation concerns, fishing concerns, economies	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	of scale, and our climate and energy needs. This alternative has been supported by the Coast Guard and the developer.	
12035-001	With the climate crisis upon us, it is time to address how electricity is produced in the United States. We can no longer afford the carbon emissions from coal, oil, and gas. We must develop renewable energy sources, including offshore wind...The burning of fossil fuels harms species in the ocean as waters warm and acidify. This is happening right now. The Bureau of Ocean Energy Management must promptly approve the Vineyard Wind project... We have less than 10 years to decarbonize our electric grid.	Thank you for your comment.
12035-002	Federal, state, and local regulators, along with experts in the field have done extensive environmental reviews to ensure that the ocean environment will be protected as the Vineyard Wind project is developed.	Thank you for your comment.
12041-001	It is unfortunate that what should be an all-encompassing study (such as this SEIS) has partially based its findings on the MARIPARS report, which used incomplete information, contained inaccurate calculations according to its own guidance standards, and used arbitrary justifications by the U.S. Coast Guard in coming to its conclusions. Several factual and legal objections were raised in that process by the FAB, RODA, and others, which were never responded to or addressed.	The FEIS incorporates, where appropriate, the Final MARIPARS.
12041-002	The Draft SEIS should not rely on the MARIPARS report's findings, given the inadequacies of that report and other reports relied upon for its findings, and that the Draft SEIS must propose alternatives based on corrected information and calculations. The FAB strongly urges BOEM to account for Dr. Sproul's expert opinion on the issues present in the MARIPARS report and correct these issues as they present in the SEIS through the development of new alternatives. If not, BOEM is choosing to act arbitrarily and capriciously in releasing clearly biased findings in the SEIS.	The USCG is a cooperating agency to the FEIS that is the leading agency on navigational matters; and, therefore, BOEM relies on - and does not question - the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS. The FEIS has been updated, in appropriate sections, to reflect the Final MARIPARS results. Dr. Sproul's studies were provided to USCG as comments on their Draft MARIPARS. USCG considered those comments in formulating the Final MARIPARS, which did not adopt Dr. Sproul's recommended transit lane widths.
12042-001	• Anglers are already feeling the impacts of climate change as waters warm, sea levels rise, species migrate northward, and anglers experience more intense storms – responsibly developed offshore wind power is a key source of clean energy that will reduce pollution driving climate change.	Thank you for your comment.
12042-002	• In addition, the offshore wind turbine structures are likely to become fishing hot-spots due to the artificial reef effect, just as they have at the Block Island Wind Farm.	Section 3.4 of the SEIS discussed the reef effect on finfish, and Sections 3.10 and 3.11 of the SEIS discussed that recreational fishing may improve near offshore wind energy structures. Therefore, no change to the FEIS is warranted.
12042-003	In general, we believe that recreational fishing impacts should be split out from commercial in the SEIS. While there are many overlapping issues, the impacts are not likely to be at the same level. For instance, gear entanglement, loss and damage is negligibly impactful to a for-hire	Section 3.10 of the SEIS discusses impacts on recreational fishing and Section 3.11, and specifically Table 3.11-1, discusses impacts on for-hire recreational fishing, specifically gear loss. Within Section 3.11, the impacts on for-hire recreational fishing are distinguished from impacts on commercial

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	recreational vessel, but seem conflated at multiple points in the SEIS. Given overall minimal, temporary impacts and likely benefits from the reef effect, recreational vessels will see little to no detrimental effects and some positive.	fisheries when there are expected differences, such as maneuverability within the WDA or increased opportunities from a greater abundance of structure-oriented species being present near the structures. Additionally, some of the impact ratings for the IPFs and sub-IPFs differ between commercial fisheries and for-hire recreational fishing (e.g. space use conflicts). Table 3.10-1 of the FEIS has been updated to reflect a minor impact on the for-hire fisheries from gear loss.
12042-004	For-hire rec vessels should be compensated for lost revenue during construction, based on verifiable data that demonstrates fishing activity in the project area. If this data is difficult to obtain or verify, compensation could mirror what was done for the Block Island Wind Farm where industry groups were given financial resources to increase marketing of charter fishing.	Section 3.10.2 and Appendix D of the FEIS has been updated to discuss the voluntary revenue compensation funds established by Vineyard Wind and states that impacts or losses for which claims may be filed include lost revenues related to the Project's interference with fishing activities (if any). The different voluntary revenue compensation funds refer to fishery participants, vessels, and fishing interests, including vessel owners and operators, vessel crews, shoreside processors, vessel supplier and support services, and other entities that can demonstrate losses directly related to the Vineyard Wind 1 Project.
12042-005	The SEIS should clarify that any impacts to HMS for-hire vessels is likely to be constrained to construction. Because of the reef effect referred to into the SEIS, it is highly likely that migrating HMS will be attracted to the turbine foundations. This was witnessed first-hand with mahi-mahi present at BIWF when the turbines were placed, and BIWF more resembles near-shore fish species and habitat.	The SEIS and FEIS discuss likely beneficial and adverse impacts on for-hire recreational fisheries. As discussed in the SEIS and FEIS, adverse impacts could occur during operations and maintenance from the presence of structures, including space use conflicts and navigation hazards. Section 3.10 of the FEIS was updated to clarify that HMS would be attracted to wind turbine foundations.
12042-006	• BOEM should consider guaranteed recreational fishing access outside of construction and maintenance as a permit condition. Many developers have assured anglers that this will be the case, but a permit condition will ensure its guaranteed. This guarantee is essential to ensuring recreational anglers can benefit from the reef effect of turbine structures.	Section 3.10.2 of the FEIS has been updated to state that while temporary restricted access areas (safety zones) may be set up around active construction areas where applicable, BOEM does not have the authority to restrict vessel access to the WDA during operations. In addition, the USCG has stated that they do not intend to restrict access to the WDA during operations. The USCG's authority to establish safety zones only extends to the boundary of the territorial waters of the United States, which is 12 nautical miles from shore and outside the WDA. BOEM's lack of authority to restrict vessel traffic would apply equally to commercial and recreational vessels.
12043-001	Like many, we were hopeful when BOEM decided to undertake an updated cumulative impacts assessment. This analysis is critical in setting the stage for a major new industry, and has the potential to lock in good science and a solid foundation for this development.	Thank you for your comment.
12043-002	...we are disappointed by the analysis of cumulative impacts to birds. At points in this section, the authors draw debatable conclusions without providing substantive supporting information or methodology. Some	While the overall response of marine birds to offshore wind development on the Atlantic OCS is unclear at this time, the analyses contained in the DEIS and SEIS utilized the best available science to determine potential impacts.

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	critically important issues are neglected altogether. This consistently minimizes the impacts of offshore wind on birds, and we are concerned that this has resulted in a substantial underestimate of the likely adverse effects across all scenarios (Table ES-2).	Where appropriate, the FEIS has been updated in response to new information and comments received during public engagement. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to further clarify bird use of the OCS and inform future developments on the OCS. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-003	With regard to Vineyard Wind, we are concerned that there is no plan to monitor bird collisions, nor is there a plan to provide compensatory mitigation for these impacts. This leaves us without any ability to understand these potentially significant effects, which is particularly troubling given that this project would set the precedent for the massive industry build-out and cumulative bird impacts that are to follow.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-004	For these reasons, we do not support Vineyard Wind or any other proposed offshore wind project that neglects to include the fundamental and vital elements of bird collision monitoring and associated compensatory mitigation. We ask that the developer and agencies commit to providing these necessary measures, and develop plans for implementation immediately. We urge substantial revisions and improvements to this analysis. We support, and are excited by the promise of offshore wind	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction

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	energy. But this development must come with a full understanding of the likely impacts to wildlife, and a plan to mitigate these impacts.	monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
12043-005	Among our key concerns, the SEIS provides an unacceptably weak and inadequate assessment of the number of birds likely to be killed or injured in collisions with offshore wind turbines. This analysis provides a review of collisions at onshore turbines, which is a dubious comparison to begin with, and fails to review more relevant (albeit limited) literature about bird collisions in the offshore realm.	As pointed out by the commenter, there is very little existing literature documenting actual collision related mortality with operating offshore wind facilities. As such, the analysis in the DEIS and SEIS relied upon the extensive body of literature on collision mortality with land-based WTGs. As pointed out by the commenter and discussed in the SEIS, there are several reasons why there are potential issues with using land based WTG collision mortality estimates in an assessment of potential offshore wind collision mortality, but it represents the best available science to quantify the potential for collision mortality associated with the Vineyard Wind 1 Project and the full build out of offshore wind development on the Atlantic OCS. Additionally, the SEIS discussed two studies of offshore wind facilities in Europe (Desholm 2006 and Skov et al. 2018) that used a variety of monitoring methods to monitor operating offshore WTGs for bird collision mortality. In both cases very little bird mortality was documented. The FEIS was updated to explicitly state these conclusions. Further, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
12043-006	The SEIS cites a single land-based study among several that have been conducted, and does not consider the fact that the study is now eight years old, and thus total the total mortality estimate is outdated given the rapid build-out of the onshore wind energy industry.	The FEIS provides an updated discussion of land based WTG mortality studies and includes an additional reference (Erickson et al. 2014) that reported similar findings to Loss et al. (2013). These studies represent the best available science for estimating the potential for collision mortality of

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		North American bird species. To date, no studies have addressed the cumulative mortality of North American bird species at operating onshore wind facilities. The total number of operating WTGs has increased since publication of Loss et al. (2013) and Erickson et al. (2014), and thereby the overall total mortality of birds is expected to be higher. Although there are more turbines since the Loss et al study, the number of birds killed per turbine per year is expected to remain relatively constant given that the variations in mortality estimates relating to facility-level and regional differences were accounted for in Loss et al. (2013) and new onshore wind facilities would be expected to follow similar trends.
12043-007	It goes on to suggest that the bird species that are killed by onshore turbines are unlikely to encounter offshore turbines, which in at least one important instance is entirely incorrect	Section A.8.3.1 of the FEIS provides an updated discussion of the potential for avian species to encounter operating offshore wind turbines. As discussed in the FEIS, 75 percent of the documented onshore mortality is composed of groups (small passerines, diurnal raptors, doves, pigeons, and upland game birds) that would not be expected to frequently encounter offshore operating WTGs associated with offshore wind development in large numbers. Second, factors such as landscape features and weather patterns that influence collision risk are different on the OCS compared to onshore wind facilities. Within the Atlantic Flyway, much of the bird activity is concentrated along the coastline concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014).
12043-008	Table A-9 is intended to predict the number of birds that will be killed by currently anticipated offshore wind facilities on the Atlantic each year. The report acknowledges that the list of species is incomplete – species that we know traverse wind energy areas are not considered, including species of conservation concern. It is unclear whether this analysis takes into account that bird species differ in their vulnerability to collisions with turbines due to their flight patterns and behavior.	Section A.8.3.1 includes an updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling.

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12043-009	The data is heavily skewed – for example, it is estimated that between 0 – 1,346 Red-throated Loons will be killed each year, but the median is 6 birds. This provides a false sense of the breadth and scale of likely impacts, inappropriately minimizing the perception of risk. Perhaps some of this is based on sound data and analysis, but it is difficult to assess, as the description of the methods is limited to a couple of sentences and footnotes, and no details are provided as to what data were used. This does not provide the clear, transparent, robust analysis that we need to adequately assess the risk of bird collisions with offshore wind turbines.	The commenter's point about the distribution of fatality estimates being skewed is correct and obvious from the table in the desist. The commenter's accusation of "minimizing" risk is misleading. To advert misinterpretation of the results, BOEM has expanded this section in the FEIS to include a full description of methods and include the data that was used in the collision modeling.
12043-010	Bird collisions at offshore wind facilities has been minimally studied despite the abundant opportunity presented by the European offshore wind industry. Skov et al. (2018) is considered one of the most, if not the most, robust of these, and this consisted of cameras on two turbines in the interior of a single facility. They found that of 15 birds that were documented flying perpendicularly to the rotor blades within the rotor-swept zone, 6 (40%) collided with the turbines.	Generally, bird collisions with wind turbines is a relatively rare event, something that is rarely witnessed at land based turbines. Detecting collisions offshore is extremely challenging and has been documented in a few studies, including Skov et al (2018). While Skov et al. (2018) did document a total of 6 collisions when birds were traveling perpendicular to the operating WTGs, a majority (293 of 299) of birds within the rotor swept zone (+ a 10 meter buffer) were observed crossing the rotor swept zone with adjustments in their flight path, often parallel to spinning rotor blades (Skov et al. 2018).
12043-011	In considering the results of this [Slov et al. 2018] and other European studies of offshore bird-turbine collisions, are the locations comparable to the locations being considered in the U.S. in terms of the density of birds? Do the species documented there behave similarly to the birds at the U.S. locations? Are there conditions at the U.S. locations that might lead to a greater number or proportion of strikes? The SEIS considers none of these factors, instead concluding that annual mortality is expected to be low.	Unlike the planned development on the US Atlantic OCS, the majority of the offshore wind development in Europe is relatively close to shore where bird densities tend to be greater, in part due to being closer to some nesting colonies. In addition, the European wind farms that are further out usually between large land masses (e.g. North Sea), thus creating more opportunities for birds to move from the shore of one land mass to another. The Skov et al study was conducted at the Thanet Wind Farm located relatively close to shore where, as an example, the density of some of the same species of gulls are 3 to 10 times greater than at location of the proposed project. The FEIS has been updated to include this information.
12043-012	Further, we are concerned that analysis of collision risk does not appear to take the effect of inclement weather conditions into account. Fog, rain, and high winds can not only obscure vision, but make flight more erratic. Some seabird species increase flight heights in high winds, increasing the likelihood of flying in the rotor swept zone (Ainley et al. 2015).	Section A.8.3.2 of the FEIS includes an updated discussion of collision risk and inclement weather events. As described in FEIS, while Ainley et al. (2015) suggest that inclement weather causes changes to flight altitudes and could result in mass mortality of migrating birds, studies of European wind facilities do not show this to be the case. Oversea migratory movements of birds have been shown to nearly, or completely, cease during periods of inclement weather (Fox et al. 2006; Pettersson 2005, Hüppop et al. 2006). The collision risk modeling presented in the FEIS relied upon flight height data from Johnson et al. (2014) that was derived from thousands of observations, likely under varying weather and wind speed conditions, and thereby capturing many of the conditions identified by the commenter.

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12043-013	We recommend a revised estimation of the number of birds that will be killed each year by offshore wind turbines by the project and cumulatively (Table A-9). This estimate must provide clearly articulated methods and reference to all supporting data, and include all species potentially at risk.	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk modeling. As discussed in the SEIS, a total of 75 birds across 12 modeled species are expected be killed by the anticipated 2,021 operating WTGs associated with the anticipated development on the Atlantic OCS annually, however, annual mortality may be as high as 3,481 birds across these 12 species due to uncertainties in data inputs. The proposed Project represents up to approximately 5% of the WTGs (100 of 2,021 WTGs). While not all species potentially present within the offshore wind lease areas were modeled, the modeling results of those species with sufficiently robust occurrence and behavioral characteristics datasets represent a variety of species with representative behaviors and flight characteristics. These estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling.
12043-014	Without these [post-construction monitoring] data, it is impossible to know if actual collision impacts are occurring at a sustainable level relative to species population sizes. Of particular concern, this makes it impossible to know whether these facilities are having an impact on Endangered Species Act (ESA)-listed species and other species of concern (see “ESA-Listed Bird Species Are Not Considered” section below). This amounts to providing a “blank check” for bird mortality based on weak analysis, and results in a high degree of uncertainty. This is unacceptable, and sets the stage for unnecessary and avoidable conflict.	A detailed analysis of impacts to ESA listed species is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. Vineyard Wind has drafted a framework for their Bird Monitoring Plan which is included in Appendix F of the FEIS. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
12043-015	We note that bird collision monitoring is standard practice for onshore wind facilities. There is no reason that offshore wind development should be held to a different standard. To the contrary, a cautionary approach should be taken given that this is a new industry in the U.S., for which we yet have little understanding of the likely impacts. These data would also inform future	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. Vineyard Wind's Bird Monitoring Plan, which is a framework being developed in consultation with BOEM, is included in Appendix F of the FEIS. These measures include, but are not

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	wind energy facility planning, including siting and impact minimization measures.	limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. Surveys for bird carcasses are commonly used to monitor collisions at land-based wind facilities. Obviously, these types of surveys are not practical in the offshore environment. However, developers are required to report bird carcasses found on structures (see Append D). In addition, developers are required to finalize a bird and bat post-construction monitoring plan prior to the commencement of operations that includes measures to monitor bird exposure to the facility to better understand impacts. Data collected from these activities will be useful in informing current and future offshore wind development projects. Vineyard Wind has drafted a framework for their Bird Monitoring Plan which is included in Appendix F of the FEIS.
12043-016	We recognize that there is not yet any fully validated, commercially available technology to monitor collisions at offshore wind facilities. However, there are systems that have been used to varying degrees of effect, and there are a number of systems that are being further evaluated.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development.
12043-017	We recommend that Vineyard Wind, and all other offshore wind facilities being planned in the U.S., utilize the best available technology to monitor bird collisions once facilities are constructed. Until a system or systems are	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not

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	fully validated and commercially available, we recommend that these facilities be used as study sites for testing this technology, thus moving this important work forward and gathering data about collisions in U.S. waters.	limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. As additional monitoring methods become available, BOEM could require their use in subsequent approval processes for future offshore development. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development.
12043-018	We further recommend that all facilities be required to make bird collision data publicly available, providing transparency and an opportunity for informed discussion about minimizing impacts as this industry grows.	BOEM intends to make the results of the post-construction monitoring available to the public, either by posting monitoring reports on Project-specific websites or making them available upon request.
12043-019	Finally, we recommend that all facilities be required to commit to upgrading to improved collision monitoring technology when it becomes available.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
12043-020	Many conclusions are drawn without providing supporting evidence. In some of these instances, the conclusions drawn are questionable. For example, the SEIS suggests that a low at-sea range overlap with wind energy development areas for a given species (i.e., Table E-10) indicates a low mortality rate. There are several steps that are missing in this logic, including understanding of demographic effects of the impact, subtleties in species range characteristics (e.g., core foraging vs. transit), vulnerability, and population status. We suggest that a more appropriate conclusion would be that	As depicted in Figures A.8.3-1 and A.8.3-2 in the SEIS, total avian abundance for species with high collision sensitivity and displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. As such, collision and displacement impacts are expected to be low. Additionally, an updated discussion of collision risk is provided in Section A.8.3.1 of the FEIS demonstrating low predicted mortality as a result of collisions with operating WTGs. Given the very low expected mortality, demographic

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	insufficient information exists to draw such a conclusion, and that further study is needed.	effects would not be expected. Further, as cited in the SEIS, many of the species that exhibited high avoidance rates in the Skov et al. (2018) study are same species that are expected to occur on the OCS and modeled as part of the analysis in the SEIS. Therefore, no change to the FEIS is warranted.
12043-021	To provide another example, we disagree with the blanket conclusion that a permanent beneficial impact may result from placing structures in marine waters because the prey base for some bird species may increase. As the SEIS acknowledges, only some bird species may realize these benefits. No consideration is given to which species are affected positively and negatively, and which among these are more at-risk from a population perspective. The SEIS correctly acknowledges that for those species that might benefit from an increase in prey availability, that this would be likely to serve as an attractant to turbines, putting vulnerable species at risk of fatal collisions with turbines, potentially resulting in a significant net negative impact. For the above reasons, without further research it is unclear whether the presence of structures in marine waters are a net positive or negative for birds, and there is good reason to hypothesize that the net result is negative.	While some risk of attraction to structures associated with offshore wind development exists, the net result has neither been empirically measured nor calculated on the Atlantic OCS. Certain species such as cormorants and gulls have been shown use structures for roosting, but would not be expected to be at higher collision risk due to the fact that typical flight altitudes are well below the Rotor Swept Zone. Conversely, while gulls attracted to structures may fly in the RSZ, they have been shown to have a very high avoidance rate (Skov et al. 2018) and would not be expected to have at higher risk of collisions. As discussed in the updated Appendix D, Vineyard Wind would provide an annual report of any dead or injured birds discovered on Project vessels or structures, containing the following information: species, photos to confirm species, location, date, and other relevant information. This information will be used to further clarify the risk associated with attraction to offshore structures and could lead to additional monitoring and/or mitigation measures that would be required for future offshore development.
12043-022	We see similarly weak analyses and debatable conclusions drawn in the discussion about displacement, habitat loss or fragmentation effects and other elements of the SEIS analysis.	Section 8.3 of the FEIS uses the best available information, and thus complies with the procedural requirements of NEPA to predict potential impacts on birds from the Proposed Action. The comment is too broad to understand the concerns the commenter has with those portions of the document.
12043-023	We recommend a full review and revision of the section focused on birds, with more robust analysis and subsequently reassessed impact statements.	Section 8.3 of the FEIS uses the best available information, and thus complies with the procedural requirements of NEPA to predict potential impacts on birds from the Proposed Action. The comment is too broad to understand the concerns the commenter has with those portions of the document.
12043-024	More specifically, we recommend that conclusions regarding impacts of the Preferred Action and Alternatives (Table ES-2, pg. ES-5) be revised to indicate “minor to moderate” instead of “negligible to minor and potentially minor beneficial,” given the minimal science and associated high uncertainty on which this conclusion is based. For the same reason, we recommend that conclusions for cumulative impacts be revised to indicate “moderate to major.”	While there is some underlying uncertainty around the response of bird species to the introduction of operating offshore WTGs on the Atlantic OCS, BOEM believes that the impact rating determinations, as defined in Table 3-1 of the SEIS, are appropriate given the low expected use of the WDA, as discussed in the updated Section A.8.3 of the FEIS. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the

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		exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. Given the implementation of the mitigation and monitoring measures included in Appendix D, and the analysis provided in the DEIS and SEIS, no change to the FEIS is warranted.
12043-025	Further, we recommend additional scientific studies to determine the level of impact of the project to better inform future cumulative impacts of additional offshore wind projects.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
12043-026	The SEIS neglects to evaluate the impacts of offshore wind energy development on land birds within the Atlantic Flyway. Large numbers of such birds make nocturnal migratory flights in fall from the northeastern U.S. to wintering grounds in the Caribbean and South America. For example, DeLuca et al. (2015) found that the Blackpoll Warbler, a songbird weighing less than half an ounce, makes a nonstop fall migratory flight from New England / Southeast Canada as far as northern South America. La Sorte and Fink (2015) found that another nine species follow a similar fall migration pattern, including species of conservation concern such as Bicknell's Thrush.	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk to nocturnal passerine migrants. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants (including the blackpoll warbler), while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014).
12043-027	As was found by the U.S. Fish and Wildlife Service's Avian Radar Project in the Great Lakes, nocturnal migrant birds are likely to fly within the rotor-	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk to nocturnal passerine migrants. As shown in Robinson Willmott et al.

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	swept zone of offshore wind turbines off the Atlantic coast, creating risk of collisions. What's more, these birds migrate in flocks, so any such instance may result in relatively large numbers of birds being killed during a single event.	(2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014).
12043-028	There are many unknowns on this topic [nocturnal migrants]. For example, it is unknown whether nocturnal migrants' flight behavior off the Atlantic coast make them more or less likely to come in contact with turbines, or if weather or other conditions may make this collision risk more likely. Regardless, there is every likelihood that these birds may fly within the rotor-swept zone of offshore wind turbines, creating risk of collisions with an unknown degree of impact.	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk to nocturnal passerine migrants. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014).
12043-029	Robust studies should be initiated immediately to evaluate the risk of nocturnal migratory land bird collisions with offshore wind facilities in the Atlantic. These studies must be conducted at a scale and with a degree of precision to provide assurance that the data are sufficient to inform assessment of risk.	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk to nocturnal passerine migrants. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014). Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, including nocturnal passerine migrants, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
12043-030	...the SEIS does not address likely impacts of the currently anticipated buildout of the offshore wind industry to bird species listed under the Endangered Species Act. This includes the endangered Roseate Tern, the threatened Rufa Red Knot, and threatened Piping Plover, all of which are known to traverse wind	A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in

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	energy areas. This would seem to be the most important element of such an analysis, yet it is neglected.	the Project Area. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds, including ESA-listed species. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. Project-specific ESA consultations will be required for all future offshore wind development. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
12043-031	Individual offshore wind facility plans evaluate their likely impacts to ESA-listed species. This includes the demonstration project for Dominion Wind in Virginia, consisting of two turbines located far from the U.S. breeding areas for Roseate Terns. However, the environmental assessment for this project acknowledges that there is a minimal collision risk for Roseate Terns. How is it that when the full complement of projects off the Atlantic coast is considered, that it wasn't deemed to warrant discussion, let alone a conclusion that significant impacts are likely?	A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional

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		mitigation measures could be considered by decision makers and incorporated into the Record of Decision. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process. Further, BOEM is currently working with USFWS to develop a programmatic consultation regarding impacts to ESA listed species arising from anticipated offshore wind development on the Atlantic OCS.
12043-032	A robust analysis of likely impacts of the currently anticipated buildout of the offshore wind energy industry on ESA-listed bird species should be provided.	BOEM is currently working with USFWS to develop a programmatic consultation regarding impacts to ESA listed species arising from anticipated offshore wind development on the Atlantic OCS. A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area. Project-specific ESA consultations will be required for all future offshore wind development. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
12043-033	Compensatory mitigation is needed to offset adverse impacts of the Vineyard Wind project. Given the current technology, there are no viable options for effectively minimizing the impacts of the project to the extent needed to protect birds from harmful and long-term impacts.	If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and

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		monitoring measures may arise from consultations and coordination with Federal and State resource agencies.
12043-034	Furthermore, migratory birds pose significant conservation challenges, as many originate from other regions and actions to increase their populations require significant investment of time and resources to restore equivalent habitat. The breadth of species potentially affected, and the migratory nature of these species will require such environmental compensatory mitigation.	As discussed in the FEIS, initial development of WDAs on the Atlantic OCS was selected such that impacts to resources, including migratory birds, were minimized to the greatest extent practicable. Further, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-035	Further, the SEIS does not consider impacts to many of the species occurring in the area that are likely to be affected, resulting in what is likely a gross underestimate of the potential losses of birds. The number of birds affected is uncertain due to the lack of available technology to accurately measure impacts (e.g., collisions) on a species level or the fate of those birds after a collision event (e.g., injury, morbidity, or mortality).	Section A.8.3.1 of the FEIS provides an updated discussion of the potential for collision mortality. The modeled estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.

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12043-036	We further note that in this interim period where incidental take of bird species protected by the Migratory Bird Treaty Act (MBTA) is not being considered illegal, that the agencies still have conservation obligations under frameworks apart from ESA and MBTA. Based on studies of ESA-listed species alone (discussed above), it seems likely that birds protected by federal laws will be killed in collisions with turbines under the currently anticipated industry build-out scenario. As such, compensatory mitigation should be provided for bird mortality resulting from this development, and particularly for species of conservation concern.	If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-037	Directed mitigation can result in meaningful beneficial outcomes. For example, the Montrose Settlements Restoration Program, a \$63M mitigation package compensated for migratory seabirds in Mexico, efforts in part which led to the recovery and de-listing of Pacific Brown Pelican.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-038	Mitigation more effectively compensates for impacts when conducted on a project-, species- and population-specific basis. This model is encouraged for offshore wind energy development impacts.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.

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12043-039	However, if a project-by-project approach proves difficult to operationalize, a compensatory mitigation fund could be developed and administered by trustees of federal agencies. Following the model of other forms of development, this would most appropriately be funded by the developers whose actions are resulting in the impacts, with funding amounts based on likely or actual impacts	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-040	Quantifying compensatory mitigation for birds should initially be based in a revised estimate of the number of birds that will be killed in collisions with turbines (i.e., Table A-9 in the SEIS), including ESA-listed species and nocturnal migrants.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-041	Evaluating mitigation necessary to effectively compensate for these losses should utilize resource equivalency analysis, which accounts for the fact that birds at different life stages do not functionally equate in conservation importance (e.g., one additional hatchling does not functionally replace a breeding adult bird). This approach has been used extensively for addressing losses of birds to oil spills and contaminants in California. For example, under NEPA, the Damage Assessment and Restoration Plan / Environmental Assessment for the Luckenbach Spill called for a number of mitigation projects to compensate for the losses of migratory birds in distant countries where those species originate, such as Mexico, Canada and New Zealand, in	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and

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	the amount of \$21M (CDFW 2006). Quantities and supporting analyses should be re-evaluated as collision monitoring data become available, and additional mitigation provided as necessary.	monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-042	Seabirds are wide-ranging, long lived, and have delayed maturity and low fecundity; these unique lifehistory traits require substantial and long-term commitment to reach the offset needed.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12043-043	Given that compensatory mitigation is time-consuming from concept to success, we urge the developers and agencies to commit to this, and initiate action as soon as possible. Effective compensatory mitigation should be considered for breeding, winter and non-breeding roost sites. For example, establishment of protected areas, predator control, and habitat restoration are needed for key species such as Roseate Terns, Red Knots, and Piping Plovers.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
12044-001	The approval of the Vineyard Wind project is essential in the United States' fight against climate change. Vineyard Wind not only represents a large development opportunity, but a new energy future for the entirety of the eastern coast of the US. The Vineyard Wind project will curb the tide of the worst effects of climate change across the region, while also benefiting the	Thank you for your comment.

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	local fishing industry. While there may be short term negative impacts from this development, the long term benefits of providing clean power to millions of Massachusetts homes far outweighs those drawbacks.	
12044-002	The largest concern of the Environmental Impact Statement thus far has been the potential interruption to recreational and commercial fishing operations. However, this report has also stated that most of the environmental effects will be minimal to negligible, and some early research into the Block Island Offshore Wind Installation has shown that the underwater structure can have a net positive impact on local fish populations. This positive impact on fish populations from the Vineyard Wind project will create long term benefits for the Northeastern fishing industry.	Section 3.4, 3.10, and 3.11 of the SEIS discusses likely adverse and beneficial impacts on finfish, recreational fishing, and for-hire recreational fishing, including a potential increase in structure-oriented species and an increased opportunity for recreational and for-hire recreational fishing. Therefore, no changes to the FEIS are warranted.
12044-003	Epifauna have been found to live on these structures without damaging the structural integrity and benefit local fish feeding grounds. Studies across wind farms in Europe have shown that these areas actually have larger quantities of fish compared with the fishing waters outside of these wind farms. Offshore wind farms may prove a vital tool in aiding and possibly restoring fish populations along the East Coast for years to come. The long term preservation of fisheries along the East Coast through wind development will ensure the long term survival of many species and the fishing industry as a whole.	The Section 3.3, 3.9, and 3.10 of the FEIS discuss how the creation of hard-bottom habitat (from scour and cable protection) and the foundations would benefit structure-oriented species and pelagics. Section 3.10 of the FEIS has been updated to include a study from the U.K. stating that lobsters do not leave the offshore wind facilities and that catch rates are not different adjacent to these areas either. Therefore, no changes to the FEIS are warranted.
12044-004	As someone who has lived the majority of their life within ten miles of the ocean, the threat of rising sea levels from global warming is very real and very costly. The Vineyard Wind project benefits the region as a whole, and helps reduce local air pollution from fossil fuel burning power plants, which is a necessary step toward long term environmental stability.	Thank you for your comment.
12044-005	There are increasingly more and more technological options to reduce the impact to existing ocean wildlife populations by both monitoring local species locations in real time, particularly the North Atlantic Right Whale, and also reducing underwater noise impact during the installation process. The use of new technologies along with promoting these new energy projects can help America stay at the forefront of the environmental movement.	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met.
12044-006	While there may be short term interruptions to the local fishing industry as noted in the Environmental Impact Statement, ignoring the long term benefits of this project is shortsighted.	Section 3.4, 3.10, and 3.11 of the SEIS discusses likely adverse and beneficial impacts on finfish, recreational fishing, and for-hire recreational fishing, including a potential increase in structure-oriented species and an

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		increased opportunity for recreational and for-hire recreational fishing. Additionally, the long term benefits of job creation and investment in marine infrastructure resulting from offshore wind development is discussed in Section 3.7.1 and 3.7.2 of the SEIS. Therefore, no changes to the FEIS are warranted.
12044-007	Now is a critical moment for Massachusetts and the United States. Within my lifetime the devastating impacts of Climate Change will be felt and they will be felt most acutely in coastal regions such as Martha's Vineyard. Having seen the devastating impacts of tidal surges during Hurricane Sandy, I know that climate change will only make these instances more frequent, deadlier, and costlier. It is the moral imperative of the federal government to ensure the long term survival of the United States against the threat of climate change. For both the benefit of the local fishing industry and the offshore wind industry, this project needs to move forward.	Thank you for your comment.
12045-001	The American maritime industry has been on the decline for decades. There are fewer opportunities as strong as the Vineyard Wind Project to bring back American jobs. The US maritime industry already employs over six-hundred thousand Americans, and the offshore wind industry has the potential to increase that number by 15%, providing good, paying jobs to blue collar workers in these hard hit coastal communities. But this potential for American jobs can only be reached with the approval of the Vineyard Wind project by the American Bureau of Ocean Energy Management. The fishing industry can work in tandem with this new wind industry to revitalize American ship building, port infrastructure, and east coast fisheries. With these two industries working together we can build a stronger and more energy independent America to leave for our children.	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind. Section 3.6.2 of the FEIS notes the beneficial impact of providing additional diversity for maritime industries, and has been updated to explain that the New Bedford Port Authority, Massachusetts Clean Energy Commission, and Vineyard Wind are cooperating to develop supply chain and support opportunities, with a focus on fishing businesses. The supply of marine workers provides an experienced workforce with relevant skills.
12049-002	Offshore wind is a high capacity, domestic renewable energy resource that will improve energy security and reliability. The rapid deployment of offshore wind is essential to achieve state and regional greenhouse gas emission reduction targets and limit the worst impacts of climate change.	Thank you for your comment.
12049-004	In order to realize the many benefits – both economic and environmental - of Vineyard Wind 1 and future projects, the industry needs certainty that offshore wind can and will be permitted in the US. Without this certainty, the US will lose out on significant investment and economic benefits. According to the American Wind Energy Association (AWEA), the offshore wind industry will invest roughly \$57 billion in the US by 2030 if states continue to meet their procurement goal, and will create more than 80,000 jobs in the next ten years, with economic output reaching upwards of \$25 billion per year by 2030. The business sector needs confidence that demand in the US	Thank you for your comment.

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	offshore wind market is real. This means that projects in the permitting and development timeline must be permitted in a timely and reasonable manner. This starts with Vineyard Wind 1. If we launch this industry now, the potential for additional jobs multiplies exponentially, with the potential for hundreds of thousands of jobs in different parts of the country.	
12049-005	To the Bureau of Ocean Energy Management: I recognize and appreciate your role in understanding and balancing the varying needs of the offshore wind industry, commercial fishing, maritime navigation, and other uses. Late last year, after hearing from many stakeholders, the developers of the New England Wind Energy Areas (NE WEA) collaborated to propose a uniform, 1 x 1 nautical miles spacing between turbines, a layout that was recently endorsed by the United States Coast Guard (USCG). Despite this fact, the fishing industry has proposed additional transit lanes of at least 4 NMs (reflected in Alternative F of the SDEIS), a move that would severely constrain clean energy production and not meaningfully improve navigation or safety. Alternative “F” slashes the generation capacity of the project and puts the entire region at risk of not meeting energy demand even as many of New England’s fossil fuel and nuclear power plants are retiring. For these reasons, I oppose the additional transit lanes outlined in Alternate F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12049-006	This project is the culmination of more than ten years of exhaustive study and analysis, and extensive public consultation, to determine where offshore wind could be built with the least possible impact on existing industries and the environment. To grow a stable and prosperous offshore wind industry and homegrown workforce, we need regulatory predictability and a clear pathway forward. Further delay of Vineyard Wind 1 is not an option.	Thank you for your comment.
12052-001	As a NYC resident the realities of climate change became glaringly obvious after hurricane sandy destroyed my neighborhood in Staten Island. Climate change was no longer a far off, “could be” consequence...it showed up on our doorsteps and could no longer be ignored...I applaud BOEM for their due diligence and urge you to approve construction on the first commercial scale wind farm in the US. And to the fisherman, I want to remind you that climate change is real. There are no jobs on a dead planet.	Thank you for your comment.
12058-001	Climate change threatens not only marine animal populations but the human population and our quality of life. Developing CO2 free energy sources is a vital part of our future survival as a species and this should be taken into account when weighing the impacts of offshore wind development. Climate change will eventually destroy many of the fish populations offshore that may be only slightly impacted by offshore wind.	Thank you for your comment.

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12059-001	The SEIS and the NEPA cumulative impacts analysis are very comprehensive and inclusive. Given that Commercial transit lanes have already been carved out of the established WEAs, and the wind industry has proposed a uniform 1 x 1 nm turbine layout, I am against the additional 2 to 4-mile wide transit lanes within wind farms as they are unnecessary and reduce renewable energy potential.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12059-002	To best understand the changes in marine species extent and abundance from the cumulative impacts of the turbines, project specific monitoring should be required before, during and after construction.	Thank you for your comment.
12059-003	BOEM should require recreational fishing access outside of construction and maintenance as a permit condition to guarantee that recreational anglers can benefit from the reef effect of turbine structures.	Section 3.10.2 of the FEIS has been updated to state that while temporary restricted access areas (safety zones) may be set up around active construction areas where applicable, BOEM does not have the authority to restrict vessel access to the WDA during operations. In addition, the USCG has stated that they do not intend to restrict access to the WDA during operations. The USCG's authority to establish safety zones only extends to the boundary of the territorial waters of the United States, which is 12 nautical miles from shore and outside the WDA. BOEM's lack of authority to restrict vessel traffic would apply equally to commercial and recreational vessels.
12063-001	Reducing the size of the wind farm is purely a move to prop up and protect the oil and natural gas industry. Lets let the BOEM use science for the full size wind farm.	Thank you for your comment.
12066-001	VW 1 will save ratepayers more than \$3.7 billion in energy related cost savings over the life of the project.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
12066-002	Vineyard Wind and the other developers of the New England WEA in late 2019 proposed to develop all future projects with a uniform 1 x 1 Nautical Mile (NM) layout throughout the lease areas. <u>While the 1 x 1 NM layout eliminates 30% of the area's potential energy production,</u> it addresses the main comments from the commercial fishing industry raised during the comment period of the Vineyard Wind 1 project. The uniform layout creates over 200 transit lanes throughout the entire wind development area. The uniform 1 x 1 NM layout, <u>without</u> any additional, extraneous transit lanes, has been assessed by the United States Coast Guard (USCG) compared to proposals <u>with</u> transit lanes in its MARIPARS (Massachusetts Rhode Island Port Access Route Study) that was released in May 2020. The USCG endorsed the 1 x 1 NM layout <u>without transit lanes</u> , finding that the standard and uniform grid pattern will create multiple navigation safety corridors.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12066-003	Adding transit lanes in addition to a uniform 1 x 1 NM turbine spacing (larger than anywhere in the world) would significantly impact the viability	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	of all projects in the area. Vineyard Wind and other OSW developers are opposed to the adoption of this alternative F. The additional spreading out of wind generation due to additional transit lanes would result in substantial technical challenges, delays, cost increases to consumers, and more environmental impacts from offshore wind development, with marginal gains and as USCG identifies, potentially greater conflict among transiting and fishing vessels due to funneling.	
12066-004	Transit lanes proposed by RODA come with a real cost. If enacted, we would: Lose 400MWs of clean, renewable, cost effective electricity (equivalent of 200,000 fewer homes and businesses in MA) through the loss of 33 turbine positions	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12066-005	Offshore wind power development represents a generational opportunity for the hardworking men and women in the building trades, creating good paying jobs with good benefits. Vineyard Wind has made outreach to organized labor a priority, and they've pledged to sign Project Labor Agreements (PLAs) to ensure both fair compensation and to meet the highest construction standards. A recent study found that the offshore wind industry will create more than 80,000 jobs in the next ten years, with private investment reaching upwards of \$25 billion per year by 2030.	Although the Project Labor Agreement is not addressed in the FEIS, Section 3.6.2 provides projections of estimated direct job creation by the Vineyard Wind 1 Project in Massachusetts, and primarily in southeastern Massachusetts. Section 3.6.1.1 of the FEIS has been updated with projections of national growth in investment and jobs resulting from the Atlantic coast offshore wind industry.
12066-006	Offshore wind is central to our state and our region's goals of reducing greenhouse gas emissions to limit the effects of climate change. The project will generate clean, renewable, cost-competitive energy for over 400,000 homes and business across the state while reducing carbon emissions by more than 1.6 million tons per year, the equivalent of taking 325,000 cars off the road. o NOx emissions cut by over 1,000 tons per year o SO2 cut by 860 tons per year	Thank you for your comment.
12066-007	With regard to fishing specifically, the report says that any impact would be moderate. The report also says "the impacts [of the project] are anticipated to be adverse in the near-term but may become neutral over time if fishing practices adapt to the presence of structures.	Thank you for your comment.
12066-008	The SDEIS identifies numerous natural resources that are being impacted by climate change. Launching the offshore wind industry in the United States is a significant and necessary step towards combating its adverse effects and preserving natural resources for future generations. Failure to act will almost ensure that we experience the worst effects of climate change, a factor that will do far more to disrupt the fishing industry than the development of wind lease areas that were selected primarily because they have the least amount of exposure to fishing.	Thank you for your comment.

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12066-009	Whether it's peaker plants or simply dirty old power generators, the siting of these facilities has fallen disproportionately on both low income and communities of color. The effects – particularly around public health – have been devastating... We cannot stand for a future where someone's health and mortality are determined simply because of where they live, their economic circumstances or their ethnicity. The policy choice is clear on public health: pursue renewables for our electricity or continue to get our power from sources that have major public health impacts, typically on disadvantaged communities.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
12066-010	The offshore wind industry will invest roughly \$70 billion over the next ten or fifteen years if states continue to meet their procurement goals. International offshore wind suppliers are establishing US-based operations in anticipation of offshore wind energy construction. If we launch this industry now, the potential for additional jobs multiplies exponentially, with the potential for hundreds of thousands of jobs in different parts of the country.	Thank you for your comment.
12066-011	Vineyard Wind has voluntarily committed to implement an Aircraft Detection Lighting System (ALDS) that will drastically limited visual impact of lights on the turbines. The SDEIS reports that ADLS would only activate aviation warning lighting on WTGs when aircraft enter a predefined airspace to occur 235 times during the year, with a total of 3 hours and 49 minutes	Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address night sky impacts. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation safety lighting on the wind turbines.
12066-012	Due to the distance between the reasonably foreseeable wind development and the nearest cultural resources, in most instances exceeding 15 miles (24.1 kilometers), WTGs within individual projects would appear relatively small on the horizon, and the visibility of individual structures would be further affected by environmental and atmospheric conditions such as vegetation, clouds, fog, sea spray, haze, and wave action. Additional mitigations, such as the use of non-reflective off-white and light grey paint on offshore structures, could reduce the visibility of offshore structures and further reduce the magnitude of impacts on cultural resources.	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. The description of impacts is located in Sections 3.8.2-3.8.5, and when considered against the criteria determining the intensity of impacts (i.e., whether they are minor, moderate, etc.), located in Section 3.8.6, the impacts are of a moderate nature.
12066-013	The process for identifying the wind lease areas began a decade ago, and the sites that were eventually identified and defined by the federal government, after years of stakeholder input, were chosen specifically because they were NOT heavily fished areas.	Thank you for your comment.
12066-014	The SDEIS points out how small of a percentage of the fishing industry the project actually impacts: "The WDA would only account for a small portion of the exposed revenue in the New England and Mid-Atlantic regions. The average annual percentage of total Mid-Atlantic and New England fishery revenue exposed by fishery within only the WDA (2021) would be less than 0.5 percent for all fisheries ..." This impact would only be realized if the	Thank you for your comment.

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	industry ceases to fish in the lease areas or doesn't make up lost caught in other area.	
12066-015	The Federal review does not consider mitigation in its evaluation of impacts but does indicate that mitigation can reduce those impacts. For example, the Vineyard Wind 1 project will provide roughly \$38 million of mitigation to fishermen. The assessment of Major impacts is based on the premise that zero mitigation will be offered to fishermen. The amount of funding VW has allocated for migration far exceeds estimates for possible losses, based on the best available data.	Thank you for your comment.
12066-016	Studies and surveys that have evaluated the impacts of offshore wind facilities on tourism found that established offshore wind facilities in Europe did not result in decreased tourist numbers, tourist experience, or tourist revenue and that Block Island's WTGs provide excellent sites for fishing and shell fishing (Smythe et al. 2018).	The 2018 study and literature review referred to in this comment (Smythe et al. 2018) provided material summarized in Section 3.10.1 of the SEIS. Therefore, no change to the FEIS is warranted.
12066-017	A survey-based study found that for prospective offshore wind facilities (based on visual simulations) about 68 percent of respondents indicated that the visibility of turbines would neither improve nor worsen their experience	The comment refers to one finding from the study "Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism" (Parsons et al. 2018); other results of the study are summarized in Section 3.10.1 of the SEIS. Overall the study supports the SEIS finding that while certain seaside locations on the southern coast of Nantucket and Martha's Vineyard could experience a small reduction in recreational and tourism activity, the visible presence of WTGs from limited shore locations would be unlikely to impact shore-based recreation and tourism in the geographic analysis area as a whole. Therefore, no change to the FEIS is warranted.
12066-018	Reported trip loss (respondents who stated that they would visit a different beach without offshore wind) averaged 8 percent when wind projects were 12.5 miles offshore.	The comment refers to one finding from the study "Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism" (Parsons et al. 2018); other results of the study are summarized in Section 3.10.1 of the SEIS. Overall the study supports the SEIS finding that while certain seaside locations on the southern coast of Nantucket and Martha's Vineyard could experience a small reduction in recreational and tourism activity, the visible presence of WTGs from limited shore locations would be unlikely to impact shore-based recreation and tourism in the geographic analysis area as a whole. Therefore, no change to the FEIS is warranted.
12075-001	We should promote wind energy projects. You don't need evacuation sirens with windmills!	Thank you for your comment.
12081-001	I understand that shifting away from fossil fuels is crucial to protecting [the ocean]. Warming temperatures are causing local species to migrate north, ocean acidification is destroying ecosystems, and increasing storm severity and sea-level rise are threatening our coastal communities.	Thank you for your comment.

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12081-002	I browsed a number of the comments and it is clear that there are many misconceptions around the industry and a disconnect between fossil fuels and the impacts on the ocean. I would strongly encourage Vinyard Wind to initiate a public engagement campaign to help increase understanding around the risks v.s. benefits of offshore wind to New Englanders. In particular, work with someone who specializes in communicating science with the public/public engagement and who has training in communicating with the public on climate change.	Thank you for your comment.
12083-001	My main concern how long will it take for the energy provided to offset the total (unsub-devised) cost? Is it within the lifespan of the equipment? If not, then no.	This EIS provides an evaluation of both beneficial and adverse effects of the Proposed Action and the alternatives to the Proposed Action. BOEM is confident that the socioeconomic information included in the FEIS is adequate to support the evaluation of the merits and drawbacks of each alternative with respect to the potential impacts the project could have. Also, because qualitative considerations may not be adequately captured using a monetary cost-benefit analysis, BOEM does not believe that a monetary cost-benefit analysis would best allow us to assess important qualitative considerations relevant to the choice among alternatives
12085-001	Most electricity production in this country is done using fossil fuels, and this is by far the largest source of carbon and other pollutants causing climate change, which leads to pandemics and extreme weather, and loss of life, property, and TAX DOLLARS. In all seriousness, we are in dire need of as much clean energy technology and as fast a transition off of fossil fuels as possible!!!!	Thank you for your comment.
12100-001	This is a huge opportunity and significant step in creating the renewable energy our nation needs.	Thank you for your comment.
12110-001	In short I believe it extremely important to start further diversifying are energy sources as fossil fuels become more scarce.	Thank you for your comment.
12145-001	Let not forget covid19 has damaged our lifestyles and our work opportunities. We can turn back from this disaster with the approval of this project.	Section 3.6.2 of the FEIS and Tables 3.6-3, 3.6-4 and 3.6-5 provide estimated job growth, tax revenues, and economic input from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment in offshore wind resulting from growth of a wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12148-001	The world cannot wait any longer. Time is of the essence in keeping warming to 1.5 set C.	Thank you for your comment.

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12171-001	Offshore wind power is the backbone of a carbon free energy system for New England. It is the most basic step in mitigating climate change for our area. Please approve the Vineyard Wind project.	Thank you for your comment.
12173-001	I am AGAINST a wind farm being erected in the pristine waters off the coast of Martha's Vineyard. These huge wind turbines will obstruct commercial fishing grounds, disturb the natural environment (including migratory patterns of wildlife in the sea and air), there will be malfunctioning turbines which can leak oil, they will obstruct vessel and air navigation, threaten endangered species such as the right whale... Let's leave this piece of the earth to remain natural and please keep it wild and untouched.	The SEIS discusses likely impacts from offshore wind development on access to commercial fishing grounds (Section 3.11), migration of birds and fish (Section A.8.3 and 3.4), accidental releases throughout IPF tables (e.g. Table 3.4-1), vessel and air navigation (Section 3.13 and 3.14), and marine mammals (Section 3.5). Therefore, no change to the FEIS is warranted.
12173-002	It will be as if living with a city in the ocean with light and noise pollution,	Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations and night sky impacts. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation lighting. Vineyard Wind would also use white or light grey color as described in Appendix D to reduce visibility against the horizon. New visual simulations provide views of the Vineyard Wind 1 14 MW WTGs as well as simulations for Vineyard Wind 1 wind turbines combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment . Section 3.10.1 and 3.10.2 of the SEIS addressed noise from construction and operation of offshore wind; those findings are also included in the FEIS.
12173-003	there will be constant traffic to maintain the turbines and the workers/maintenance vessels will congest our harbors, land and ferry systems.	Sections 3.11.1 through 3.11.5 of the FEIS discuss impacts to vessel traffic and port utilization. On average there will be approximately one vessel trip per day during the Project's operational period related to inspection and maintenance activities (COP Volume I; Epsilon 2020a).
12173-004	We do not need to encourage more people here by offering work opportunities, it's already overcrowded!	Section 3.6.2 of the FEIS finds that the workforce required for the Vineyard Wind 1 Project would have negligible impacts on the population and housing supply within the geographic analysis area. This information was also provided in the DEIS.
12173-005	This is an extremely costly project that will need constant maintenance. It will be unlikely to save much on energy bills and very likely to disrupt the environment, a huge cost to us and future generations!	Thank you for your comment.
12178-001	I believe that it is important that we always recall this truth in our decision-making: Healthy Planet = Healthy People = Healthy Economy. This principle can and should guide us.	Thank you for your comment.
12181-001	We understand and are enthusiastic about the positive economic, environmental, and other advantages that offshore wind brings to this country. We know that offshore wind is a proven industry elsewhere in the world that has created thousands of jobs and revitalized many communities;	Thank you for your comment.

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	we can achieve those advantages here, too. Also, to be on the cutting edge of this new industry is an exciting opportunity for this region.	
12183-001	To avoid repetition, I adopt the comments that my firm, Hinckley Allen, made in its letter dated July 24, 2020 (BOEM-2020-0005-12181). I will add that offshore wind should be seen as the new frontier for this country to use as an additional block for a strong economy. Diversity of energy sources is critically important for the future of our country, particularly economically. Equally important is the creation of new jobs and billions in investment here. Few industries can contribute these important drivers for a secure, robust economy.	Thank you for your comment.
12185-001	We really need alternative, clean energy and now is the time.	Thank you for your comment.
12186-001	Combatting climate change is the mission of our generation, and it must be addressed urgently! Offshore Wind is the most scalable and inexpensive carbon free power generation technology there is on the planet. The United States has fallen behind many countries in Europe and the Far East including China in deploying this technology. We have been talking about this technology in this country for the better part of two decades without much to show for it. The United States can be the largest market for Offshore Wind in the world in just a few years. We will enjoy the benefits that market position creates both from an environmental standpoint as well as economic standpoint with hundreds of thousands of jobs being created by these projects.	Thank you for your comment.
12196-001	The impression I get from reading the material, is that 1 Nautical mile between turbines is more than enough.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12199-001	As a Massachusetts resident near the coast, I am incredibly supportive of the Vineyard Wind project, as well as other offshore wind projects in the area. I have seen first hand the erosion of the coast, the impact on the ecology and our communities that climate change and our reliance on carbon has had. We need to invest in clean energy and we need to invest in it now. The US has fallen behind other developed countries in our push to deploy offshore wind. The impact on our economy, long term sustainability and job creations has already been shown for these projects. Let us be a leader domestically, and ultimately internationally, in pursuing clean energy and job creation through offshore wind.	Thank you for your comment.
12202-001	Inlet Seafood is the largest catcher and packer of seafood in NYS. We want to show our support for the offshore wind industry in the U.S. We realize that there will be an enormous impact to our community through jobs in the offshore wind industry. Offshore wind has the potential to drive economic recovery and stimulate all coastal economies.	Thank you for your comment.

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12208-001	As an organization representing hundreds of businesses and organizations around the shore region we are looking forward to the great economic impact this industry brings to our region and country. Although the offshore wind industry is relatively new here in the U.S., we are aware of the potential it has to create thousands of jobs and bring billions of dollars to our local economies. It is our opinion that, during these trying economic times, offshore wind has the potential to help drive an economic recovery in our state, particularly in coastal communities.	Thank you for your comment.
12212-001	WindServe Marine supports Alternative D2, which is the proposal for 1x1 nautical mile spacing in a uniform east-west grid layout. This reflects the joint proposal of all wind farm developers holding a lease in the area south of Martha’s Vineyard, and it is the proposal that the Coast Guard determined would facilitate navigation safety and search-and-rescue in its MARIPARS report.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12212-002	Conversely, Alternative F, which would impose 4-mile wide vessel transit lanes within wind farms, is not supported by the industry nor the U.S. Coast Guard, which determined such lanes could actually reduce navigation safety and increase danger and risk to mariners.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12220-001	On December 19, 2018, APCC issued a public statement endorsing the Vineyard Wind project, becoming the first nonprofit environmental organization in the nation to do so. The decision to support the project followed comprehensive review by APCC of the project’s multiple state regulatory filings through the Massachusetts Environmental Policy Act (MEPA) process, as well as the release of the Bureau of Ocean Energy Management’s Draft Environmental Impact Statement for the project. The additional analysis provided by BOEM in the SEIS is thorough and well thought-out, including a detailed study of the potential impacts of a “reasonably foreseeable” scenario for offshore wind development along the east coast within the next decade, based on an assumption of future offshore wind energy generation of more than 25 times the size of the Vineyard Wind 1 project. APCC believes the information provided in the SEIS supports development of the offshore wind industry, including the Vineyard Wind project, and the much-needed clean renewable energy it will provide.	Thank you for your comment.
12220-002	We also believe the analysis points to the proposed 1 x 1 nautical mile (NM) turbine layout <u>without transit lanes</u> (Alternative D2) as the alternative for the Vineyard Wind project having the least impact and most benefits. APCC is very concerned that inclusion of six four-mile-wide transit lanes through the greater offshore wind lease area, as proposed by the Responsible Offshore Development Alliance, would significantly reduce overall wind energy	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	production capacity and result in the failure of regional states to meet their clean energy production goals. After a very long and careful analysis by BOEM, the U.S. Coast Guard and others, the 1 x 1 NM layout without transit lanes stands out as the reasonable compromise. It allows for coexistence between the new offshore wind industry and existing marine uses, such as the commercial fishing industry, while protecting the marine environment and setting a path forward for clean energy production.	
12220-003	APCC recognizes that any large-scale project will inevitably have some impacts, and Vineyard Wind is no exception. However, the SEIS makes clear that for nearly every resource of concern reviewed, such as fishing, endangered species, habitats, coastlines and cultural resources, climate change is identified as the major threat producing some of the greatest impacts. In the Northeast at a minimum, climate change impacts from warming waters and ocean acidification will do more to disrupt the fishing industry than the development of offshore wind. Geographical shifts in fish and lobster populations to cooler waters are already documented. The SEIS concludes that, if not addressed, climate change will have significant adverse impacts on fisheries, marine mammals and avian species and contribute or lead to “permanent changes of unknown intensity” to these resources. APCC agrees with BOEM’s analysis.	Thank you for your comment.
12220-004	Offshore wind is a high capacity, domestic renewable energy resource that will improve energy security and reliability by reducing reliance on fossil fuels and supporting the transition to a renewable energy grid. The rapid deployment of offshore wind is essential to achieve state and regional greenhouse gas emission reduction targets and limit the worst impacts of climate change. Vineyard Wind will launch the offshore wind industry in the U.S. and provide clean, renewable electricity to 400,000 homes and businesses in Massachusetts.	Thank you for your comment.
12220-005	APCC therefore urges BOEM to move forward with no further delays in the Vineyard Wind EIS process, with Alternative D2 and the Covell’s Beach landing as the selected alternatives.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Vineyard Wind has indicated that New Hampshire Avenue landfall location is no longer a consideration as they have received all the necessary state and local permits for the Covell's Beach landfall site.
12221-001	Further, it is less often that an industry so locally focused develops during a time when the coastal communities are struggling to deal with aging infrastructure and increased climatic pressures.	Sections 3.6.1 and 3.6.2 of the FEIS address potential beneficial impacts of the Vineyard Wind 1 Project and other offshore wind development in providing investment in port infrastructure, and in relation to potential adverse impacts of climate change on coastal communities.
12222-001	Offshore wind, supported by developments such as the Vineyard Wind 1 project, has potential to become a means for providing a secure supply of	Thank you for your comment.

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	affordable, decarbonized energy to the US economy as the world increasingly relies on a broader portfolio of energy sources over the coming decades.	
12222-003	In the 2019 edition of DNV GL’s Energy Transition Outlook (https://eto.dnvgl.com/2019/power-supply-use/), an independent forecast of energy demand and supply to mid-century, we forecast that 30 per cent of all global electricity production will come from wind energy by 2050, with 12% from offshore wind and 18% from onshore wind. Today, offshore wind supplies 0.2% of global electricity production, and onshore wind supplies 4.1%. We forecast offshore wind to reach about 40% of total wind production by mid-century. This points to wind becoming a ‘new conventional’ rather than a challenger technology.	Thank you for your comment.
12222-004	According to the American Wind Energy Association (AWEA), the offshore wind industry has the potential investment of \$57 billion in the US by 2030 if states continue to meet their renewable energy procurement goals. However, history has shown that capital project investments will go where they are welcomed. Providing greater certainty that offshore wind can and will be permitted in the US will enhance the attractiveness of the US market, encouraging the industry to continue their investments in the US economy and a sustainable energy future.	Thank you for your comment.
12225-001	I am in favor of moving forward with all wind projects. It is high time we faced the climate crisis head on with viable solutions.	Thank you for your comment.
12228-001	This should be approved with little hesitation. We need to be investing in renewable energy and the Martha’s Vineyard Wind farm is the first step towards our renewable future.	Thank you for your comment.
12229-001	The Business Network for Offshore Wind strongly encourages the Bureau of Ocean Energy Management to reject Alternative F and adopt Alternative D2. By approving the full configuration of the Vineyard Wind project in adherence to the One Federal Decision Permitting Timeline, the Department of the Interior will send a clear message to the OSW market and investors that the U.S. is open for business and intends to be a central player in a global energy industry that will expand to \$1 trillion by 2040....The Network and its members strongly support Vineyard Wind’s proposal and its commitment to installing the project’s turbines in a grid layout with 1 nautical mile (“NM”) spacing between turbines in the east-to-west direction, and 1 NM between turbines in the north-to-south direction.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12229-002	Vineyard Wind will be the first utility-scale OSW project in U.S. waters, and the Network supports BOEM’s deliberate consideration and commitment to environmental protection as it approves this vanguard offshore energy installation.	Thank you for your comment.

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12229-003	Globally, the first half of 2020 saw a record \$35 billion in OSW final investment decisions, more than offsetting investment declines observed in global investment in solar, onshore wind, and biomass projects during the same period. U.S....It is clear that, globally and in the United States, OSW is an energy technology that is eminently capable of shrugging off the challenges imposed by COVID. This solidifies OSW's role as an infrastructure sector that is well-positioned to kickstart America's economic recovery.	Thank you for your comment.
12229-004	As a result, approving the Vineyard Wind project is consistent with the spirit of a recently issued Executive Order. On June 4, 2020, the White House issued an Executive Order (EO) on Accelerating the Nation's Economic Recovery from the COVID-19 Emergency by Expediting Infrastructure Investments and Other Activities. The EO notes that "regulations and bureaucratic practices have hindered American infrastructure investments, kept America's building trades workers from working, and prevented our citizens from developing and enjoying the benefits of world-class infrastructure." The Network could not agree more: responsibly developed U.S. OSW projects are world-class infrastructure projects, and they will serve as unparalleled engines of both immediate-term economic recovery and longer-term sustainable economic development.	Thank you for your comment.
12229-005	The Department of the Interior's approval of Vineyard Wind's Construction and Operations Plan (COP) will unleash a wave of private sector investment. More importantly, this approval will begin a domino effect that will ultimately put tens of thousands of hard-working Americans from across the economic spectrum and from all walks of life – including the building trades, vessel captains and deckhands, accountants, dockworkers, economists, welders, divers, aircraft pilots, atmospheric and marine scientists, truck drivers, attorneys, crane operators, project managers, mechanics, and every imaginable engineering discipline, among many other occupations – back to work.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
12229-006	Vineyard Wind will also significantly contribute to energy security and improve local air quality in New England.	The FEIS, like the SEIS, addresses the positive climate impacts of the proposed Project and future offshore wind projects in Section A.8.1, Air Quality.
12229-007	Section 1 ("Purpose") of the June 4, 2020 EO makes clear that "[u]nnecessary regulatory delays will deny our citizens opportunities for jobs and economic security, keeping millions of Americans out of work and hindering our economic recovery from the [COVID-19] national emergency." This is precisely why the Vineyard Wind project must be approved in accordance with Vineyard Wind's One Federal Decision	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP. BOEM has worked as expeditiously as possible to address the abundant and varied comments received on the SEIS.

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	Permitting Timeline (published February 7, 2020). Adherence to this established permitting timeline will enhance regulatory certainty and increase investor confidence in the U.S. OSW industry.	
12229-008	Furthermore, Section 5(b) of the EO specifically directs the Secretary of the Interior to use all authorities (emergency and otherwise) to “expedite work on, and completion of, all authorized and appropriated infrastructure, energy, environmental, and natural resources projects on Federal lands that are within the authority of each of the Secretaries to perform or to advance.” Vineyard Wind specifically qualifies under this provision of the EO, because, pursuant to the Outer Continental Shelf Lands Act, all submerged lands lying seaward of state coastal waters (i.e. the land lying between 3 NMs offshore and the exclusive economic zone boundary 200 NMs offshore) are considered Federal lands. Furthermore, this analysis applies to all 22 GWs of proposed Atlantic OSW capacity contemplated under the cumulative impacts analysis of the SEIS. This is because the OSW lease areas from which the 22 GWs will be derived lie upon federally regulated portions of the Outer Continental Shelf.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP. BOEM has worked as expeditiously as possible to address the abundant and varied comments received on the SEIS.
12229-009	The Network recommends that, consistent with the text and spirit of the June 4, 2020 EO, the Secretary of the Interior should utilize all authorities to advance and complete the Vineyard Wind federal permitting process in strict compliance with the One Federal Decision Permitting Timeline published February 7, 2020. Careful adherence to the February 7, 2020 One Federal Decision permitting timeline is of the highest importance. The approval of Vineyard Wind's 1x1 NM configuration, which is a reasonable compromise solution, will send a clear message that the U.S. is open for business.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. In addition, the timelines for required environmental permits and consultations have been updated in Table 1.3-1 of Appendix A of the FEIS.
12229-010	By contrast, the failure to issue a Record of Decision (“ROD”) on December 18, 2020 approving Vineyard Wind – or, alternatively, issuing a ROD that requires a dramatic reconfiguration of the Vineyard Wind facility at this late stage – would represent a monumental lost opportunity for robust creation of American jobs.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
12229-011	In terms of market signals, the approval of a severely reconfigured Vineyard Wind project – i.e. requiring a 2 NM or 4 NM wide transit lane – would be tantamount to no approval at all. This will have drastic broader negative economic ramifications and would serve to further deepen the staggering COVID-19-related recession that is now being experienced by Americans across the width and breadth of the United States. Such a decision would hamper American economic recovery and would exacerbate the exact regulatory uncertainty and unnecessary delays that the June 4, 2020 EO seeks to eliminate.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.

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12229-012	The SEIS considers approximately 22 GWs of U.S. Atlantic OSW capacity to be reasonably foreseeable. Such a pipeline of projects would generally be considered sufficient to trigger large manufacturing investments, and clear market signals that the U.S. OSW pipeline is advancing will lead to building of American vessels of all types.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
12229-013	Given that European and Asian OSW markets continue to surge, sophisticated multinational Tier 1 suppliers may elect to focus their attention on those markets, rather than the U.S. OSW market. The failure to issue a ROD approving Vineyard Wind may well lead investors to conclude that it is unlikely that U.S. OSW projects can complete the permitting process. Seeing this continuing uncertainty, Tier 1 suppliers will elect to continue making manufacturing investments in more certain markets such as Europe, or to expand Asian manufacturing investments, rather than investing in U.S. OSW manufacturing facilities. By approving Vineyard Wind, the Department of the Interior can send a clear message to the international OSW market and investors that the U.S. is open for business.	Chapter 1 of the FEIS has been updated to specify that approval of the first commercial-scale offshore wind facility in the US could lead to increased developer confidence and a mature supply stream, which would translate to additional economic and employment opportunities in the region.
12229-014	Finally, Section 6 of the June 4, 2020 EO concerns the National Environmental Policy Act (“NEPA”), which governs the federal permitting process for Vineyard Wind, including the subject SEIS. This Section of the EO notes that the Council on Environmental Quality (“CEQ”) has provided federal agencies with flexibility and alternative arrangements for complying with NEPA in emergency situations, like the COVID-19 pandemic and the associated economic recession. CEQ “has appropriately provided alternative arrangements in a wide variety of pressing emergency situations[,] including threats to energy security . . . and employment and employment and economic prosperity.” The Network, and the U.S. OSW industry as whole, strongly encourage the Department of the Interior to work with CEQ to ensure that the Vineyard Wind federal permitting process strictly complies with the One Federal Decision Permitting Timeline published on February 7, 2020. This approval will be a critical step in enabling Vineyard Wind to deliver the benefits that it can provide in terms of triggering investment and putting Americans back to work.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP. BOEM has worked as expeditiously as possible to address the abundant and varied comments received on the SEIS.
12229-015	The SEIS covers virtually the entire U.S. East Coast, and appears intended to serve as a template for the evaluation of potential impacts associated with future OSW projects. While it may be appropriate for BOEM to acknowledge the existence of future OSW projects, the Network and its members caution	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.

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	against according the same weight to the potential impacts of those projects relative to OSW projects undergoing active federal review. Potential projects, though real, remain unformed, and it is reasonable to infer that those potential projects will adjust to lessons learned from the construction of the first utility-scale OSW projects in U.S. waters.	
12229-016	Future OSW projects are likely to use turbines with larger nameplate capacities than those considered in the SEIS, which reducing impacts by decreasing the number of offshore structures. Additionally, there may be adaptive management measures gleaned from the monitoring of constructed OSW projects that could enable reduce their long-term impacts. In these ways, near-term OSW development is anticipated to evolve to support a lower incremental impact when compared to the Proposed Activity.	As noted in Section 1.7.1.1 of the SEIS, it is difficult to predict turbine capacity and spacing or other future engineering for planned but currently unscheduled offshore wind awards. Therefore, BOEM used reasonably foreseeable assumptions for the analysis and no change to the FEIS is warranted.
12229-017	The Network is in no way recommending that the cumulative impacts study be re-performed, in fact we adamantly urge against that. We are just identifying the risks and uncertainties associated with an analysis of this scope and breadth.	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted.
12229-018	Regarding the prospective template that the SEIS may provide for future evaluation, the Network recognizes that the vast geographic extent of the cumulative analysis presents a substantial workload for federal agencies, developers, and stakeholders in developing and reviewing large volumes of material. This undertaking is above and beyond the substantial diligence already inherent in BOEM's standard OSW permitting and approvals processes. This added workload could strain existing resources and adversely impact OSW project federal permitting timelines, while providing only a marginal improvement in the identification of potential impacts as compared to those standard processes.	Thank you for your comment.
12229-019	The SEIS states in Table 3.2-1: "In submerged habitats, warming is altering ecological relationships and the distributions of ecosystem engineer species, likely causing permanent changes of unknown intensity gradually over the next 3 years." On page 3-98, however, the SEIS reads: "Commercial fisheries and for-hire recreational fishing may be affected by climate change". These statements are somewhat contradictory.	Section 3.10 of the FEIS has been updated to clarify that climate change is currently impacting fisheries.

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12229-020	It is the Network’s position that it is beyond question that climate change will have impacts on fishing. This conclusion is supported by the following: • Food and Agriculture Organization (FAO) of the United Nations, Technical Paper 672, Impacts of climate change on fisheries and aquaculture, 2018 (the “FAO study”), states on page 1: “Aquatic systems that sustain fisheries and aquaculture are undergoing significant changes as a result of global warming and projections indicate that these changes will be accentuated in the future.” • On page 95, the FAO study goes on to examine historical trends within US waters in the Northwest Atlantic from 1968 to 2007. “There were clear poleward shifts consistent with warming in many fish stocks.” This statement clearly shows the historical impacts of climate change in an area that includes the areas under study in the SEIS. • The FAO study continues with regard to the Atlantic coast, “...projected warming until 2060 is expected to modify the habitats in terms of suitable water temperatures of...85 percent of [the fishery target species] in the United States of America” (pg. 95). This statement shows the FAO’s projected future impacts of climate change. The National Oceanic and Atmospheric Administration (“NOAA”) issued Technical Memorandum NMFS-F/SPO-89, Climate Impacts on U.S. Living Marine Resources: National Marine Fisheries Service Concerns, Activities and Needs, in August of 2008 (the “NOAA study”). Page 2 of the introduction section of the NOAA study states: “Depending upon the duration and magnitude of the climate change, species may persevere through periods of adverse conditions, temporarily shift their distributions or behaviors, or modify their ranges, behaviors and movements over the long term. At the extreme, species may be extirpated from whole regions and potentially become extinct”. The position expressed in the NOAA study is certainly consistent with FAO’s conclusions, and is also consistent with Table 3.2-1 of the SEIS. NOAA is clear that species extinction is the extreme case, but nonetheless it is possible, due to climate change.	Thank you for your comment.
12229-021	The NOAA study covered the key climatic changes that impact marine ecosystems, including temperature change, increased ocean acidification, and loss of sea ice. The latter concern introduces less saline water from the Arctic and can drive salinity patterns and distribution as far south as Georges Bank and beyond (page 5). Each of these elements are expected to contribute to shifting behaviors, distributions, and/or ranges of key species as well as potential extinction.	Thank you for your comment.
12229-022	At this point, there is no consensus on what the precise effects of climate change will be on fisheries along the U.S. Atlantic coast and southern New England in particular. However, the United States, and the planet more	Thank you for your comment.

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	broadly, are already entering uncharted territory in terms of climatic changes...It is clear that climate change poses a very real threat and will have an impact on commercial fisheries and for-hire recreational fishing along the U.S. Atlantic coast and southern New England.	
12229-023	The SEIS states on page 3-98: “Overall, it is anticipated that there will be no impact on climate change as a result of offshore wind projects alone, though they may beneficially contribute to a broader combination of actions to reduce future impacts from climate change.” The SEIS considers approximately 22 GWs of U.S. Atlantic OSW capacity to be reasonably foreseeable. These OSW GWs will be injected into the onshore electricity systems operated by ISO New England, NYISO, and PJM. Based on the annual CO2 emissions and net generation for these three grid operators, the interconnection of 22 GWs of OSW would result in an estimated 8% reduction in carbon emissions in those regions. On a planetary scale, the total emissions reductions from these projects might be considered small, but the reduction is quite significant in terms of decarbonizing the electricity supply of the Eastern Seaboard. Relative to other renewable energy technologies, OSW is a cost-effective and viable means of delivering large quantities of clean electricity to coastal load centers. Approving the Vineyard Wind project sends the right signal: that America is open for business and ready to take a leadership role in this global clean energy industry.	Thank you for your comment.
12229-024	Examining the cumulative impacts of structures, the SEIS states in Table 3.11-1: “The cumulative impacts from the presence of structures on navigation hazards with the Proposed Action when combined with past, present, and reasonably foreseeable future activities would be major on commercial and for-hire recreational fisheries if offshore wind projects in the RI and MA Lease Areas do not all adopt a uniform 1x1 nautical mile WTG spacing with east–west/north–south orientation”. This statement from Table 3.11-1 makes clear that major cumulative impacts to fisheries are expressly conditioned upon a failure to adopt uniform 1x1 NM spacing. By contrast, because the Joint Developer Agreement Layout does adopt a uniform 1x1 NM spacing for the MA/RI WEA, the impacts will be less than major. The Joint Developer Agreement Layout is consistent with both the Draft and Final MARIPARS and BOEM’s assumptions for future OSW development of up to 22 GWs as described in Section A.4 of the Draft SEIS.	The cumulative impact rating of major impacts on commercial and for-hire fisheries is driven mostly by changes to fish distribution/availability due to ongoing climate change, reduced stock levels due to ongoing fishing mortality, and permanent impacts due to the presences of structures. The proposed action would contribute to the overall impact rating primarily through impacts from the presence of structures including navigation hazards, gear loss and damage, and space use conflicts. The statement in the comment from Table 3.10-1 refers to navigation hazards, which is one component of the individual IPFs ranging from negligible to major impacts on fisheries. See Section 3.10.2 and 3.10.2.1 of the FEIS for additional discussion.
12229-025	It is also important to recognize that the MARIPARS was specifically tailored for the unique circumstances of the MA/RI WEA. While the uniform 1x1 NM spacing may be appropriate for the MA/RI WEA, the recommendations made by the MARIPARS should be construed as applicable to the MA/RI WEA only, and not determinative with respect to	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind

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	other currently existing WEAs, or any future OSW lease areas that may be delineated. Designing an optimized layout for an OSW array requires a case-by-case consideration of site conditions and other highly localized factors. Rigidly imposing the recommendations of the MARIPARS across other presently-existing projects or WEAs, or future lease areas, would not adequately address the need for an area-specific analysis.	development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted.
12229-026	Based on the foregoing, the 2 NM or 4 NM wide transit lanes considered by Alternative F would have impacts to the aforementioned species due to increases in the length of the Vineyard Wind project's export and inter-array cables.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
12229-027	Climate change must be a principal consideration in the decision to approve Vineyard Wind. As related previously, climate change presents an existential threat to commercial fishing interests, not only in southern New England, but along the entire Eastern Seaboard. The deployment of 22 GWs of U.S. Atlantic OSW capacity that the SEIS assumes to be reasonably foreseeable will provide a significant positive cumulative impact by providing significant climate mitigation benefits.	Thank you for your comment.
12229-028	Given the uniform 1x1 NM Joint Developer Agreement Layout, USCG has made a final determination that transit lanes are unnecessary. In fact, the inclusion of transit lanes will directly constrain the U.S. OSW industry's ability to mitigate climate change, the end result being even greater negative impacts upon fisheries in southern New England and along the Eastern Seaboard.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
12229-029	The SEIS considers approximately 22 GWs of U.S. Atlantic OSW capacity as reasonably foreseeable. A recent study by the American Wind Energy Association ("AWEA") states U.S. OSW will support up to 83,000 jobs and \$25 billion per year in economic output by 2030, while also delivering investment in critical coastal infrastructure. This pipeline of projects is considered sufficient to trigger large manufacturing investments; however, reducing the area by transit lanes will reduce the overall economic benefit that will be realized.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating with regard to employment and economics and is a change from the minor beneficial impact given in the SEIS. In addition, the FEIS concludes in Section 3.6.5 that Alternative F would have "incrementally smaller beneficial impacts due to potentially lower levels of job creation and economic investment in offshore wind."
12229-030	UMass Dartmouth's Public Policy Center conducted a study examining the contribution to employment and economic development to be made by the 800-MW Vineyard Wind project. The study considered impacts to both the economy of the Commonwealth, and the regional economy of southeastern Massachusetts ("SEMA"), and found: • The Vineyard Wind project will support an estimated 3,180 direct FTE job years in Massachusetts across all phases over the project period under the Base scenario and 3,658 direct FTE job years in Massachusetts in the High	The text in Section 3.6.2 of the FEIS has been updated to more clearly explain the calculation leading to the employment projection, which is in job-years rather than jobs. The cited study estimates approximately 1,100 FTE job years during construction and installation, and approximately 80 FTEs lasting 25 years during operations and maintenance. Multiplying the 80 FTEs over 25 years, the study concludes that operations would result in 2,000 FTE job years; therefore, direct employment would total approximately 3,100 FTE job years. The UMASS Dartmouth study's projections for job creation, tax

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	scenario. • The 800 MW project will produce nearly \$79 million in direct value added impacts for Massachusetts and just under \$170 million in direct output. • The study estimates that the amount paid in state and local taxes as a result of the development, construction, and the first year of O&M of the 800 MW Vineyard Wind project is \$14.7 million in the Base scenario and \$17.0 million in the High scenario.	revenues, and economic output are given in FEIS Tables 3.6-3, 3.6-4 and 3.6-5 (Appendix F, cited in Section 3.6.2) and contribute to the FEIS conclusion that the Proposed Action would result in a moderate beneficial impact within the geographic analysis area.
12229-031	A reduction in the WEA jeopardizes the project's economic potential and undermines public sector investment. BOEM has entered long-term lease contracts with developers and received lease payments in return for material use of the defined areas in the ocean. Reducing the WEA in a substantial manner results in unstable public policy and creates market uncertainty. A substantial material change in the WEA could lead to re-evaluation of the private sector infrastructure investments. This could ultimately affect the United States or any State's (with an offshore wind policy commitment) ability to secure the supply chain and facilities required to create jobs and develop the offshore wind industry.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
12229-032	The Business Network for Offshore Wind and its members strongly encourage BOEM to reject Alternative F and adopt Alternative D2 in the Final SEIS. This approval should occur in strict compliance with the One Federal Decision Permitting Timeline published February 7, 2020.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12229-033	Offshore wind is poised to make an immediate positive impact on America's economic recovery from the COVID-19 pandemic. The approval of Vineyard Wind is the first step to asserting America's position in this \$1 trillion global energy industry, which is a one-in-a-generation economic opportunity in a cutting-edge industry. This is directly consistent with the Administration's focus on infrastructure and the spirit of the June 2020 Executive Order encouraging the development of world-class infrastructure as a means of COVID-19 economic recovery.	Thank you for your comment.
12229-034	By approving Alternative D2, BOEM will solidify investor confidence and drive the U.S. offshore wind industry forward into reality... Make no mistake - the failure to issue a ROD approving Vineyard Wind will likely have catastrophically negative consequences, and hundreds of millions of dollars in high-tech manufacturing investments will be made in markets outside the U.S. This is an entirely avoidable outcome.	Thank you for your comment.
12229-035	BOEM should not require additional transit lanes. The United States Coast Guard has determined that, from a navigational perspective, the transit lanes are not necessary given the agreed-upon 1 x 1 nautical mile Joint Developer Agreement Layout.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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12229-036	Economic development in southeastern New England associated with the Vineyard Wind would also be constrained by the inclusion of transit lanes.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
12231-001	The Earth's temperatures and CO2 levels are rising steadily due to humans and we need to act quickly to mitigate these threats.	Thank you for your comment.
12231-002	I have been involved in the permitting process since Vineyard Wind first came to Cape Cod. The cable for Vineyard Wind 1 will cross about nine miles of our town. The Vineyard Wind team has worked closely with the town to develop a host agreement. Their team has been thorough, meticulous and accommodating throughout the process. This project will be good for our town and deliver reliable energy.	Thank you for your comment.
12231-003	The design of the wind farm itself, 14 miles south of Martha's Vineyard, has been revised many times and it is the product of extensive data collection and collaboration. To ask the developers now to add a 3-4 mile transit corridor would be onerous and unnecessary.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12231-004	The fishing fleet in New England is a vital part of our Blue Economy and we should listen to their concerns. In the present design, the wind towers will have small footprints and they will be a mile apart in a grid, allowing straight transit routes in many directions and room enough to trawl between them. This project should go forward. The company has created a fishing liaison...	Thank you for your comment.
12231-005	...they [Vineyard Wind] have an extensive agreement to protect the endangered North Atlantic right whales.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
12239-002	We remained concerned about the proposal for a 4 nautical mile wide transit lane through the wind energy areas (WEA). If adopted and extended to other projects, Orsted alone expects a loss of up to 51 income-generating wind turbine positions from the South Fork, Revolution, and Sunrise Wind projects and other developers would see similar capacity losses. These losses are in addition to those realized by a shift to 1nm x 1nw spacing, which significantly reduced the number of available turbine positions in the WEA by 30%. Based on the USCG's report, it is our understanding that the uniform spacing is more than sufficient for safe navigation by creating over 200 transit lanes throughout the WEA and represents a fair compromise between the offshore wind industry and other ocean users.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12241-001	We need to make sure every effort for clean energy is done with the goal of maximum chance for success...I strongly oppose unnecessary travel lanes in	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	the permitting process for Vineyard Wind. Rather than ensuring success for this project, the reduced area available for offshore wind turbines will sabotage the megawatts expected to be gained.	
12242-001	The US offshore wind sector represents a unique opportunity to create new jobs, generate clean energy and help states reach their renewable energy targets. With current unemployment rates elevated due to the COVID pandemic, offshore wind growth presents a critical opportunity for our country. According to the American Wind Energy Association (AWEA), the offshore wind industry will invest roughly \$57 billion in the US by 2030 if states continue to meet their procurement goals. Communities in southern New England have tremendous potential to benefit from clean energy and economic development opportunities from offshore wind.	Thank you for your comment.
12242-002	To maximize these opportunities, the business sector needs confidence that demand in the US offshore wind market is real, and it remains important that projects are permitted and developed in a timely and reasonable manner...There is a great opportunity for the US to generate clean energy, create jobs and address climate change challenges. Adding extra transit lane requirements and continued stays could put into question the viability of these projects.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12243-001	The US offshore wind industry has for over a decade been working to become a viable sector of the US economy. Many companies, suppliers, union works and local manufacturers have been waiting patiently for this industry to arrive in the US. Ambitious plans exist to revive abandoned ports and upgrade local infrastructure with the benefit of providing clean energy. In addition, skills and knowledge are being transferred to the U.S. workforce with the expectation that this industry will become a reality. These workers are not looking to develop these offshore wind skills for enjoyment, but to apply them in the field of work. Please consider what is at stake if Vineyard Wind's project doesn't receive timely approval of it's permit under the One Federal Decision Permitting Timeline. Much investment will halt the momentum that has developed through the years and leave the country behind the rest of the globe in this critical energy sector.	Thank you for your comment.
12244-001	As a college student of color in Massachusetts, I am in full support of the Vineyard Wind project because of the increase in job opportunities that will occur in the area. The job market for recent college graduates is incredibly uncertain, so projects that aim to create jobs, especially ones that benefit the environment, are essential.	Section 3.6.2 of the FEIS and Tables 3.6-3, 3.6-4 and 3.6-5 provide estimated job growth, tax revenues, and economic input from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment in offshore wind resulting from growth of a wind energy industry along the

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		Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12244-002	In addition to job creation, the environmental benefits of this project will have positive effects on the local community. Renewable energy is the best possible avenue to ensure that public health is a priority and that all residents have access to clean air. The negative effects of climate change disproportionately fall on low income and communities of color. No one deserves to be at a disadvantage based on their ethnicity or location and Vineyard Wind's project can help to mitigate some of these issues.	Thank you for your comment.
12246-001	I urge you to move the permitting process forward and unlock the economic and jobs potential of the US offshore wind industry. Continue the wind industries' efforts to replace our energy needs with alternative forms that will not make climate changes worse.	Thank you for your comment.
12251-001	General Comment: Given that this SEIS is to be a blueprint for future applications of offshore wind turbines, BOEM should use this SEIS to establish some firm and defined criteria for this and future applications such as: What constitutes a minor vs material change to project parameters submitted in the initial EIS Project Design Envelope should be defined.	Thank you for your comment.
12251-002	Visual impact criteria based on studies using outdated small turbine technology should not be applied to projects with new state of the art super-sized turbines. A defined criteria for minimum coastal setbacks and low impact lighting system requirements should be established based on the land use along the affected coastline and the height of the turbine. This is how virtually every local government in the country regulates the height of structures in their jurisdiction.	BOEM is in the process of developing guidelines and minimum standards for visual impact assessment. The analysis in Section 3.9 of the FEIS has been revised to include evaluation of simulations of the 14 MW WTGs provided by Vineyard Wind (available for viewing at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment). BOEM has prepared a Visual and Seascape/Landscape Impact Memorandum to further discuss visual impacts of the proposed Project. Mitigation measures that have been updated and evaluated in the FEIS are described in Appendix D. Additional monitoring and mitigation, if required, will be developed in coordination with applicable Federal, State, and local resource agencies and/or other stakeholders.
12251-003	Table ES-1 and throughout: The SEIS uses a 14MW turbine as the maximum considered under the proposed PDE. The turbine is shown as having a hub height of 473' and a blade tip height of 837' above MLLW. However, the GE 12 MW turbine has a hub height of 493' and a blade tip height of 853' (these numbers are also referenced in Tables included in Appendix A). Therefore the PDE should be based on the taller 12 MW turbines.	Turbine sizes vary by manufacturers and Vineyard Wind has provided as part of their COP the dimensions of the 14 MW WTG.
12251-004	Section 2.2.1 This section includes the following: “ <i>minor changes to the PDE to allow for the possibility of using WTGs of a higher capacity</i> ”. The increased size from the initially proposed 8 MW turbine to the 14MW turbines is 20%. BOEM should not consider this a “minor” change. What would BOEM consider a major change? BOEM should formally establish	Vineyard Wind's initial submittal of their COP included a PDE of 8-10 MW WTGs, and the latest version of the COP has increased the upper limit to be 14 MW as discussed and analyzed in the SEIS.

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	what modifications the applicant can make before they are required to completely re-submit a new EIS. This should not be subjective.	
12251-005	Chapter 3 and throughout: The “No Action” alternative contemplated in the SEIS is not correct. The “No Action” alternative simply assumed that if this project was not approved, another would be constructed elsewhere in the lease areas with essentially the same impacts as the project being considered. The lease areas were never a guarantee that a project of any specific capacity could be built. In fact the EIS for the Maryland lease area only considered the impact of site investigations and related survey work. The “No Action” alternative should assume that nothing is built and that other projects more compatible with commercial fishing, vessel navigation, recreation, tourism, and other potentially negative impacted stakeholders could be constructed elsewhere including outside the lease area in locations that would eliminate or substantially reduce the negative impacts to these stakeholders.	Thank you for your comment.
12251-006	Chapter 3 Tourism Impacts Studies (Smythe et al 2018, and Parsons& Firestone 2018) cited to show that negative tourism impacts are reduced based on specific distances of the project from shore (15 miles) were both based on 6 MW turbines (574’ blade tip height and 492’ rotor diameter). Another study that does explicitly find significant negative impacts to coastal resort property values and that the SEIS uses to support the 15 mile threshold (Lutzeyer et al 2017) was based on 5MW turbines. Turbines now under consideration are 50% taller and more than double the blade swept area of the 6 MW. These studies need to be updated to determine a new “neutral distance” using these “supersize” turbines since the visual impact will be substantially greater at the distances determined by the studies.	The analysis in Section 3.9 of the FEIS has been revised to include evaluation of simulations of the 14 MW WTGs provided by Vineyard Wind (available for viewing at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment) and BOEM has prepared a Cumulative Visual and Seascape/Landscape Impact Memorandum [might end up being a report] to further discuss visual impacts of the proposed Project.
12251-007	Section 3.10 The SEIS credits recreational fishing improvements around the turbines as justification that the project would have minor beneficial impacts on Tourism and Recreation. However, a recent report “Legal Limits on Recreational Fishing Near Offshore Wind Facilities” (2020 Webster and Porter) notes numerous instances where Federal agencies could limit public access to offshore wind farms for recreational fishing. The SEIS should at a minimum acknowledge this possibility.	The cited report indicates that little legal authority currently exists to limit access to the offshore wind development area. The report states that USCG authority to limit vessel access by establishing safety zones or restricted areas is limited to U.S. territorial waters less than 12 nautical mile from shore. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) governs fisheries management in federal waters and could authorize area closures in beyond 3 nm from shore as part of fishery management plans. Finally, access could be restricted if an offshore wind area is designated as a national marine sanctuary under the National Marine Sanctuary Program, which authorizes the Secretary of Commerce to establish such sanctuaries for marine areas of special national significance. Fishing can be permitted within these areas.

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12251-008	Section 3.10 In order to protect tourism and cultural resources, BOEM should mandate the use of ADLS technology for FAA tower lighting for any tower lights visible from the coastline.	Sections 3.10.1 and 3.10.2 of the SEIS stated that use of ADLS for offshore wind other than Vineyard Wind 1 would reduce visual impacts for the combined scenario. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation safety lighting on the wind turbines. BOEM is in the process of developing guidelines and minimum standards for other offshore wind development. Each applicant will be required to submit a COP that describes the proposed FAA lighting scheme. Therefore, no change to the FEIS is warranted.
12251-009	Section C1.14 There are no studies or reliable information regarding the potential impact of turbines larger than 6 MW on recreation and tourism or coastal property values. There are no studies or reliable information cited regarding the cumulative impact of multiple industrial scale wind farms on recreation and tourism or coastal property values. A study on the true visual impact of offshore wind turbines, particularly those of larger sizes (Offshore Wind Turbine Visibility and Visual Impact Threshold Distances, Sullivan 2017) is ignored.	Section 3.10.1 of the SEIS summarized studies that provide insight into visitor preferences related to the visual impact of offshore wind. No changes to the FEIS are warranted. The study suggested in this comment uses a survey format to explore the visibility of offshore wind development in Great Britain. The findings explore the extent to which the wind turbines are visible or a visual focus, and do not explore the effect on visitors, tourists, or recreation. The study finds that for the smaller turbines viewed in the survey, "At a distance of approximately 16 km (10 mi)...the observed wind facilities were not a major focus of visual attention. At a distance of approximately 29 km (18 mi)...the observed wind facilities would likely not be noticed by a casual observer."
12251-010	Appendix D: "Project Configuration That Does Not Interfere With Existing Public Views: several commenters recommended an alternative where the proposed Project could not be seen from the coast of Nantucket, or in views that are culturally significant to tribes. No other specifics for this alternative were provided; therefore, based on the description provided this alternative would require the proposed Project be built at a distance of greater than 35 miles (56.3 kilometers) in order for it not to be viewed from the coast of Nantucket, based on the curvature of the earth. Thus, this alternate would require eliminating all 106 turbine placement locations proposed under Vineyard Wind's COP, would require a longer OECC, and would result in increased duration of vessel trips during construction and operations. Furthermore, this alternative would allow for less than the 80 WTGs within the southern portion of the lease area OCS-A0501. These technical challenges would potentially foreclose the Project's economic feasibility. Therefore, this alternative would effectively be the same as selecting Alternate G (no Action)". By the SEIS's earlier definition of the No Action alternative G and it's analysis of that alternative as stated earlier in these comments, the SEIS simply assumed that another project of similar size and scope would be built elsewhere in the lease area. However, if BOEM were to apply the "not visible over the horizon" criteria suggested by the commenters (or some similar distance criteria related to the size of the turbine) to all	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. The description of impacts is located in Sections 3.8.2-3.8.5, and when considered against the criteria determining the intensity of impacts (i.e., whether they are minor, moderate, etc.), located in Section 3.8.6, the impacts are of a moderate nature.

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	offshore wind turbine projects, this would significantly reduce many of the negative cultural, economic, recreation and tourism impacts of this Project and the cumulative impacts of future projects. Results much different than those suggested by the No Action Alternate G as currently stated in the SEIS.	
12251-011	Finally The SEIS should not assume that placing turbines further offshore will make any project economically unfeasible. Just as technology improvements are creating larger and more efficient turbines, so are these same advances moving towards deeper foundations and floating platforms which will make more distantly located turbines economically possible.	Thank you for your comment.
12253-003	Projects in the permitting and development timeline must be permitted in a timely and reasonable manner. This starts with Vineyard Wind 1. If we launch this industry now, the potential for additional jobs multiplies exponentially, with the potential for hundreds of thousands of jobs in different parts of the country.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
12253-004	The developers of the New England Wind Energy Areas (NE WEA) collaborated to propose a uniform, 1 x 1 nautical miles spacing between turbines, a layout that was recently endorsed by the United States Coast Guard (USCG). Despite this fact, the fishing industry has proposed additional transit lanes of at least 4 NMs (reflected in Alternative F of the SDEIS), a move that would severely constrain clean energy production and not meaningfully improve navigation or safety. Alternative "F" slashes the generation capacity of the project and puts the entire region at risk of not meeting energy demand even as many of New England's fossil fuel and nuclear power plants are retiring. For these reasons, I oppose the additional transit lanes outlined in Alternate F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12253-005	This project is the culmination of more than ten years of exhaustive study and analysis, and extensive public consultation, to determine where offshore wind could be built with the least possible impact on existing industries and the environment. To grow a stable and prosperous offshore wind industry and homegrown workforce, we need regulatory predictability and a clear pathway forward. Further delay of Vineyard Wind 1 is not an option.	Thank you for your comment.
12253-006	Further, the successful deployment of this project sets the stage for Atlantic Coast energy sufficiency which will be more compelling with each coming decade.	Thank you for your comment.
12258-001	The expansion of offshore wind capacity is essential for decarbonization and for realizing the greenhouse gas emission reduction commitments of the New England states. Vineyard Wind 1 will not only play a key role in reducing	Thank you for your comment.

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	carbon emissions in Massachusetts and throughout New England, but will also create well-paying jobs in a rapidly expanding industry.	
12258-002	In the Northeast, electric sector emissions have already dropped substantially since 1990, largely due to cheap and abundant natural gas. In order to further decarbonize the electric sector, the region must turn to zero-emissions resources. Today, offshore wind provides significant opportunity for emissions reductions due to high capacity factors, technological advancements, and economies of scale. Last year, the use of wind energy avoided 189,000,000 metric tons of carbon emissions, while also delivering significant reductions in local pollutants.	Thank you for your comment.
12258-003	In order to increase the accessibility of navigation and fishing around proposed project areas, offshore wind developers have made significant concessions to propose industry-wide east-west grid layouts with one nautical mile of spacing between turbines. Thus, NECEC supports the “Alternative D2” layout of Vineyard Wind 1. The east-west grid pattern with one nautical mile of separation between turbines will be adequate for fishermen, military, and commercial navigators in the area. According to the final Port Access Route Study: The Areas Offshore of Massachusetts and Rhode Island released by the U.S. Coast Guard, the proposed grid layout provides ample navigational space for vessels to travel through the proposed project area. In fact, the Alternative D2 layout 1x1 nm turbine spacing in the MA/RI wind lease area is the largest spacing of any wind farm area in the world.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12258-004	By contrast, alternative layouts including, dedicated transit lanes, as described in “Alternative F,” are not necessary for safe navigation. The US Coast Guard has determined that the Alternative F with the 4 nm wide transit lanes is more hazardous to navigation than the 1x1 nm spacing agreed upon by the developers. In addition to dedicated transit lanes being unnecessary to ensure smooth navigation, there are potential downsides to implementing transit lanes. The introduction of transit lanes may create points of congestion inside the project area. With vessels constantly entering and exiting the transit lanes to navigate through Vineyard Wind 1, there may be a constant, high volume of traffic in a small corridor. This could, in fact, lead to a higher risk of accident. Higher traffic volume in one place will create more space-use conflicts and increase overall time taken to navigate through the project area. Without transit lanes and with a north-south and east-west turbine orientation, Coast Guard Search and Rescue missions will “ensure two lines of orientation for USCG helicopters to conduct search and rescue operations.”	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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12269-001	This project needs to happen. American workers need jobs and a future in this industry. Please move forward with this project.	Thank you for your comment.
12273-001	A project such as this, which would require project labor agreements and/or prevailing wages, means good paying jobs for our members who are local residents. As a Union member, Long Island resident and tax payer I support offshore wind.	Although the Project Labor Agreement is not addressed in the FEIS, Section 3.6.2 provides projections of estimated direct job creation by the Vineyard Wind 1 Project in Massachusetts, and primarily in southeastern Massachusetts.
12274-001	this effort toward Wind Energy is so important to getting our land in healthy balance. Thank you for expediting this matter.	Thank you for your comment.
12277-001	As a company with a financial interest in the growth of the US offshore wind industry, the SEIS is an important milestone for the entire industry and the many businesses that support it. I urge you to move the Vineyard Wind 1 project forward without delay.	Thank you for your comment.
12277-002	Our commitment will always be to draw on local expertise and ensure that a greater proportion of the work is executed within the region, developing local capacity and national capabilities, with active participation of all relevant sectors of the economy. In order to maximize local economic development opportunities, the sector needs confidence that the US offshore market is real and ready for development. This confidence will spur local infrastructure development and provide companies like ours the flexibility to respond to local opportunities and enhance our position as an effective development partner.	Section 3.6 of the FEIS includes proposed mitigation, such as a local hiring plan, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
12277-003	The Department of Interior's decision to delay Vineyard Wind's final permits last year reverberated through the entire industry and had a chilling effect on the industry's investment capabilities. The SEIS does not factor this into its cumulative analysis. The analysis assumes that even without a green light for Vineyard Wind, industry investment will move forward as planned. This assumption is greatly flawed as companies need regulatory and market certainty in order to justify investment in new markets and the US would be sending a signal that it is not yet ready to get serious about offshore wind.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-impact scenario in terms of potential impacts.
12277-004	In addition, by requiring additional transit lanes through projects and reducing capacity to develop lease areas to their full extent, BOEM is effectively reducing the industry's opportunities for investment, which will translate to lost economic benefits and jobs for the US overall. As a company with an interest in investing in the US market, we strongly urge BOEM to reject this Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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12277-005	While there is agreement that offshore wind needs to be developed responsibly, the United States is two decades behind other regions in offshore wind development.	Thank you for your comment.
12277-006	According to the American Wind Energy Association, states have set offshore wind procurement goals that will invest roughly \$57 billion in the US economy by 2030. If the Department of Interior gets behind this industry now, the potential for additional jobs and economic investment multiplies exponentially, with the potential for tens of thousands of jobs throughout the nation. Seaway 7 is committed to this potential growth and is engaging with key local stakeholders including the New Bedford Port Authority (NBPA), MassCEC, New England Clean Energy Council, Business Network for Offshore Wind and local community leads to ensure MA supply chain capabilities are fully evaluated for the Vineyard Wind project	Thank you for your comment.
12279-001	I am in support of the New England off shore wind farm. First and foremost I think it is imperative that we develop our energy not from fossil fuels but from sustainable sources that don't harm our planet. It would be of National Security to develop renewable energy that would keep us independent from any world crisis we would be in a better position to deal with any situation. The other important issue with equal importance is the carbon footprint of this country. We need to worry about this planet for our children and their children. We saw throughout the global shutdown caused by the pandemic the effect of considerable reduction in pollution. Lastly the economic boost to our economy. The jobs it would create from building of the wind farm, maintaining, and all the ripple effect from the manufacturing and support jobs.	Thank you for your comment.
12281-001	VSEC urges BOEM to approve the Supplemental Environmental Impact Study (specifically Alternative D2, approved by the US Coast Guard, without incorporating the transit lanes of Alternative F). Doing so will enable the emerging offshore wind industry to move forward while safeguarding the natural environment of our Atlantic coast, combatting climate change, and protecting the interests of maritime stakeholders.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12281-002	VSEC serves the six towns of Martha's Vineyard in developing responsible plans for transforming our energy ecosystem. Climate change is no longer speculative and will have a serious and permanent impact on our coastal communities. Our community is at the end of the energy supply chain, and we intend to lower our dependence on fossil fuels and increase significantly our on-island energy generation in order to achieve a markedly reduced greenhouse gas footprint and, importantly, increased resilience in the face of the climate challenge.	Thank you for your comment.

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12281-003	In doing so, we are acutely aware that we must protect our fishing industry, which is threatened by degradation of the marine environment, overfishing, and climate change driving fish stocks northward. The SEIS draft being reviewed and finalized addresses environmental protection, and balances the needs of our blue-water economy with those of the nascent US offshore wind industry.	Thank you for your comment.
12281-004	The 2015 Community Benefit Agreement between our local power cooperative (Vineyard Power) and Vineyard Wnd has allowed community concerns to be addressed and provides significant economic benefits including grants for local renewable energy projects and, crucially, locates a key operations and maintenance facility on Martha's Vineyard that will provide a significant number of high-quality jobs for the next generation of Vineyarders. Together they have established a course of instruction for islanders who wish to be trained as offshore wind technicians.	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project is committed to, including job training for offshore wind. This information was also provided in the DEIS. The FEIS has been updated to include the cooperative agreement between Vineyard Wind and Vineyard Power.
12281-005	Extensive offshore wind experience over the past two decades in Europe has shown that offshore wind and other marine activities, such as fishing, can coexist in a mutually beneficial fashion. Surely we in the US can accomplish this as well.	Section 3.10 of the FEIS has been updated with a U.K. study (by Roach et al.) that shows catch rates remain the same at sites adjacent to offshore wind facilities and within offshore wind facilities.
12282-001	The United States needs green energy.	Thank you for your comment.
12283-001	Anything we can do to reduce our carbon footprint and make the earth cleaner should be done.	Thank you for your comment.
12284-001	Clarksons stands with The Business Network for Offshore Wind and also strongly encourages the Bureau of Ocean Energy Management to reject Alternative F and adopt Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12284-002	By approving the full configuration of the Vineyard Wind project in adherence to the One Federal Decision Permitting Timeline, the Department of the Interior will send a clear message to the OSW market and investors that the U.S. is open for business and intends to be a central player in a global energy industry that will expand to \$1 trillion by 2040.	Thank you for your comment.
12285-001	Two of the ones with the loudest voices appear to want:- 1- Vastly expanded shipping lanes. As a former seafarer, I can attest that offshore wind development in North America has been planned with existing shipping in mind, and poses no restriction or threat to the commercial shipping industry. Existing shipping channels, as well as those planned on being lengthened/deepened are accounted for during the planning and design phase. All offshore wind developments will be well charted, and submarine cables buried to prevent problems arising from anchor deployment, for example. The US East Coast is well-served with shipping lanes that enable safe and efficient traffic that professional seafarers are accustomed to	The FEIS addresses this comment in Sections 3.11.2 and 3.11.5. The major ports in the vicinity of the proposed WDA include ProvPort, Fall River, New Bedford, and Davisville. These ports serve the commercial fishing industry, passenger cruise lines, cargo, and other maritime activities. The primary vessel traffic and commercial shipping lanes serving these ports are outside of the WDA (COP Volume III, Section 5.5.1, Appendix III-I; Epsilon 2020a). Other vessel traffic in the region (e.g., from commercial fishing, for-hire and individual recreational use, shipping activities, military uses) would overlap with offshore wind-related vessel activity in the open ocean and near ports supporting the offshore wind projects. The Final MARIPARS study (USCG

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	transiting. Offshore wind farms will be wellcharted and are clear on radar systems, so pose no threat to shipping, as has been proven in Europe and elsewhere.	2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
12285-002	There is apparently a fishing industry group that wants a 5 year moratorium on offshore wind development. The offshore wind industry has proven to be a great neighbor to the fishing industry worldwide. Up front planning and analysis of marine species, along with accompanying fishery studies are undertaken to ensure minimal impacts. It is well known that offshore structures act as artificial reefs and are a haven for marine life. Utmost care is taken to minimize and mitigate adverse affects to both the marine environment, as well as the industries that rely upon it. Whilst careful study is of course essential, a 5 year moratorium would have far too great an impact and not economically sustainable.	Thank you for your comment.
12285-003	The advantages of the offshore wind (and offshore renewable energy industry in general) far outweigh the few negative impacts:-- A distributed and diverse source of energy, leading to grid and energy stability; - Clean, carbon free source of power; - A homegrown power source, great opportunity to develop a supply chain; - Job creation, both during construction as well as the operational and maintenance phase	Thank you for your comment.
12287-001	We know that the offshore wind resource along the U.S. Eastern Seaboard is one of the most powerful in the world, and is within reach of the densely populated areas where energy demands are high and new resource options are few. The offshore wind industry could create 83,000 jobs by 2030 and deliver \$25 billion in annual economic input by that same year. Most importantly it is a vast resource of clean, renewable energy to power our future. As strong proponents of a rapid reduction in the use of fossil fuels, we see offshore wind energy as critical for meeting clean energy goals in New England, and the emission reductions necessary to stop the most catastrophic impacts of climate change. The 800 megawatt Vineyard Wind project, selected by Massachusetts, will be the first major step toward fulfilling this promise.	Thank you for your comment.
12287-002	The Supplemental EIS reinforces our belief that offshore wind energy can be developed in a manner that protects wildlife and habitat and we therefore hope that the Vineyard Wind project will go forward as quickly as possible.	Thank you for your comment.

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12288-001	the construction of offshore wind turbines will degrade the coverage and quality of the ocean measurements made by the [Rutgers University] HF radar network...	Section 3.12 of the FEIS has been revised to include a discussion of impacts on HF radar.
12288-002	If the rotation rate and orientation of the blades are known, the interference can be traced through the HF radar processing and removed before the surface currents are estimated. This may allow the radar operators to filter the contamination of the rotating blades in the software to maintain the data coverage within the offshore wind farms. Given this, we request that the offshore wind operators share these data in real-time to the HF radar operators to incorporate into the processing so that these data supporting USCG operations in the region will continue to be reliably delivered.	Section 3.12 of the FEIS has been revised to include a discussion of impacts on HF radar.
12291-001	Offshore wind has the potential to drive our economic recovery and will create tens of thousands of local jobs in a burgeoning industry over the next ten years.	Thank you for your comment.
12292-001	Suffolk County, NY is following these proceedings closely and we write to urge BOEM to stick to its published schedule, issue a Final Environmental Impact Statement in November and a record of decision approving the project, as proposed and modified by the applicant in December.	Thank you for your comment.
12292-002	Suffolk County views this work as critical to the future of our national security, environment, and economic recovery. As the first commercial-scale offshore wind project in the US, Vineyard Wind 1 will play a critical role in establishing a domestic offshore wind industry and realizing the tremendous potential economic benefits of this rapidly emerging industry.	Thank you for your comment.
12292-003	Regionally, Vineyard Wind 1 is expected to create 3,600 jobs - many of them unionized - as the offshore wind industry is built out over the next few years. As the local government to 1.5 Million residents of New York State, we look forward to additional offshore wind projects that will bring similar economic and environmental benefits to Long Island.	Thank you for your comment.
12292-004	Taken together, the U.S. now represents a nearly 30 GW market through 2035 based strictly on the procurement commitments that are established in state law. As a result of these state targets, offshore wind offers the chance to create a brand-new U.S.-based heavy industry.	Section 3.6.1.1 of the FEIS has been updated to provide additional information on employment and economic investment projected to result from east coast offshore wind development. The AWEA study cited in this section includes projections for up to 30 GW of offshore wind development; however, the FEIS conclusions and impact levels rely upon the lower or base level projections, because these levels are based upon offshore wind development closer to the 22 GW that BOEM has determined is "reasonably foreseeable" for purposes of the FEIS. Appendix A, Section A-4 of the SEIS explained BOEM's rationale in classifying 22 GW of potential future offshore wind construction within the Atlantic OCS as reasonably foreseeable. The 22 GW of constructed capacity would include a

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		combination of development within the 17 active wind energy lease areas (16 commercial and 1 research) (Figure A.1-1), which include named projects and assumed future development within the remainder of lease areas outside of named project boundaries.
12292-005	Offshore wind has the potential to drive economic recovery and stimulate coastal economies up and down the east coast. As we begin recovering from the unprecedented social and economic impact of the Covid-19 pandemic, the approval of this project and subsequent projects will directly lead to the creation of much needed infrastructure investments, workforce training investments and thousands of jobs that come with good pay and benefits. Specifically, a study by the Workforce Development Institute found that 74 different occupations, including electricians, ironworkers, and welders are needed during the various stages of planning, development and operations of offshore wind farms.	Section 3.6 of the FEIS addresses impacts to employment and economics from the proposed Project.
12292-006	As part of Orsted's U.S. offshore wind build-out, they have already pledged nearly \$500M towards port facilities including one at Port Jefferson, NY which is located in Suffolk County. These ports will serve the diverse needs of the industry for component manufacturing, staging and O&M. In Port Jefferson, 100 permanent, full-time jobs will be deployed to support Orsted's 250-foot Service Operation Vessel, with a warehouse and office facility in Suffolk County.	Thank you for your comment.
12292-007	Large scale utility development like offshore wind not only will help reduce our carbon footprint but will also mean a tremendous amount of economic opportunity in the form of jobs and community benefits.	Section 3.6 of the FEIS addresses impacts to employment and economics from the proposed Project.
12293-001	More importantly however is our potential to limit increasing carbon dioxide in the atmosphere with its concomitant effects of climate change.	Thank you for your comment.
12294-001	I found substantial flaws in the calculations and methodology employed by the USCG, all of which appear to bias the MARIPARS findings toward narrower navigation safety margins.	Section 3.11.2 of the FEIS has been updated to discuss the Final MARIPARS study (USCG 2020). That report states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study, which was subject to its own public review. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.

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12294-002	My findings can be summarized as follows. The navigation safety recommendations of a 1x1 nm uniform grid in the MARIPARS study exactly match the proposal of the leaseholders, despite the fact that these recommendations are inconsistent with the USCG's own guidance on vessel safety. The MARIPARS contains both calculation errors and internally inconsistent statements, without which they would not be able to support the leaseholders' proposal. Furthermore, in my opinion, the MARIPARS analysis appears "cherry-picked" to support the leaseholders' proposal: the MARIPARS authors selected only the narrowest safety recommendation from European guidance, they offered no justification for this choice, and the recommendation selected was only available in a guidance document that had been previously reviewed and discarded by the USCG.	The Final MARIPARS study (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study (USCG 2020). The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
12294-003	In my letter to the USCG, I performed corrected calculations using their own published guidance. If there are to be no wider transit lanes through the uniform grid, then I estimate the minimum safe uniform grid spacing to be 1.87 nm. There are also reasonable arguments for transit lanes in excess of 6 nm wide for the longest passages through the MA/RI WEA. This means that RODA's proposal of a 1 nm uniform grid with 4 nm transit lanes already represents a substantial compromise relative to existing navigation safety standards. For the developers to argue that no wider transit lanes are needed with a 1 nm grid is simply absurd, and for the USCG to rubber stamp this claim is a betrayal of the public trust.	Section 3.11.5 discusses the potential impacts of wider transit lanes, Alternative F, on navigation and vessel traffic. The Final MARIPARS study (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study (USCG 2020). The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
12294-004	I urge BOEM not to rely on the MARIPARS as an authoritative study of navigation safety in the MA/RI WEA. The layout of turbines and the presence of transit lanes is a critical navigation safety issue, and more information is needed before the Vineyard Wind SEIS can be finalized.	The Final MARIPARS study (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study (USCG 2020). The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
12294-005	With respect to the alternatives contemplated in the SEIS, it appears that the safest approach would be combining a 4 nm transit lane under Alternative F with sub-alternatives D1 and D2, resulting in a uniform grid matching RODA's proposal. That said, the most prudent approach is to develop new	The FEIS addresses this comment in Sections 3.11.4 and 3.11.5. The USCG's Final MARIPARS report evaluated vessel traffic through the lease areas and recommended all surface structures be aligned in a 1 x 1 nautical mile grid, such that vessels anywhere in the RI and MA Lease Areas would have

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	alternatives, because none of the existing alternatives go far enough to ensure vessel safety.	approximately 1 nautical mile wide lanes available when traveling north-south or east-west, and 0.6 to 0.8 nautical mile wide lanes when traveling northwest-southeast or northeast-southwest (USCG 2020). In response to concerns of increased navigational safety risks due to all transiting traffic being funneled into a navigational safety corridor, the USCG stated that “the standard and uniform [1-nautical-mile] grid pattern... should alleviate... concerns [with compression and funneling traffic through relatively narrow lanes] by providing vessels with sufficient spacing and multiple options to transit safely through the array. If the entire MA/RI WEA is developed consistent with such a grid pattern, mariners could choose among the many resulting navigation safety corridors to safely navigate through the entire MA/RI WEA” (USCG 2020).
12294-006	My findings (attached to this letter) were submitted as public comment to the USCG but were apparently ignored when the Final MARIPARS was issued, so I am resubmitting them here. I believe my comments are materially important to the turbine layouts contemplated in the Vineyard Wind SEIS.	Thank you for your comment.
12305-001	The economic and environmental costs of climate inaction outweigh the impacts of offshore wind development. The Intergovernmental Panel on Climate Change, the international authority on climate change, says we must decarbonize our economy by 2050 if we wish to reach levels of warming that our economies and societies can bounce back from. Failure to do so will result in irreparable harm to our communities and environment. Experts agree that whilst the impacts of climate change are severe and threaten to become irreparable, carbon emissions reductions can ameliorate its worst effects. This decarbonization process requires a swift transition to clean energy.	Thank you for your comment.
12305-002	In Massachusetts, offshore wind generation could prove to be not only the most abundant renewable energy resource, but also the most cost effective way to produce low-carbon electricity.	Thank you for your comment.
12305-003	The Nature Climate Change Analysis , conducted by top EPA officials, concluded that climate change could cost the U.S alone \$224 billion more per year by the year 2090.9 Whilst there are modest impacts associated with offshore wind development, these costs are incommensurate in magnitude to that of the cost of unfettered emissions and the subsequent exacerbation of global warming.	Thank you for your comment.
12305-004	Vineyard Wind’s proposed turbine layout is more than sufficient to accommodate transit lanes used by the fishing and tourism industries...The proposal has the support of every wind developer who’s been granted leases in the New England Wind Energy Areas (WEAs) as well as from the United	The FEIS addresses this comment in Sections 3.11.2, 3.11.4, and 3.11.5. The Final MARIPARS study (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing

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	States Coast Guard (USCG). The Massachusetts Rhode Island Port 11 Access Route Study (MARIPARS study) concludes the uniform grid patterns and consistent spacing of the turbines in Vineyard Wind’s proposal create predictability and ample room to maneuver, both of which ensure safe navigability. This is in part because boats exceeding 400’ in length have historically followed routes outside of the WEAs. Smaller vessels ought to have no issue safely operating within this system given the spacing and uniformity. The 1x1 NM layout seems excessive to begin with and is a large concession for offshore wind since it eliminates at least 30% of the area’s potential energy production. The design does, however, address the primary feedback the commercial fishing industry provided regarding the need for transit lanes to ensure safe navigation.	Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study (USCG 2020).
12305-005	This is why the fishing industry’s proposed expansion of transit lanes to be 4 NM apart is untenable. Approving such a plan would undermine the value that offshore wind promises to deliver and provides little benefit. Existing assessments and endorsements have already demonstrated the current proposal is more than adequate. In short, expanded transit lanes would essentially threaten the viability of the offshore wind industry in Massachusetts and set a high barrier to entry for offshore wind companies in states elsewhere. Specifically, the additional costs, reduced benefits, and the technical challenges and delays involved in compliance with expanded transit lanes could prove to be insurmountable impediments to offshore wind.	Section 3.10.1 and 3.11.2 of the FEIS addresses this comment. According to the AIS data, trawling vessels required 180-degree turning diameters between 0.16 nautical mile and 0.86 nautical mile in good weather and sea conditions (larger diameters would be required in poor weather and sea conditions, and to account for trawling equipment) (COP Volume III, Appendix III-I; Epsilon 2020b). These diameters were found to be possible within the Vineyard Wind turbine layout, where vessels could turn either within a row of WTGs or from one row to another (COP Volume III, Appendix III-I, Epsilon 2020a). In addition, a formula from offshore wind farm and maritime navigation guidance developed by the Permanent International Association of Navigation Congresses found that the minimum fishing vessel channel widths of 0.33 nautical mile and 0.32 nautical mile were calculated for transiting and trawling vessels, respectively (COP Volume III, Appendix III-I, Epsilon 2020a). Additional rationale is provided in the Final MARIPARS study (USCG 2020), which states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA.
12305-006	The proposal creates over 200 transit lanes throughout the entire wind project area, was proposed in response to public comments by the fishing industry, and provides an entire mile between turbines. Expanded spacing, additional transit lanes, and concerns over navigability are therefore ostensibly frivolous.	The FEIS addresses the USCG recommendations and findings in Sections 3.11.4 and 3.11.5.
12305-007	Specifically, the recreational fishing and tourism industries may have ulterior motives for pushing for additional transit lanes, deriving from misplaced fears that wind turbines will hamper their businesses. The logic driving this is that many people dislike the sight of wind turbines on the horizon. But not only is this a small price to pay for the benefit this infrastructure provides, but public perceptions will change over time. In any case, the wind turbines are placed fifteen miles off the nearest coastline,	The Final MARIPARS study (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final

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	meaning they're practically invisible to the general public. Even for customers of the recreational fishing and other tourist industries operating in these passages, the turbines are spaced wide apart and will not dominate the views.	MARIPARS study (USCG 2020). The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
12305-008	Whilst the fishing industry has concerns over the wellbeing of its fisheries, we'd be wise to look towards pre-existing examples of offshore wind impacts on local ecology. The Danish Energy Agency-- arguably the offshore wind energy experts of the world--has found that offshore wind has few effects on fish fauna and marine mammals and wind structures actually benefited habitat heterogeneity as well as benthic communities.	Thank you for your comment.
12305-009	A large part of the value proposition of wind energy is not just that it's cost effective, but that it can actually help the environment. By reducing emissions, wind energy can combat symptoms of climate change such as warmer waters and ocean acidification. This is why I find a terrible irony in the fishing industry opposing wind energy, especially when it has already been planning so considerately to minimize its impact on fisheries. Besides overfishing, ocean acidification and warmer waters are the biggest threats to our fisheries. This has already been demonstrated in the lobster fishing industry, particularly in Maine, which has seen lobsters populations transition north to cooler temperatures. The SEIS report also supports the finding that climate change will have detrimental and potentially irreversible impacts on fisheries and other aquatic life.	Thank you for your comment.
12305-010	Lastly, Vineyard has demonstrated its willingness to cooperate with important scientific research that will inform the fishing industry. It has agreed upon a collaboration with the University of Massachusetts Dartmouth School for Marine Science and Technology to monitor the WEA. This is another example which shows the offshore wind is willingness to develop facilities responsibly and make science based decisions.	Thank you for your comment.
12305-011	The offshore wind industry promises to deliver thousands of modern, well-paying and sustainable jobs to New Englanders. The American Wind Energy Association's (23 AWEA) research has found that the offshore wind industry will result in 83,000 jobs created over the next ten years, with economic output reaching upwards of \$25 billion each year by 2030. The Vineyard Wind project in particular is forecasted to create 3,600 jobs. To ensure high quality jobs are delivered upon, Vineyard Wind has been working with labor unions and committed to the nation's first offshore wind Project Labor Agreement (PLA). This charter promotes both fair compensation and the highest construction standards for the project.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. Jobs and investment are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.

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12312-001	Alternative F would dramatically and unnecessarily reduce the area available for offshore wind turbines thus limiting the clean electricity we need and setting an unfortunate precedent for future projects.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12314-001	As I noted in my oral testimony, moving forward on this project is important not only for Massachusetts, but for states up and down the eastern seaboard and the nation. It is critical on many levels: in the fight against climate change, in the national effort to reduce criteria pollutants, to improve public health, address longstanding environmental justice issues and to help restart the economy in the wake of the COVID-19 pandemic.	Thank you for your comment.
12314-002	Although the SEIS is, by design, focused on the cumulative impacts of the Vineyard Wind 1 project and other offshore wind projects that are “reasonably foreseeable”, the analysis assumes that if Vineyard Wind 1 does not advance, other projects in various stages in the pipeline will. While this is a practical approach to analyze cumulative impacts, it is simply not a realistic assumption... if Vineyard Wind 1 is not approved, or approved with conditions that make it non-viable, it is likely that the 20 gigawatts (“GW”) of offshore wind projects that BOEM has concluded are “reasonably foreseeable” will also not move forward...	Thank you for your comment.
12314-003	The Vineyard Wind team of Copenhagen Investment Partners and Avangrid Renewables, as the first commercial-scale offshore wind proposal to advance since Cape Wind, have been careful to not just adhere to all applicable rules and guidance; they have conducted extensive due diligence, worked closely with the Bureau of Offshore Energy Management (“BOEM”) and state and local regulators, and collaborated with a wide variety of stakeholders, including academic institutions, commercial fisherman and environmental organizations. The federal planning process for offshore wind in this region began almost 10 years ago (late 2010) with public comment periods and stakeholder engagement every step of the way.	Thank you for your comment.
12314-004	Vineyard Wind has modified the project in response to concerns and objections and they have collaborated with other Massachusetts and Rhode Island lease holders. Collectively, the leaseholders have voluntarily agreed to 1 nautical mile by 1 nautical mile spacing to address concerns raised by both commercial fishermen and the Coast Guard.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12314-005	Further, Vineyard Wind has voluntarily entered into a binding agreement with the National Wildlife Federation, the Natural Resources Defense Council and the Conservation Law Foundation requiring a host of measures that will help ensure protection of endangered right whales and other marine mammals.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of

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		sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
12314-006	The project has significant environmental benefits, it would: reduce carbon emissions by almost 1.7 million tons per year; cut NOx emissions by over 1,000 tons per year; and, reduce SO2 emissions by 860 tons per year...The absence of, or even a significant delay in, the development of an offshore wind industry in the United States would have profound adverse impacts on the nation's ability to reduce greenhouse gases and slow the pace of climate change.	Thank you for your comment.
12314-007	The Vineyard Wind 1 project also has significant economic benefits: the project would generate \$2.8 billion in direct private investment and provide 3,600 family-sustaining jobs. It would have significant ratepayer benefits, generating \$1.4 billion in savings over the life of the project. Beyond the significant economic benefits that the Vineyard Wind 1 would provide, the economic benefits of the “reasonably foreseeable” offshore wind projects would be enormous. A recent study commissioned by the American Wind Energy Association (“AWEA”) concluded the following: • The offshore wind industry will invest \$28 to \$57 billion in the U.S. economy between now and 2030, depending on installation levels and supply chain growth within the U.S.; • Offshore wind project development, construction, and operations will support 19,000 to 45,000 jobs by 2025 and 45,000 to 83,000 jobs by 2030; and • Investment in the U.S. offshore wind industry will deliver \$5.5 to \$14.2 billion per year by 2025, and \$12.5 to \$25.4 billion per year by 2030 in economic output. In addition to the AWEA study, the University of Delaware Special Initiative on Offshore Wind published a White Paper² in 2019 that forecasted a nearly \$70 billion revenue opportunity for U.S. offshore wind component suppliers through the end of the coming decade. Despite the enormous economic potential for offshore wind in the U.S., the SEIS nonetheless concludes that the overall economic impact will be minor. It is hard to reconcile that conclusion with the considerable evidence that offshore wind development in the U.S. represents an enormous economic development potential. One need only look to the experience in Europe where billions have and continue to be invested in offshore wind development, including massive investments in ports, marine vessels, foundations and related infrastructure. From 2010 through 2019, offshore wind investments in Europe totaled more than \$90 billion euros.³ Where BOEM comes out on this project will send a loud and clear message to the	Section 3.6 of the FEIS has been updated to provide projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.

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	entire offshore wind industry and will likely determine whether it will invest billions in the U.S. and give birth to an entirely new domestic clean energy industry.	
12314-008	Adoption of SGEIS Alternate F represents a perfect example of one such onerous condition. This alternative, proposed by the Responsible Offshore Wind Alliance, would impose a network of 4-nautical mile wide transit lanes. Additional transit lanes would result in substantial technical challenges, delays, cost increases to consumers, and more environmental impacts from offshore wind development, with marginal gains and, as the USCG identifies, potentially greater conflict among transiting and fishing vessels that are “funneled into the corridors thereby increasing traffic density and risks for vessel interaction.” Further, imposition of Alternative F would reduce the technical capacity of the Massachusetts and Rhode Island lease areas by approximately 3,300 MW, which is 500 MW less than the current state demand for offshore wind in the area.”If after a decade of planning, siting and stakeholder involvement, and a multi-year design and permitting process by the developer, a fundamental and unnecessary restrictions such as additional transit lanes is forced on this project, it would sow uncertainty in this industry just as it is ready to get off the ground. The effect of a delay will not be confined to a handful of offshore wind developers. It will include parties that seek to finance projects, seek to establish and grow US-based operations, those who plan to invest in infrastructure, vessels, shoreside and other supports for offshore wind, as well as those aiming to build careers in offshore wind and the organizations poised to develop curriculum and train the offshore wind workforce. All these groups and more will face an environment of uncertainty. In sum, the imposition of Alternative F would drastically and unnecessarily reduce the wide-ranging and expansive benefits from the Vineyard Wind 1 and future offshore wind projects in these lease areas including emissions reductions, improved health, economic investment and family-sustaining jobs. Finally, it would threaten the viability of all offshore wind projects in the region from meeting their respective clean energy goals.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12314-009	As noted earlier, Vineyard Wind along with other developers of the New England wind energy areas (WEAs) have agreed to advance all future projects in their lease areas with a uniform 1 x 1 nautical mile (nm) layout. The United States Coast Guard (USGS) has since determined that the standard and uniform grid pattern “...should provide[ing] vessels with sufficient spacing and multiple options to transit safely through the array. If the entire MA/RI WEA is developed consistent with such a grid pattern,	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	mariners could choose among the many resulting navigation safety corridors to safely navigate through the entire MA/RI WEA.”	
12314-10	As noted earlier, Vineyard Wind along with other developers of the New England wind energy areas (WEAs) have agreed to advance all future projects in their lease areas with a uniform 1 x 1 nautical mile (nm) layout. The United States Coast Guard (USGS) has since determined that the standard and uniform grid pattern “...should provide[ing] vessels with sufficient spacing and multiple options to transit safely through the array. If the entire MA/RI WEA is developed consistent with such a grid pattern, mariners could choose among the many resulting navigation safety corridors to safely navigate through the entire MA/RI WEA.”	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12318-001	I’m an electrician for 35 years, and this is a sound investment, for jobs, for our future, for our children, for our environment.	Thank you for your comment.
12321-001	I write to strongly urge you to stay on schedule and move forward rapidly in the Vineyard Wind Energy project.	Thank you for your comment.
12321-002	A day doesn't go by without further, mounting evidence of the urgency of wind and other renewable energy production. It is literally madness to slow down and limit the scale of this and related projects. The convergence of environmental and economic (investment/jobs) needs is strikingly clear.	Thank you for your comment.
12326-001	Vineyard Wind 1 commercial scale offshore wind project will create 3,600 jobs for people.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
12326-002	God created us with a responsibility to take care of his beautiful creation, not destroy it! Vineyard Wind 1 abides by the Lords commands.	Thank you for your comment.
12329-001	With the level of air pollution, we have to learn and work with our environment...There is a long history of using wind power...Then continue the trend and lower green house gasses for our grandchildren.	Thank you for your comment.
12329-002	This will also help our economic recovery from the devastation that we have suffered due to COVID19... Creating a new economical drive in a developing industry. While also placing a need for more training and higher education. Building and development of specialized equipment all driving up the Gross National Product. While driving down the number of unemployed... Every dollar spent will be multiplied by the number of jobs, taxes paid and support industries to keep the project going.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12332-001	Vineyard Wind's efforts are a no brainer with a projected 3,700 jobs created and 1.7 million tons of CO2 removed from the atmosphere annually it's a win-win for our planet and humanity.	Thank you for your comment.

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12336-001	Please expedite the permitting process.	Thank you for your comment.
12348-001	Offshore wind farms are a necessary step towards sustainability and continued economic growth. These union jobs bring greater wealth to the communities they are in with good paying wages and excellent benefits. The wind farms themselves help to reduce our carbon footprint and ensure that future generations have the same opportunity we have to enjoy this planet.	Thank you for your comment.
12349-001	Offshore wind has the potential to drive our economic recovery and will create tens of thousands of local jobs in a burgeoning industry over the next 10 years.	Thank you for your comment.
12350-001	As a local 3 union member I am in full support of this project for several reasons. The work opportunities for myself and others just like me, the opportunity to be a part of furthering the use of renewable energy, and most of all gaining access to another area of work opportunities in the future.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12352-001	The wind farms will put me out of business and will destroy the many families I support... We need a moratorium of 5 years to study the effects of wind farms on the environment.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
12352-002	You are replacing one energy source (food) for another energy source and that new energy source will be replaced by a more environmentally friendly energy source in 8 years by fusion power.	Thank you for your comment.
12356-001	I strongly oppose the extra transit lanes considered as Alternative F, as unnecessary and damaging for clean electricity generation in that area. Plenty of space is there with the 1 mile lanes.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12366-001	Clean energy and job creation!!	Thank you for your comment.
12367-001	Because of the increasing severity of the effects of climate change, now more than ever, we need to rely 100% on renewable energy and shift away from fossil fuels. Additionally, Vineyard Wind 1 will produce 800MW of clean energy which is a step in the right direction and will help Massachusetts reach its Clean Energy Standards.	Thank you for your comment.

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12367-002	Particularly in the aftermath of COVID with the high level of unemployment, this wind farm is needed all the more. As Vineyard Wind will be able to create 3,600 jobs as the industry is built over the next few years. Furthermore, the offshore wind industry will create more than 80,000 jobs within the next decade.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. Jobs and investment are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
12367-003	Permitting this wind farm to proceed without delay will allow these benefits to be realized sooner, and not additional years down the line.	Thank you for your comment.
12367-004	While the SDEIS makes clear there will be some impact associated with the project, they are overwhelmingly negligible to moderate.	Thank you for your comment.
12367-005	With regard to fishing specifically, the report says that any impact would be moderate. The report also says "the impacts are anticipated to be adverse in the near-term but may become neutral over time if fishing practices adapt to the presence of structures.	Thank you for your comment.
12367-006	Additionally, there will be actions taken during the construction of the wind farm to gradually increase the force at which the monopiles will be driven into the earth. Doing so, would be less threatening to marine animals.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including but are not limited to, soft start procedures.
12367-007	I hope BOEM permits this wind farm to move forward without any delay and to select Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12372-001	Why wouldn't we harvest clean electricity off the coasts of the United States of America??	Thank you for your comment.
12383-001	I believe its benefits will be many, among which are: -Mitigating the impact of fossil fuels in energy production and providing clean energy when the threat and effects of climate change are of the utmost importance.	Thank you for your comment.
12383-002	Producing Union jobs with good pay and benefits. - Making a strong positive economical impact for communities up and down the eastern seaboard, and setting a precedent for future clean energy development.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.

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12390-001	It is time the United States joined the rest of the world in a transition from gas, oil and coal to clean energy, solar and wind. Our planet is demanding action, and we, the people are suffering as the effects of climate change begin to affect us all.	Thank you for your comment.
12391-001	As I understand it, the fishing industry is lobbying for transit lanes through already designated and awarded wind farm leases. BOEM should resist bowing to one special interest group at the expense of all others, particularly at this late stage.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12391-002	The Gulf of Maine and surrounds is ecologically damaged through decades of bottom trawling and overfishing (Steneck et al, 2011, Creation of a gilded trap by the high economic value of the maine lobster fishery). Today the catch of greatest economic value by far is a benthic scavenger (lobster). Even as lobster tonnage landed has exploded over the past two decades, the effort per unit catch has decreased. That is because the natural predators of lobsters (e.g., cod, flounder and other large demersal fish) have been all but removed from the ecosystem. Incredibly, the main food source for lobsters is the bait provided by fishermen. The bait comes from herring caught offshore, creating not only a new and artificial trophic chain but extending potential overfishing to the edge of the continental shelf. Today the ocean off southern New England is little more than a giant aquaculture farm.	Thank you for your comment.
12391-003	Currently the fishing industry is riding high on the lobster but it requires only a single unexpected event, such as disease or heat wave, to decimate the current monoculture and ruin the economy of many coastal areas. The solution is to diversify both the fishery and economy of coastal communities, and here is just such an opportunity.	Section 3.7.2 of the SEIS and FEIS discusses that offshore wind would diversity jobs and revenues in the geographic analysis area's "ocean economy" sector; therefore, no change to the FEIS is warranted.
12391-004	The ocean is largely unoccupied except for fishermen, so it is natural that they feel a sense of ownership, but the sea is a public resource and should be - and indeed is - managed for the public good. A balanced use of natural capital (more exploitation of offshore wind energy, less exploitation of stressed fish stocks) is in the public good.	Thank you for your comment.
12405-001	Please don't let this great opportunity for energy production slip through our fingers	Thank you for your comment.
12407-001	we need the 1x1 nautical mile layout NOT the alternative F. we need wind energy now for a cleaner earth.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12410-001	New York cannot meet its greenhouse gas reduction and renewable energy goals without offshore winds. The time to act is now; we should no longer sit in the shadows of Europe and Asia, who are far more environmentally advanced than us.	Thank you for your comment.

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12422-001	I'd like to voice support for the project and to ask that we minimize corridor requirements that would set a precedent in this growing industry. We must not economically barr our ability as a country to enjoy reliable, secure, clean energy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12423-001	After going through the process I hope that this project will be given the green light, if simple because we need to get away from fossil fuels. As a small island the cost of bringing energy to the island is increasing each year, I hope this project will bring cheaper energy to the island.	Thank you for your comment.
12426-001	As the founder of Earthlobbyist dot com I fully support the construction of Vineyard Wind LLC's Proposed Wind Energy Facility Offshore Massachusetts understanding there will be no long term damages to the ocean or creatures, understanding there will be some construction disturbances that I believe the creatures will avoid.	Thank you for your comment.
12428-001	But the wind farms are circumventing the Jones Act and the boats building the wind farms will be foreign flagged with foreign workers , working for foreign companies and the profits will leave the USA and go to Europe.	Section 3.6.1.1 of the FEIS references several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
12430-001	The wind farms will have a negative effect on the commercial fishing industry. City of New Bedford will be drastically hurt. The estimates of jobs created are inflated. The wind farms are not as productive as promised; they are barely 40% efficient. The ocean will be littered with derelict towers in a few short years when fusion power is a reality.. Please ask for a moratorium, the damage will be forever	Thank you for your comment.
12432-001	On behalf of www.BraytonPointCommerceCentercom, in Sonierset, MA, we write to strongly support Vineyard Wind's 800 MW wind farm to be built in federal waters off Cape Cod and just 29 miles south of Brayton Point, a key transfer site for electrical generation.	Thank you for your comment.

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12433-001	I support the Vineyard Wind project. The US is so far behind the rest of the world in renewable energies, this would definitely be a step in the right direction.	Thank you for your comment.
12446-001	Minimal impact Maximum yield! There is nothing in the Modern World we could build with a smaller impact on the environment and resources, than what this wind project could do. The benefit can be obtained with the best of efficiency, providing good green renewable electricity for generations to come.	Thank you for your comment.
12447-001	I strongly encourage BOEM to move the permitting process forward and unlock the economic and jobs potential of the US offshore wind industry.	Thank you for your comment.
12450-001	I'm a local 3 member & Westchester resident I believe this project is a great thing for the environment & for job opportunity for local residents	Thank you for your comment.
12451-001	I think that it's time to move beyond assessing and on to actually building, creating jobs and clean energy....As a scientist who studies climate change, I assure you that the transition from dirty to clean(er) energy is urgent.	Thank you for your comment.
12453-001	I still have many concerns regarding BOEM's consideration process for the approval of the first large-scale offshore wind energy area in United States waters. I work in the commercial fishing industry and know that historic fishing locations and practices will be directly and permanently impacted by any offshore development. Every effort should be made to preserve and protect these locations. Any planned project would benefit from including the expertise of the commercial fishing industry but, up to now, this has not occurred in any meaningful way.	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing. Additionally, the NEPA process has allowed for comments of commercial fishermen including the inclusion of three alternatives requested by the fishing industry.
12453-002	More accurate and sufficient data regarding the impact of offshore wind farms on commercial fishing is needed when considering where to locate offshore development projects. In the process thus far, it appears evident that inadequate and incomplete data have contributed to BOEM and offshore wind proponents "turning a blind eye" to the importance of these areas to commercial fishing and to the socio-economic impacts on fishing communities.	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area

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		south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing. Additionally, the NEPA process has allowed for comments of commercial fishermen including the inclusion of three alternatives requested by the fishing industry.
12453-003	It is also very important to have an accurate picture of what happens to these wind projects after they have completed their life-cycle and are decommissioned. Will the companies that are building the wind farms be required by BOEM to be bonded by both contract bonds and fidelity bonds? The Block Island wind farm was sold as soon as it was completed and so who is responsible when it comes time to dismantle it or if something goes wrong. Basically BOEM says that they make the developer keep some money for decommissioning. What does that mean exactly if there is no comprehensive process for that decommissioning? How is it possible to know the costs? At the very least, the power purchase contractor should be required to assume a lien for decommissioning and that lien would follow any company purchasing that company in the future. There will be high and possibly unforeseen costs for decommissioning these projects, including recycling the blades removing the superstructure, base and transmission lines, and these issues have not been adequately addressed by BOEM or the offshore wind proponents.	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.
12456-001	I encourage you to permit the construction of the off shore projects we need the work more than ever to stimulate the economy.	Thank you for your comment.
12473-001	In short, offshore wind has the potential to...play a significant role in reducing America's widening income gap and emerge as a new sector led by American innovation. Further, high capacity factor and affordable offshore wind can play a significant de-carbonization role to tackle ocean acidification.	Thank you for your comment.
12474-001	I'm writing about the importance of the Supplemental Environmental Impact Statement for Vineyard Wind. The report is a critical step for the industry and will have a major impact on future offshore wind projects - including projects off the coast of New Jersey....Offshore wind energy will provide clean energy, create jobs, revitalize communities, generate a supply chain and inject billions of dollars into the local economy. It's a win-win for New Jersey's residents and businesses.	Thank you for your comment.

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12477-001	This provides a clean and cost effective source of energy. This should be mandated for every state. This is the way of the future. It would provide jobs during this horrific pandemic.	Thank you for your comment.
12486-001	I strongly support this project because it would provide good Union jobs and would be a positive economic impact on the Eastern seaboard especially in this horrendous economic times of COVID-19 and help our climate change issues.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12497-001	The impacts won't be astronomical. The BOEM report shows that Point Judith, RI would be the fishing port with the greatest potential impacts from offshore wind development, and yet these "impacts" only total 5% of Point Judith's revenues. Furthermore, this 5% is merely exposed to wind development up and down the coast, not replaced by it. And finally there will be compensations put in place - it's not as if these concerns haven't been accounted for.	Thank you for your comment.
12497-002	The lanes have already been widened. This whole process has been and still is a negotiation.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12497-003	Commercial fishermen feel like they're being railroaded and have no choice. Proponents of offshore wind feel that they've been bending over backwards trying to appease commercial fishermen.	Thank you for your comment.
12497-004	A lack of data is a common talking point among commercial fishermen, and although it's valid it's also overblown....trying to collect years' worth of data would unfortunately be time spent not making real strides toward emission reductions. What we can do is look to the data from Europe and China and use it to inform our research - of which there is a great deal	Section 3.3 of the FEIS has been updated to include European studies of impacts from offshore wind facilities on finfish and Section 3.10 has been updated with a U.K. study (by Roach et al.) that shows catch rates remain the same at sites adjacent to offshore wind facilities and within offshore wind facilities.
12497-005	Lowering carbon emissions and making real strides to combat climate change MUST be our priority. It must be done in an equitable manner, but frankly it IS being done in such a fashion. The complaints of commercial fishermen are complaints of a group of people who are refusing to give an inch for the greater good.	Thank you for your comment.
12584-001	We need to stop relying on oil.The environment is also an issue as is the need to provide good paying union Job's	Thank you for your comment.
12596-001	The Vineyard Wind project offers an incredible opportunity for clean energy at scale	Thank you for your comment.
12596-002	a project of this scale will bring jobs and economic renewal at a time when it is desperately needed.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated

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		with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12605-001	Wind turbines are an important source of renewable energy and would be beneficial for the environment as we decrease our dependability of fossil fuels. Wind turbines, constructed by unionized electrical workers and ironworkers, are helping power a clean-energy future.	Thank you for your comment.
12606-001	At a time when covid has dashed so many citizens hopes, a job on this project is a life saver.	Thank you for your comment.
12608-001	This is an essential project for the advancement of New York and the United States.	Thank you for your comment.
12619-001	When it comes to projects like Vineyard Wind 1, I don't have time for anymore delays. I can't afford compromises that limit our ability to become independent of fossil fuels.	Thank you for your comment.
12634-001	This is exactly the type of project we as Americans and as the human race need to be embracing. This is the most responsible thing we can do as we face the challenge of climate change. Saving our planet, establishing good jobs, helping our economy!	Thank you for your comment.
12640-001	This wind farm will help us meet the energy needs that our other fuels are now providing, while preparing for the future.	Thank you for your comment.
12640-002	The building of these facilities will also provide employment to a workforce that is under siege from a virus that has swept the country. The building of them by a talented workforce will insure that these facilities are installed and maintained correctly. A union workforce that has the talent and training to accomplish this.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12661-001	Not only would this proposed project disrupt marine life, which is already struggling from overfishing as well as pollution and plastics in our oceans, it would also negatively effect migrating birds, bats, fisherman and local communities.	Thank you for your comment.
12661-002	I also urge you to consult the local Indigenous Peoples and Wampanoag to consider how this project would continue harming local communities.	The United Nations Declaration on the Rights of Indigenous Peoples is not a part of the regulatory framework that federal agencies such as BOEM follow during the NEPA process. BOEM engages with the public and other National Historic Preservation Act Section 106 consulting parties throughout the NEPA process to assess impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Through the NHPA Section 106 review process,

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		BOEM additionally works to resolve adverse effects to National Register-eligible historic properties through avoidance, minimization, and mitigation. No regulatory obligation exists that requires a particular outcome, decision, or compensation.
12661-003	Please do not put economic potential or political support over the opinions and perspectives of the local people.	Thank you for your comment.
12661-004	Consider the consequences of this project and you will see it does more harm than good and we need to find an alternative, ideally land-based, renewable energy option.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
12661-005	[the Project would be] harmful to ocean floor and pollutes waters	Section 3.3 of the SEIS discussed the impacts of the proposed Project on the seafloor and Section A.8.2 of the SEIS discussed the impacts on water quality and pollution. Therefore, no change to the FEIS is warranted.
12661-006	[the Project would generate] toxic chemicals and petro needed for operation (turbine lubricant provided by Chevron!)	Section A.8.2.2 of the SEIS addressed the potential for accidental releases and discharges associated with the proposed Project. Therefore, no change to the FEIS is warranted.
12661-007	[the Project would generate] electromagnetic field in water and air	Thank you for your comment.
12661-008	[the Project] destroys marine wildlife habitat	Sections 3.2, 3.3, 3.4, 3.5, and 3.6 of the SEIS discussed the potential impacts of the proposed Project on habitat for marine wildlife. Therefore, no change to the FEIS warranted.
12661-009	[the Project would be] deadly to migrating birds and bats	Thank you for your comment.
12661-010	[the Project would be] harmful to fish and other ocean creatures	Sections 3.3, 3.4, 3.5, 3.6 and Appendix A of the SEIS discussed the potential impacts of the proposed Project on marine animals. Therefore, no change to the FEIS is warranted.
12661-011	[the Project] disrupts fishing and navigation channels	Section 3.10.1 and 3.11.2 of the FEIS addresses this comment. According to the AIS data, trawling vessels required 180-degree turning diameters between 0.16 nautical mile and 0.86 nautical mile in good weather and sea conditions (larger diameters would be required in poor weather and sea conditions, and to account for trawling equipment) (COP Volume III, Appendix III-I; Epsilon 2020b). These diameters were found to be possible within the Vineyard Wind turbine layout, where vessels could turn either within a row of WTGs or from one row to another (COP Volume III, Appendix III-I, Epsilon 2020a). In addition, a formula from offshore wind farm and maritime navigation guidance developed by the Permanent International Association of Navigation Congresses found that the minimum fishing vessel channel widths of 0.33 nautical mile and 0.32 nautical mile were calculated for transiting and trawling vessels, respectively (COP Volume III, Appendix III-I, Epsilon 2020a). Additional rationale is provided in the Final MARIPARS

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		study (USCG 2020), which states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA.
12661-012	[the Project would be an] eye soar on the now beautiful ocean horizon	The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations provided by Vineyard Wind that provide views of the 14 MW wind turbines as well as simulations of Vineyard Wind 1 combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
12661-013	[the Project's] underwater noise disrupts wildlife	Sections 3.4, 3.5, and 3.6 of the SEIS discussed the potential impacts of WTG operational noise. Therefore, no change to the FEIS is warranted.
12661-014	construction and shipping of wind turbines pollutes	The emissions associated with these activities are considered and analyzed in the FEIS.
12661-015	maintaining and operating wind turbines also pollutes	The emissions associated with these activities are considered and analyzed in the FEIS.
12661-016	[the Project requires] burning fuel during times of too little or no wind	Please note that the capacity of an energy facility (MW) is not necessarily the same as the energy generated at any given time (MWh). A discussion of power plants, generation, and capacity can be found here: https://www.eia.gov/energyexplained/electricity/electricity-in-the-us-generation-capacity-and-sales.php
12661-017	While I understand we need to create renewable energy immediately, we cannot continue down the same path of destruction and devastation of our planet, its biodiversity and people. Wind turbines still burn fossil fuels, even if it is less and better than coal, also how we construct, operate and maintain these machines matters.	Thank you for your comment.
12661-018	There are better solutions to our climate crisis that do not involved the continued destruction of wildlife and their habitats, not to mention continuing our pollution and use of fossil fuels to operate these wind turbines.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
12699-001	Also, the invested time and proper planning to ensure this project remains committed to providing equity with other regional maritime job sectors has further positioned us to launch the project. Overall, a variety of stakeholders are prepared and ready to exemplify job growth and innovation - let's get to work!	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12711-001	...we believe that the 1 X 1 Nautical Mile corridor standard for maritime and marine traffic is adequate in addressing the issue of safe passage for maritime traffic traveling in and thru the wind farm development areas.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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12725-001	As a union electrician I highly urge the BOEM to move forward with the offshore wind projects to help create thousands of jobs and also help to reduce our huge carbon footprint,the future is now and this will be all worth it for generations to come.	Thank you for your comment.
12727-001	CRCJ has previously supported the uniform 1x1 nautical mile grid layout for wind turbines throughout the New England Wind Energy Area that was endorsed by the US Coast Guard (USCG) in its MARIPARS (Massachusetts Rhode Island Port Access Route Study) that was released in May 2020...We continue to support this 1 x 1 NM uniform grid pattern and urge BOEM not to select Alternative F in the SEIS, which would greatly reduce the benefits including emissions reduction, improved health, economic investment, and jobs that will come from this industry's growth.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12727-002	Vineyard Wind 1 is expected to create 3,600 jobs for local residents, while making a significant contribution to the efforts to tackle climate change. These benefits will be multiplied by each project—including those approved for Connecticut—built out over the next few years.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
12727-003	The 1 x 1 NM layout eliminates at least 30% of the area's potential energy production but addresses the main comments from the commercial fishing industry regarding the need for transit lanes to ensure safe navigation raised during the public consultation process for Vineyard Wind 1. The 1 x 1 NM uniform layout creates over 200 transit lanes throughout the entire wind project area. Adding transit lanes to a uniform 1 x 1 NM turbine spacing layout – spacing that is already greater than that of any existing offshore wind project in the world – would threaten the viability of all offshore wind projects in the region and their ability to meet the clean energy supply goals.	The FEIS addresses the USCG recommendations and findings in Sections 3.11.4 and 3.11.5.
12727-004	Offshore wind energy development represents a generational opportunity for the hardworking men and women in the building trades, and will result in thousands of new, local well-paid jobs with good benefits. It also represents an exciting opportunity to create expanded access to apprenticeships and careers in the construction trades for low-income and workers of color in the communities where the on-shore operations of these projects will be based.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12727-005	Vineyard Wind's commitment to local workforce development sets a precedent for the industry that offshore wind projects will be constructed by the building trades unions, ensuring fair wages and consistent work for local tradesmen and women as the industry is built out. As the first commercial-scale offshore wind project in the US, the Vineyard Wind 1 will play a critical role in establishing a domestic offshore wind industry and	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.

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	realizing the tremendous potential economic benefits of this rapidly emerging industry.	
12727-006	Moving toward a 100% US workforce that captures the full economic benefits of this industry will require consistent, predictable projects entering construction to allow for workers to gain experience and qualifications necessary to replace the European workers.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12731-001	1) Geophysical Surveys: There have been multiple years of seismic surveys taking place across the MA/RI wind energy area. These surveys are not very well understood but there are scientific papers that point to some troubling effects. Anecdotal observations from the fishing fleet are also cause for concern. The survey vessels impact the ability for fishermen to catch some commercial important species. BOEM also seems to have neglected to take these surveys into account while fisheries monitoring surveys are ongoing. So called baseline study's which are intended to understand potential impacts from wind energy projects have been compromised. For Example. The recent BOEM funded Atlantic Cod study in the South Fork Project area did not let the scientist conducting the project know Geophysical surveys were being conducted at the same time the Atlantic Cod project was taking place. There are scientific papers devoted to the effects said surveys have shown to have on Atlantic COD. There have also been multiple interactions with fixed gear fishermen who have lost gear and catch with no fair mechanism for fishermen to be made whole.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
12731-002	2) MARIPARS : The Peer Review conducted by Dr Sproul clearly proves the report is compromised and therefore should be rejected.	The Final MARIPARS study (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study (USCG 2020). The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
12731-003	3) North Atlantic Right Whales: Its troubling that BOEM may allow these projects to move forward without consideration of this endangered species. The MA/RI WEA (WIND ENERGY AREA) is a known winter feeding	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. A detailed analysis of impacts to ESA listed species is provided in

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	grounds for these whales. There is little science available to inform what the outcome of these projects will have on the whales or their primary food source calanoid copepod. Both Electromagnetic Fields and the disturbance and noise from the turbines and the blades themselves may have negative effects on these animals. A race for tax incentives should not be allowed to override quality science in order to go forth responsibly.	the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional discussion of potential impacts to marine mammals, including the NARW is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Also discussed in the Biological Opinion are the potential effects to copepods and other prey items of marine mammals. Sections 3.3.7.3 of the DEIS and Sections 3.5.1 and 3.5.2 of the SEIS discussed the potential impacts of EMF on marine mammals and the potential consequences to marine mammal migration. As discussed, modeled and measured magnetic fields from AC cables buried to a depth of 3 feet would emit detectable fields up to 82 feet above the cable and 79 feet along the sea floor. Vineyard Wind proposes to bury Project cables to a depth of 5-8 feet, providing greater shielding and reducing field detection distances. Additional discussion of the uncertainty regarding the individual and/or population level impacts of EMF on marine mammals was provided in Appendix H of the SEIS. Given the extremely localized nature of the potential EMF related impacts, marine mammal exposure is expected to be low. Section 3.3.7.3, of the DEIS and Section 3.5.1 of the SEIS discussed the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017).
12733-001	In order to deliver these economic benefits, I believe Alternative D2 is the only alternative which meets the needs of all maritime users. A one nautical mile by one nautical mile grid provides ample room for safe navigation. Any mariner having difficulty navigating a vessel in this much space would do well to seek another profession or hobby. Alternative F poses serious safety issues in that it will funnel traffic into condensed areas. As a mariner who navigates the Vineyard Wind area, I ask BOEM to consider all mariners needs by adopting Alternative D2 and rejecting Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12748-001	The United States is finally pursuing the efficient and renewable energy sources that European countries have successfully taken advantage of for years now. As I understand it, all appropriate reviews have been completed at the federal,	Thank you for your comment.

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	state, and local levels with BOEM permitting being the final stage of approval. The future belongs to non-fossil fuel energy resources. In the opinion of the vast majority of experts in all fields, renewable forms of energy production are required in order to reduce our planet's carbon emissions and diminish the already harmful effects of global climate change. Based on the science, this is no longer up for debate. We must act as a nation to embrace off-shore wind, and we must act now. Delay is not an option. We have to think of the generations who follow us.	
12749-001	I am writing in support of the Vineyard Wind 1 project This proposed project has been reviewed extensively by federal, state, and local regulators and experts. Thousands of jobs will be created by offshore wind including a diverse local supply chain. The wind turbines will be laid out at one square mile intervals. This leaves plenty of room for safe navigation and fishing in the wind farm area. This project will also supply 800 MW of electricity which will be part of the state of Massachusetts overall plan to go green by the year 2050. It will also help the island of Martha's Vineyard to reach its goal of 100% sustainable green energy by the year 2040. Action must be taken now to have any hope of curtailing our current climate crisis. The Vineyard wind one project is headed by two companies with extensive experience in offshore wind development. They are European companies that have been implementing wind power for over 30 years. The technology is safe and effective.	Thank you for your comment.
12754-001	Where is the science? Migration patterns for some species are going to be changed or wiped out, invasive species are going to move into new areas, and some species that can't adjust to the noise, vibrations, and electric current will cease to exist.	Sections 3.3 and 3.4 of the SEIS addressed potential consequences regarding migration, invasive species, noise, and EMF. Therefore, no change to the FEIS is warranted.
12754-002	Europe didn't do any studies, one would think we would learn from their mistakes. We need a moratorium to establish a baseline.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12755-001	PLEASE DO NOT allow Offshore Wind to Circumvent the Jones Act Similar to What The Cruise Ship Industry has Done. I call attention to the Jones Act “Cabotage Regulation,”....	Section 3.6.1.1 of the FEIS references several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality

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		of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
12755-002	PLEASE INCLUDE LANGUAGE prior to the issuance of any development permit that would require vessels working on the project before, during and after construction to follow the Cabotage Regulation to the letter of the law, regardless of the distance from shore. This is America and The Jobs Belong to Americans Both On and Offshore.	Section 3.6.1.1 of the FEIS references several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
12755-003	Furthermore, I request language requiring Onboard Fisheries Liaisons to be onboard all vessels. To be fair, if a Protected Species Observer is required, then an Onboard Fisheries Liaison should be required as well. <i>Currently, turtles have more representation than the very people who work their fingers to the bone and risk their lives on a daily basis to feed America and the rest of the world.</i>	Vineyard Win has proposed a fisheries communication plan that details how fishermen can be notified directly of all vessel movements in addition to the Local Notice to Mariners that is broadcast on marine radio (Appendix D). Additionally, BOEM publishes the name and phone number of the fisheries representative and fisheries liaison on it's website for every active project.
12759-001	Offshore wind provides clean, renewable energy. I am a strong supporter of the need for the rapid reduction in the use of fossil fuels which produce carbon that is warming the planet. Offshore wind energy is critical for meeting clean (non-fossil fuel) energy goals in New England and the emission reductions necessary to stop the disastrous impacts of climate change. The 800 megawatt Vineyard Wind project will be the first major step towards that objective. The Supplemental EIS demonstrates that offshore wind energy can be developed in a manner that protects wildlife and habitat.	Thank you for your comment.
12784-001	It is important that Vineyard Wind and subsequent offshore wind initiatives receive public support. The development has potential to drive a larger shift towards renewable energy, as well as create a significant number of jobs in Massachusetts. I am in support of this project in hopes that the project brings environmental and economic benefits to us all.	Thank you for your comment.
12793-001	I'm a Massachusetts resident who would be very happy to get electricity that is generated by Vineyard Wind. I am generally in favor of any of the alternatives in the SEIS except for Alternative G (no action). I especially think either option for Alternative D would be preferable.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12795-001	We applaud BOEM raising the impacts on fisheries of this development from moderate to major and National Marine Fisheries Service(NMFS)efforts to highlight these impacts but we feel the SEIS still does not go far enough.	Thank you for your comment.

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12795-002	Throughout this process we have expressed major concerns about the Vineyard Wind mitigation proposals. Major economic costs continue to be overlooked, including biological risks to the fisheries.... A clear mitigation plan that is transparent, inclusive of all federal fishing communities and is based on a full economic valuation of its impacts before they happen should be mandatory.	Section 3.10 and Appendix D of the FEIS discuss the details of the voluntary revenue compensation funds and explains the methods used to estimate fishing revenue exposure and the methods used to set the value of the voluntary compensation funds. Table 3.10-11 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Section 3.3 of the FEIS discusses impacts to finfish. BOEM is open to working with state partners and the commercial and recreational fishing industries to investigate alternative strategies to negotiate compensatory mitigation agreements.
12795-003	Secondly, as there are no peer reviewed scientific studies of offshore wind development on fisheries and fish stocks and with NMFS not going to be able to do traditional stock assessments surveys to much uncertainty exists. This puts years of sacrifice that both recreational and commercial fishermen have made to rebuild stocks under the law of the Sustainable Fisheries Act.	The SEIS discusses these issues throughout Section 3.14 (Other Uses, Scientific Research and Surveys), and Section 3.14.2.5 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07). Therefore, no change to the FEIS is warranted.
12795-004	In conclusion we agree with the Responsible Offshore Development Alliance(RODA)petitionfor a 5 year moratorium on offshore wind until these issues are resolved.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12812-001	I am in favor of proceeding to issue Vineyard Wind a favorable finding so further permits may be issued and construction may begin as soon as possible. Vineyard Wind has conducted an incredible amount of science and dedicated many resources to find a solution. The project is sound and having recently worked on America's first offshore wind development in federal waters, I can say that the processes are extremely sound, much safer and environmentally sound than anything found in offshore oil and gas (of which I have also worked). America needs offshore wind development more now than ever. It's just a really good way to diversify our energy portfolio.	Thank you for your comment.
12820-001	I oppose the additional transit lanes that have been suggested ("Alternative F") because they are not needed and would only serve to limit the scope and	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	effectiveness of the installation of wind power array with the much wider (4-mile) transit lanes.	
12820-002	I urge you to please move forward with the Vineyard Wind permitting process without further delay. Wind power is good for the economy in delivering jobs in the manufacture and building of the generators and system and in the maintenance of it. It is good for the environment, proving a major new, clean, reliable, and sustainable power source for the region. And it is good in terms of helping solve a climate justice gap as low income people and people of color in the various communities burning fossil fuels for power generation overwhelmingly tend to be situated adjacent to or downwind of those power plants, leading to health and early learning and growth issues in those communities.	Thank you for your comment.
12833-001	The 3,600 jobs that Vineyard Wind will create will help spur an expanding U.S. industry and create more regional employment. In these uncertain economic times the well-paying jobs created by a growing offshore wind energy industry will greatly help our region. In Rhode Island we have already seen job creation with the locating of the offices of the wind energy developer rsted in Providence. GEV, the wind power maintenance company has recently located in RI and plans to add more jobs as the offshore wind power industry grows. The Deepwater Wind project located off Block Island, RI has successfully proven on a small scale that offshore wind can co-exist with the fishing industry, sea life and recreational boating while providing renewable energy.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment in offshore wind resulting from growth of a wind energy industry along the Atlantic coast.
12833-002	Additionally, I believe based on the data I read in the SEIS and the oral testimony of industry spokespersons that the uniform 1 X 1 NM layout will safely provide transit lanes that will accommodate commercial shipping, recreational boating and the fishing industry while maintaining more energy production than a 2-4 NM transit lane layout. I oppose the adoption of alternative F. The timely approval of the SEIS by December so that the Vineyard One project can proceed will set our region and the nation on a path toward economic growth, increased job creation, affordable electricity and cleaner air.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12836-001	While this may be a relatively new industry for the United States, offshore wind has a successful history across the Atlantic. With thousands of offshore turbines installed across Europe, this industry has created thousands of jobs, revitalized port communities, invigorated energy generation, and invested billions of dollars into local economies. The U.S. East Coast offers some of the most promising conditions in the world for offshore wind. As such, there is no doubt that we can replicate the industry's success right here at home	Section 3.6 of the FEIS addresses impacts to employment and economics from the proposed Project.

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	and develop a high capacity, domestic renewable energy resource that will improve energy security and reliability.	
12836-002	A study by the Special Initiative for Offshore Wind estimates that the nearly 20 GW of offshore wind procurements expected through 2030 will require close to \$70 billion in capital investment. Jobs and economic opportunities have already begun to trickle in – with port investments, vessel construction and factory announcements – even as this industry remains in its infancy. We are already seeing the growth of a domestic supply chain as developers and suppliers look to minimize their own costs and logistical risks. Such a chain provides an influx of new jobs with the creation of an entirely new industry, including those in project study, development, installation, maintenance, manufacturing, and finance, furthering benefits already appearing with investments in coastal communities and opportunities stemming from a brand-new economy. The economic potential seems particularly timely and important with high unemployment and an economy that needs rebuilding.	Section 3.6.1.1 of the FEIS has been updated with recent projections of national job creation and investment, including the study from the University of Delaware's Special Initiative for Offshore Wind.
12836-003	BOEM should adopt Alternative D2, comprised of a uniform 1 nm x 1 nm grid layout of turbines across contiguous lease areas, as the preferred alternative. After extensive study and public input, the United States Coast Guard (USCG) recently endorsed this layout as superior from a navigational safety perspective. In the context of its recently released final report “The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study” (MARIPARS), the USCG determined that the grid layout pattern “will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing within the Wind Energy Area.”	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12836-004	Alternative D2 strikes an appropriate balance by ensuring the cost-effective development of federal wind energy areas without compromising the safety of the recreational and commercial fishing and maritime communities. This alternative provides a best pathway for balancing natural resource conservation and fishing concerns, economies of scale, and our clean energy needs.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12836-005	By contrast, Alternative F would impose a significant burden on offshore wind development with no countervailing benefit from a navigational safety perspective.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 3.11 of the FEIS includes a discussion on the potential impacts on navigation and vessel traffic from Alternative F.
12836-006	BOEM should reject Alternative F, comprised of a 4-mile wide dedicated transit corridor, either alone or in combination with D2. The uniform 1 x 1 nm layout, without any additional transit lanes, has been assessed by the USCG compared to proposals with transit lanes in its Massachusetts Rhode	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	Island Port Access Route Study. The USCG declined to recommend further formal or informal vessel routing measures such as Alternative F.	
12836-007	Alternative F is lacking in scientific merits as well as in factual basis. We urge BOEM to defer to the federal agency charged with ensuring safe navigation within federal waters. Alterations to the project, as the incorporation of wide vessel transit lanes as per Alternative F, would adversely impact the viability and the economics of the project, constrain clean energy production, and not meaningfully improve navigation or safety. Large transit lanes are unnecessary, and as the SDEIS itself suggests, will in fact pose greater risk to navigation than the uniform grid layout as proposed in Alternative D2, as more traffic is likely to be funneled into the lanes. The additional spreading out of wind generation would also add substantially to technical challenges, delays, cost increases to consumers and developers alike, as well as more environmental impacts.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 3.11 of the FEIS includes a discussion on the potential impacts on navigation and vessel traffic from Alternative F. The SEIS and Section 2.1.5 of the FEIS address some of the technical and practical challenges of implementing Alternative F.
12836-008	In sum, offshore wind has the potential to drive economic recovery and stimulate coastal economies up and down the eastern coast of the United States.	Section 3.6 of the FEIS addresses impacts to employment and economics from the proposed Project.
12841-001	The balance between keeping things as they are or developing wind projects off shore appears to me as one of moral and ethical choice. As part of a community of beings, whose behavior and consumption of natural resources has led to the decline of and significant degradation of biomes and even mass extinctions, increased storm impacts and disease ranges it is our responsibility to make the difference by reducing consumption and developing alternative energy production methods.	Thank you for your comment.
12841-002	Despite this fact, some in the fishing industry have proposed additional transit lanes of at least 4 NMs (reflected in Alternative F of the SDEIS), a move that would severely constrain clean energy production. It may not meaningfully improve navigation or safety. Alternative F would mean many more miles of cable and less production capacity. I question the intention of 4 mile navigation lanes.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12846-001	We need to start moving in a positive direction renewable energy is our future and our kid's future. Will also hel with job creations with many Americans out of work due to CoVid	Thank you for your comment.
12880-001	The entire WEA development has been driven by a process oriented approach. We need a results oriented approach. Fishermen's lives will be ruined, men and women will be out of work, environments will be altered forever, endangered right whales will be impacted and the oceans will be controlled by foreign interests. BOEM has heard all the fishermen's concern over and over - Enough is Enough!	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be

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		considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
12882-001	This project will help meet the renewable energy demand in New England and create thousands of jobs. As a company with many years of experience in the offshore survey industry, we are excited to see Vineyard Wind lead the way in building the United States first commercial scale offshore wind energy project and proud to be part of it.	Thank you for your comment.
12883-001	According to a recent report from the American Wind Energy Association, the offshore wind industry could create more than 80,000 jobs and over \$25 billion in annual economic output. We simply must tap into this opportunity, not only for our state, but for cities like Bridgeport that could be transformed by such an investment.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12885-001	According to the American Wind Energy Association (AWEA), this industry will create 83,000 jobs and 25 billion dollars of annual economic output by 2030. Not only will this project create high paying careers and reduce carbon emissions, it will also save ratepayers money on their electric bill. This is an impressive feat for the first commercial scale project in the United States and indicates how cost effective this industry will become in the future.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12885-002	I am sympathetic to concerns from the fishing industry, and I am glad the Vineyard Wind team changed their layout to a 1x1 nautical mile grid, matching other developers in the MA/RI Wind Energy Area. This is by no means a small compromise. The Coast Guard is in agreement that this grid will provide adequate spacing for vessel transit, commercial fishing, as well as search and rescue within the wind farms. Having additional transit lanes proposed by the Responsible Offshore Development Alliance (RODA) would not only drastically decrease energy output, but it may also increase traffic density and risks for vessel interaction.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12887-001	Offshore wind has a unique opportunity at this moment in time to benefit the US economy and environment. The pipeline of offshore wind projects is estimated to deliver approximately \$100 billion in economic investment, more than 80,000 jobs, and provide enough electricity to power millions of homes. New England stands at the forefront of this new American energy industry with multiple large projects in development that will deliver thousands of megawatts of clean energy to the grid. These projects will deliver competitively priced energy to the Massachusetts and Connecticut ratepayers and also bring thousands of high-paying jobs, considerable economic investment, and demand for a deep, regional supply chain.	Thank you for your comment.

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12887-002	It is also critical that BOEM approve the developer agreement for a 1x1 nautical mile layout throughout lease areas without the proposed Alternative F transit lanes. Developers have already conceded about 30% or 13,000 MW of clean energy capacity by accommodating fishing industry demands for a uniform layout, and further reduction through requiring transit lanes would translate to less clean energy for our region, fewer jobs created and significantly less economic benefits to our coastal communities. We encourage BOEM to move forward in accepting the compromise of the 1x1 layout without transit lanes as the best path toward encouraging coexistence of these two important industries.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12887-003	Vineyard Wind 1 represents the first major offshore wind development in the United States and following final permit approval will provide the needed certainty for future developments and capital investment along the East Coast. Along with the 3,600 jobs anticipated for the project, Vineyard Wind will also provide New England the opportunity to develop the deep supply chain needed to service the full offshore wind industry along the Eastern seaboard. It also likely serves as our region's strongest opportunity for large scale new energy to meet our growing population and demand for energy. However, in order to capture the maximum benefits of the supply chain opportunity, it is imperative that BOEM send the right signals to the market that the US is serious about moving forward with offshore wind and project permitting will be conducted fairly and within a reasonable timeframe. Without this certainty and predictability, it will be difficult to encourage the business community to invest in offshore wind to its full potential.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
12890-001	At a moment when we must make large-scale investments to restart our economy, we should take action on clean energy at the level we know we need to in order to take on climate change. We have a once-in-a-generation opportunity to put ourselves on the path to a low-carbon future while creating new, quality careers, with family-sustaining wages and benefits for communities across the nation.	Thank you for your comment.
12890-002	It will also provide thousands of good union jobs and attract global supply chain manufacturers to the Northeast...This project will set the stage for offshore wind developers to work in conjunction with organized labor, enlisting labor's world-class training programs to build the offshore wind workforce of the very near future, and ensuring that the jobs created are good, community- supporting jobs.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12890-003	The Vineyard Wind 1 developers have listened, engaged, and altered construction plans based on community feedback. This is something we need	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	to replicate in other projects. CJNY supports the 1X1 nautical mile layout compromise that responds to commercial fisheries' concerns. Not only does the Coast Guard approve of this mitigation effort; adding additional mileage to the layout would only take away from the efficiency and carbon reduction potential the project is meant to address (MARIPARS, 32). We ask BOEM to reject alternative F, which threatens the overall success and viability of not only this project but future offshore wind projects.	
12890-004	To maximize the economic development and job opportunities in offshore wind, the industry and its potential workforce needs confidence that demand in the U.S. offshore wind market is real. This means we need to move forward promptly in the permitting process to set the stage for this nascent industry. By launching this industry now, the potential for additional jobs multiplies exponentially, with the potential for hundreds of thousands of good-paying jobs across the United States.	Thank you for your comment.
12892-001	It is my opinion that BOEM should adopt alternative D2, comprised of a uniform 1 nm x 1 nm grid layout of turbines across contiguous lease areas, as the Preferred Alternative. After extensive study and public input, the USCG recently endorsed this layout as superior from a navigational safety perspective. In the context of its recently released final report “The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study” (MARIPARS), the USCG determined that the grid layout pattern “will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing within the [Wind Energy Area]. Large transit lanes are unnecessary, and as the SDEIS itself suggests, will in fact pose greater risk to navigation than the uniform grid layout as proposed in Alternative D2, as more traffic is likely to be funneled into the lanes. Alternative D2 strikes an appropriate balance by ensuring the cost-effective development of federal wind energy areas, without compromising the safety of recreational and commercial fishers or other mariners. By contrast, Alternative F would impose a significant burden on offshore wind development with no countervailing benefit from a navigational safety perspective.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12892-002	BOEM should reject alternative F, comprised of a 4-mile wide dedicated transit corridor, either alone or in combination with D2. The Coast Guard	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	declined to recommend further formal or informal vessel routing measures such as Alternative F.	
12895-001	...we'd like to take this opportunity to address some of the assumptions and concerns BOEM has raised about transmission [Section 1.2.1.1]....Anbaric believes that connecting to shore and the existing onshore electric grid will become one of the most contentious and challenging aspects of offshore wind development. Already offshore wind projects are facing community opposition and uncertain costs in connecting to the onshore grid....BOEM's assumption that these challenges will be overcome does not recognize these complicating factors will be exacerbated as more projects try to connect to the few coastal communities with a robust electric grid. We believe this assumption endangers the 22 GW of potential offshore wind, and that these challenges will only be overcome through the careful planning and coordination of a planned transmission system that minimizes environmental and social impacts, while fully utilizing scarce corridors to robust points on the onshore grid.	Thank you for your comment.
12900-001	Spatial requirements and dedicated shipping and travel corridors have been expanded beyond initial Construction and Operations Plans to ensure limited impact on migratory routes and commercial traffic.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12900-002	The economic impact of this project to the Southeastern Massachusetts region will provide opportunities in a new industry which has received great support from the State of Massachusetts. The educational and occupational opportunities that Vineyard Wind has committed to provide, through partnerships with local educational institutions and Labor organizations, are going to be necessary to the economic stability in Massachusetts in a rapidly changing economic climate.	Thank you for your comment.
12901-001	Wind Turbine Layout. BOEM should adopt a one-mile turbine spacing layout (Alternative D2), without the additional requirement for transit lanes, consistent with the conclusions of the United States Coast Guard's (USCG) MARIPARS study.....In light of these findings and facts and the broad regional support for Alternative D2, Eversource Investment urges BOEM to adopt the conclusions of the MARIPARS study which balances and optimizes the interests of all marine uses.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12901-002	Commercial & Recreational Fisheries. While the SEIS assigns a major cumulative impact to commercial fisheries and for-hire recreational fishing under all alternatives, the SEIS properly acknowledges (and should further emphasize) that other factors substantively contribute to that assessment and offshore wind projects can appropriately mitigate those impacts.	Thank you for your comment.

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12901-003	Military, National Security and Safety. Lanes oriented north to south and east to west 1 mile wide will accommodate the USCG's search and rescue operations will further reinforce the compatibility of the development of offshore wind projects with military operations, national security and safety.....Without question, military operations, national security and search and rescue operations are critically important and should not be compromised. However, there is no support in the record for the SEIS conclusion that there will be major cumulative impacts to these essential functions. In fact, neither the Department of Defense (DoD) nor the USCG, as consulting agencies to BOEM, found the Proposed Action to pose a problem. The DoD specifically concluded that the Proposed Action would have minor, but acceptable impacts on their operations.....As a result of the evaluation of these important uses by BOEM, DoD and USCG, it is clear that military operations, national security and safety are compatible with the development of the offshore wind industry using the one-mile north to south and east to west turbine spacing approach.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. Following the layout recommendations in the Final MARIPARS would improve safety, but it would not remove the risk of allisions or collisions with WTGs during SAR operations particularly in challenging weather or visibility conditions (USCG 2020).
12901-004	Temporary Impacts and Mitigation. Most potential unavoidable adverse impacts will be temporary (during construction) and reduced through mitigation measures employed by project developers.....Thus, while there are certain major impacts identified as a result of the NEPA process, that is typical and not a basis for denying an application, particularly where a maximum design scenario is used and projectspecific mitigation measures are adopted to offset those impacts.	Thank you for your comment.
12901-005	Cumulative Impacts Analysis. Future projects should be evaluated based on their own merit, including mitigation resulting from the continued collaboration of offshore wind project developers and stakeholders.....The expansive consideration of cumulative impacts in the SEIS goes above and beyond what is required under the Council of Environmental Quality's (CEQ's) recently revised NEPA regulations. The amendments remove the regulation that previously required consideration of cumulative impacts, noting that "cumulative impacts" is not a term included in NEPA. CEQ indicated that only effects that are "reasonably foreseeable and have a reasonably close causal connection to the proposed action" should be evaluated under NEPA. CEQ emphasized that, under this standard, effects that are	The methodology for assessing reasonably foreseeable actions or projects that was presented in the SEIS was carried forward in the FEIS.

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	remote in time or geographically remote will generally not require analysis in connection with a proposed action. 65 Fed. Reg. 43303, 43331, 43443-44 (July 16, 2020) (The effective date of the revised regulations is September 14, 2020.) The cumulative impacts analysis performed here suffers from precisely those problems: the scope of the offshore wind development considered in the SEIS is uncertain, and much of it far in the future, geographically remote or both.	
12901-006	Environmental Justice Communities. U.S. offshore wind development off the Atlantic coast will provide substantial benefit to environmental justice communities, including jobs and associated economic activity arising from port development and operations.....Port use and expansion necessary to support the offshore wind industry will provide substantial economic benefits to these communities, including new jobs and associated economic activity. While these benefits will be greatest during the construction period, they will continue at an economically meaningful level throughout the operational life of the offshore wind projects when these environmental justice communities also would share the clear environmental benefits associated with clean, renewable energy. Based on the experience of Eversource Investment's organization, BOEM (and the Final SEIS) should not understate the importance of the benefits of the offshore wind industry for these communities.	Section 3.6.2 of the FEIS has been revised to conclude that offshore wind development within the RI and MA Lease Areas is anticipated to have a moderate beneficial impact on employment and economics in the geographic analysis area. In addition, Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects). Section 3.7.1 of the FEIS also notes the potential benefits of offshore wind-related power generation to environmental justice communities.
12901-007	The SEIS for the first time introduces Alternative F, which was not suggested until very late in the NEPA process and the merit of which is not apparent.	Thank you for your comment.
12906-001	This project is essential to the future of MA and New England. The jobs it will create alone should be enough to demonstrate its worth. It is also essential in MA's transition to clean energy and to a future that can sustain a growing population, economy, and energy needs without heating the earth and risking our future. As a young person this is of utmost concern to me. MA must embrace clean energy and be the leader it can be. Concerns related to this project are trivial compared the the threat of continued carbon emissions. I strongly back this project.	Thank you for your comment.
12909-001	There are almost no peer-reviewed scientific studies here or in Europe on the impacts of offshore wind energy facilities to fisheries and fish stocks. Now is the time to do a study, establish a baseline. We need a moratorium to do it right. Learn from Eurpoe's mistakes, don't copy them.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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12915-001	Vineyard Wind has completed an exhaustive analysis of environmental impacts, concluding the project can be completed with the least environmental impact.	Thank you for your comment.
12915-002	Vineyard Wind 1 entered a first of its kind agreement with the National Wildlife Federation, the Natural Resources Defense Council and the Conservation Law Foundation to protect whales.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
12915-003	Vineyard Wind 1 will utilize 1 mile by 1 mile spacing in-between all offshore turbines to allow for commercial fishing and navigation. Vineyard Wind 1 has worked with the Coast Guard and fisherman to design spacing between the turbines that will allow for navigation and commercial fishing uses. This spacing agreement will set a national precedent for future projects. It is a reasonable and acceptable spacing standard that allows navigation, commercial fishing and wind power to coexist and share ocean resources.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12915-004	BOEM needs to reject Alternative F in the SEIS. Alternative F suggests additional unneeded navigation lanes, above and beyond the 1 mile by 1 mile spacing. Vineyard Wind has agreed to build their turbines for this project in a 1 x 1 nautical mile grid after input from the US Coast Guard. The US Coast Guard has determined that this type of grid would allow for safe navigation, and all the other developers of the New England wind energy areas have agreed to this layout. <i>Alternative F would encumber this project and future offshore wind projects without providing any benefit to navigation.</i>	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12915-005	BOEM needs to weigh potential impacts of offshore wind on marine wildlife within the context of climate change and other human activities. While all large-scale energy infrastructure has some impact to our environment, the greatest threat to fish, bird, and marine species, as well as our coastal communities and public health, is climate change. Ocean acidification, rising sea levels, increasing water temperatures, and altered ecosystems, caused and exacerbated by our continued reliance on fossil fuels, puts the health of our fisheries and marine mammals in jeopardy. Offshore wind farms, starting with Vineyard Wind 1, are necessary to transition away from fossil fuels and protect marine life and fisheries. Hindering offshore wind power in order to accommodate commercial fishing is akin to rejecting antibiotics when you have an infection. Rejecting the antidote to the illness only makes the illness worse. <i>Rejecting offshore wind will severely hinder our transition away from fossil fuels thereby increase ocean acidification and warming ocean waters</i>	Thank you for your comment.

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	<i>which will result in diminishing fish and shell fish stock. Offshore wind farms will greatly assist the sustainability of fisheries.</i>	
12915-006	Large-scale offshore wind is needed to meet renewable energy targets. New York, Connecticut, and other east coast states are working to achieve strong, meaningful renewable energy targets, but we may not be able to meet them without the success of Vineyard Wind 1. This SEIS is focused on Vineyard Wind 1, yet, in many ways the nearterm future of offshore wind in the US rests on this project.	Thank you for your comment.
12915-007	Offshore wind will help boost our economy post COVID. Over the next 10 years, offshore wind is poised to create over 80,000 jobs and contribute \$12-\$25 billion per year to the nation's economy. As the first large-scale offshore wind project in the US, Vineyard Wind 1 has the opportunity to kick off a pipeline of projects and jumpstart the offshore wind industry. The US is already decades behind Europe and Asia in the advancement of offshore wind technology, which creates billions of dollars for local economies while providing significant public health benefits. The time to move forward is now.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States. Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12915-008	Vineyard Wind 1 will provide significant benefits to Massachusetts communities while helping to reduce the carbon footprint. Vineyard Wind 1 has become the standardbearer for environmentally responsible and well-sited offshore wind in the US. We must not continue to debate or delay this project any longer.	Section 3.6.2 of the FEIS provides estimated job growth and economic benefits from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
12916-001	Our President says to hire American, buy American. Please do not let them circumvent the Jones Act and hire foreign workers on foreign boats working for foreign companies to build these wind farms. The environmental damage they will do to our oceans will not be able to be reversed. Our trade imbalance in regards to seafood will increase. The jobs they forecast are inflated.	Section 3.6.1.1 of the FEIS references several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
12917-001	I urge you in the strongest terms to expedite the permitting of offshorewind power generation projects. The siting of these structures can be arranged to still co-exist with commercial fishing operations, but the country needs renewable energy now.	Thank you for your comment.
12919-001	WindServe Marine supports Alternative D2, which is the proposal for 1x1 nautical mile spacing in a uniform east-west grid layout. This reflects the	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	joint proposal of all wind farm developers holding a lease in the area south of Martha's Vineyard, and it is the proposal that the Coast Guard determined would facilitate navigation safety and search-and-rescue in its MARIPARS report.	
12919-002	Conversely, Alternative F, which would impose 4-mile wide vessel transit lanes within wind farms, is not supported by the industry nor the U.S. Coast Guard, which determined such lanes could actually reduce navigation safety and increase danger and risk to mariners.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12925-001	Offshore wind is the single biggest lever we can pull to reduce New England's emissions, address the climate crisis, meet our energy needs, and grow our economy simultaneously. Harnessing its economic potential could help drive economic recovery by creating thousands of jobs, establishing our region as a hub for clean-tech development and deployment, expanding the market for local renewables, and saving ratepayers billions of dollars. Many of New England's old nuclear, oil, and coal-fired power plants are likely retiring over the next decade. At the same time, the demand on our grid will continue to grow as we move to electrify transportation and heating. We must urgently address the growing gap between future electricity supply and demand by replacing these older fossil fuel power plants with clean, local, renewable energy. Doing so will reduce pollution, protect the health of vulnerable communities, and enable our businesses and institutions to set and achieve ambitious corporate sustainability goals.	Thank you for your comment.
12930-001	There is no plan for compensating fisherman for the loss of the fisheries off the Northeast coast from such a catastrophic event and massive oil spill.	Section A.8.2.2 of the SEIS addressed the potential for accidental releases and discharges associated with the proposed Project. The SEIS stated modeling conducted by BOEM indicated a catastrophic, or maximum-case scenario, release of 128,000 gallons (484,533 liters) of oil mixture has a "Very Low" probability of occurring, meaning it could occur one time in 1,000 or more years. The modeling effort also revealed the most likely type of spill (i.e., non-routine event) to occur is from the WTGs at a volume of 90 to 440 gallons (341 to 1,666 liters), at a rate of one time in 1 to 5 years, or a diesel fuel spill of up to 2,000 gallons (7,571 liters) at a rate of one time in 20 years. Therefore, no change to the FEIS is warranted.
12930-002	the Draft SEIS fails use basic market and economic principles in analyzing the No-Action alternative. The Project might be able to be analyzed solely as an additive project as far as economic and climate change impacts if it existed in a vacuum, but it does not. Electricity from the Vineyard Wind Project and the balance of the 2,021 WTGs would displace renewable energy projects that would otherwise be built onshore in the New England states and on the ISO New England electricity grid. But for the Project and ones like it,	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts. In addition, BOEM's obligation is to review the proposed Project as outlined in the COP as well as alternatives that meet the purpose and need that was developed with cooperating agency input.

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	Massachusetts, Rhode Island and Connecticut would turn to onshore solar electricity projects, which create more of a positive economic impact, none of the adverse moderate and major consequences of the Project and have a tiny fraction of the climatic impacts that the Project has.	
12930-003	The Endangered Species Act prohibits the proposed action.	Sections 3.4, 3.5, and 3.6 of the SEIS discussed the coordination of the review of the Proposed Action under this NEPA process and under the Endangered Species Act with the US Fish and Wildlife Service and with the National Marine Fisheries Service. Therefore, no change to the FEIS is warranted.
12930-004	Similarly, the analysis of the No-Action Alternative regarding Air Quality is incorrect. The Vineyard Wind would be replaced with renewable energy projects located closer to the actual electrical load. Those projects would have the higher air quality benefits, and GHG and climate benefits compared to the Vineyard Wind because they would be more efficient, and not create the warming created by the Project. See, Harvard Wind Study.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. Additionally, BOEM's role is to evaluate the potential effects of the proposed Project as outlined in the COP as well as the impacts of a range of reasonable alternatives as required by NEPA. BOEM does not have control over any state or grid operator structure and whether or not the proposed Project would compete with other renewable projects outside of BOEM's purview.
12930-005	Neither the SEIS or the EIS accounts for the additional stress on endangered species caused by the increase in temperatures caused by the Project and the balance of the 2,021 WTGs themselves. See, Harvard Wind Study....If the right whales' food supply in the Wind Energy Area is diminished, it would adversely affect the right whales' ability to continue their journey to the Gulf of Maine.	The analysis in the FEIS represents the best available science. The commenter is misrepresenting the information from the referenced study (Miller and Keith 2018). While there is some warming associated with wind power due to the atmospheric mixing, these impacts are generally localized to the immediate area around the turbines. Additionally, the study addressed surface temperature at land based WTGs. The same level of heating would not be expected to occur on the OCS given the thermal buffering characteristic of the ocean. As described in the Biological Opinion issued by NOAA, while it may lead to higher surface water temperature, "these effects will not extend more than a few hundred meters from each foundation." (NMFS 2020).
12930-006	The failure of the EIS or the SEIS to take a hard look at the likelihood of a category 3 or greater hurricane and the likelihood that such an event would result in an oil spill the size of the Exxon Valdez in the WEA renders the EIS	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years.

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	and the SEIS fatally flawed... The failure of the EIS or the SEIS to take a hard look at the likelihood of a category 3 or greater hurricane and the likelihood that such an event would destroy the WTGs resulting in the elimination of generating capacity in the ISO-New England grid for years, which in turn would result in devastating economic, safety and health consequences for New England, is clear error.	Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted.
12930-007	The SEIS fails to take the required hard look at the direct, indirect, and cumulative greenhouse gas (“GHG”) emissions and the impacts of those emissions on climate change. The SEIS fails to sufficiently quantify and account for direct GHG emissions, and fails to analyze the effect of those emissions on other resource values.	Sections 3.11.1 and A.8.1 of the SEIS considered the influence of offshore wind energy development on climate change and state that offshore wind projects will likely result in a net decrease in GHGs. Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
12930-008	Yet the SEIS fails to take the required hard look at the direct, indirect, and cumulative climate impacts of those reasonably foreseeable challenges and the required interconnection points and transmission infrastructure build-outs that the SEIS admits are certain. The SEIS improperly ignores the required construction of transmission and interconnection upgrades that would be required to accommodate the assumed 22 GW of Atlantic offshore wind energy.	Please note that BOEM specifies in the SEIS and FEIS that reasonably foreseeable does not mean certain or approved. BOEM's NEPA process considers the contribution of the proposed Project and reasonable alternatives to the impacts of future reasonably foreseeable development. Potential transmission infrastructure and buildouts were estimated based on best available information.
12930-009	On A-42, the assumption regarding the No Action Alternative [which states that the NAA without implementation of other future offshore wind projects would likely result in increased air quality impacts regionally due to the need to construct and operate new energy generation facilities to meet future power demands] is flawed.	Thank you for your comment.
12930-010	The SEIS fails to take the required hard look at the direct, indirect, and cumulative climate impacts of the Project on climate change. The SEIS fails to sufficiently quantify and account for the warming that is generated by the Project and all 2,021 WTGs...In any case, the EIS must make an informed decision, and it cannot simply ignore the adverse climatic impacts of the Project and the projected 2,021 WTGs over the next ten or longer years.	Sections 3.11.1 and A.8.1 of the SEIS considered the influence of offshore wind energy development on climate change and state that offshore wind projects will likely result in a net decrease in GHGs. Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis

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		throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
12930-011	If offshore wind is not built, then state demand for renewable energy can be filled entirely by solar. The SEIS's failure to examine a true no-action alternative that would result in offshore wind being replaced entirely by solar is fatal.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12930-012	In addition, the SEIS's assumption that state demand for renewable energy that has a preference for off-shore wind would then be morphed into a demand for fossil fuel energy if the proposed Project (and others like it are rejected) is also illogical.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts. In addition, BOEM's obligation is to review the proposed Project as outlined in the COP as well as alternatives that meet the purpose and need that was developed with cooperating agency input.
12930-013	The SEIS remedied only the failure to look at reasonably foreseeable additional off-shore wind projects, but did not remedy all the other failures of the EIS. Moreover, the SEIS added to the EIS' deficiencies by illogically assuming in the analysis of the No Action Alternative that all other off-shore wind projects would be approved if the proposed Project was not.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts. In addition, BOEM's obligation is to review the proposed Project as outlined in the COP as well as alternatives that meet the purpose and need that was developed with cooperating agency input.
12930-014	Similarly, the SEIS's conclusion in 3.4.1.2. (and similar ones like it, e.g., 3.5.1, 3.6.1, 3.7.1, 3.8.1, 3.9.1, 3.10.1, 3.11.1) wholly ignore onshore solar as a replacement for the proposed action. That results in flawed conclusions such as in 3.4.1.2 that ongoing activities and future offshore activities will have a comparable adverse impact on finfish, invertebrates, and EFH. That conclusion makes little sense and is based upon the premise that if the proposed Project does not create the adverse impact, then someone else will, so the proposed Project is not really causing much of an impact. Such circular reasoning effectively negates the purpose of NEPA.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts. In addition, BOEM's obligation is to review the proposed Project as outlined in the COP as well as alternatives that meet the purpose and need that was developed with cooperating agency input.
12930-015	The SEIS fails to take a hard look at alternatives thus failing to comply with EPA's 404(b)(1) guidelines. The SEIS violates the Clean Water Act's ("CWA's") requirements by not taking a hard look—indeed not taking any look—at the proposed purpose of the Project and the balance of the 2,021 WTGs being able to be accommodated by onshore renewable energy.	Chapter 2 of the FEIS has an updated discussion of Alternatives Considered but not Analyzed in Detail for the proposed Project. Table 1.3-1 in Appendix B of the FEIS has updated the status of permits and consultations required for the proposed Project. USACE is the agency that would be responsible for regulating activities under Section 404 of the Clean Water Act. In addition, Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the

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		proposed Project, and as noted in the Appendix C, USACE is a cooperating agency in the preparation of the EIS.
12930-016	The SEIS fails to take a hard look at the Army Corps of Engineers (the “Corps”) public interest test...The Draft SEIS simply fails to offer any explanation as to why Project and the balance of the 2,021 WTGs meet the public interest test, and do not contain sufficient information to form the basis of a conclusion that the Project meets the test.	Under NEPA and Outer Continental Shelf Lands Act (OCSLA), BOEM’s evaluation of the Project does not require a public interest determination. Further revisions to the FEIS were not warranted.
12930-017	The likelihood and impact of hurricane activity in the Project area and area of the balance of the 2,021 WTGs are inaccurate, flawed and inadequately analyzed.	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years. Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted.
12930-018	The likelihood of a category 3 or greater hurricane and the likelihood that such an event would destroy the WTGs resulting in the elimination of generating capacity in the ISO-New England grid for years, which in turn would result in devastating economic, safety and health consequences for New England, shows that the proposed Project and the balance of the 2,021 WTGs is not in the public interest.	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years. Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted.
12930-019	Combined, it is reasonably foreseeable that the proposed Project, together with the balance of the 2,021 WTGs could result in the inability to reduce global warming in the next 9 years as U.N. scientists have said must be done, further endangering the Earth’s climate, as it nears the tipping point.	Thank you for your comment.
12930-020	The SEIS assumes, without analysis, that the offshore wind generation from the Project and the balance of the 2,021 WTGs do not displace other forms of renewable energy generation that would come online but for the Project and the balance of the 2,021 WTGs.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
12930-021	The SEIS assumes, without analysis, that the offshore wind generation from the Project and the balance of the 2,021 WTGs would displace a future electric generating plant that would use natural gas as fuel. Such an assumption does not pass the muster of informed decision making. The SEIS and BOEM and the cooperating agencies also failed to consider the potential for other adverse climate effects of the Project and the balance of the 2,021 WTGs.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.

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12930-022	BOEM and the cooperating agencies have failed to take a hard look at the direct, indirect, and cumulative impacts to the climate from GHG emissions and warming caused not by GHG emissions from the Project and the balance of the 2,021 WTGs by their alteration of wind flow, and failed to discuss the severity of these impacts.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. In addition, wind condition information was included in the SEIS and Section E.2.2 of the FEIS. Information on wind wakes and alternation of flow is included in Section E.2.6 of the FEIS.
12930-023	BOEM and the cooperating agencies have failed to take a hard look at the direct, indirect, and cumulative impacts to all resource values of the massive undertaking of construction the high-voltage transmission and interconnection substations that would need to be built for 21.8 GW of offshore wind. The SEIS “assumes” without analysis, that the massive required build-out will have no impact at all on any resource value... The SEIS fails to take the required hard look at the direct, indirect, and cumulative climate impacts of those reasonably foreseeable challenges and the required interconnection points and transmission infrastructure build-outs that the SEIS admits are certain. The SEIS improperly ignores the required construction of transmission and interconnection upgrades that would be required to accommodate the assumed 22 GW of Atlantic offshore wind energy. The SEIS must make an informed decision, and it cannot ignore the required construction of transmission and interconnection upgrades that would be required to accommodate the assumed 22 GW of Atlantic offshore wind energy.	The SEIS and Section 1.7.1 of the FEIS specifies that infrastructure does not currently exist to handle interconnection points and transmission for 22 GW of Atlantic offshore wind energy. BOEM assumes these challenges will be solved and that 22 GW of Atlantic offshore wind can be built. This analysis does not address potential solutions, but independent transmission proposals dedicated to offshore wind energy could assist. BOEM assumes for assessment purposes that each project would have its own submarine transmission line and that regional transmission right-of-way projects are not currently foreseeable. However, if shared submarine cable were developed in the future, environmental impacts would be reduced for most resources.
12930-024	The SEIS’s assumption that, compared to No Action, approving the proposed Project would have a positive impact on total greenhouse gas emissions is wrong and departs from basic economic principles and vastly overstates the proposed Project’s purported positive relative climate impacts.	Climate change was addressed in the DEIS and SEIS and is included in Section A.8.1 of the FEIS. The effects of climate change were also an impact-producing factor that was assessed in the appropriate resource sections in Chapter 3 and Appendix A of the SEIS.
12930-025	The SEIS’s assumption that state demand would be met though other projects built in the RI and MA Lease Areas is illogical and unsupportable.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.

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12930-026	The EIS's and BOEM's assumption that the No-Action will have no net effect on onshore renewable energy generation, economic benefits or climate benefits contradicts fundamental economic principles. Significant changes in renewable energy supply will affect renewable energy's price and, therefore, consumption and emission levels.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
12930-027	It is a serious error to assume that under the No-Action Alternative, all 1 million GWhs would not be completely be replaced by renewable energy generation from other sources, with no effect on overall consumption or emissions.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
12930-028	The EIS and BOEM fail to analyze how electricity from the Project directly competes with other renewable energy resources in electricity generation, such that increasing the supply of offshore wind results in less American renewable energy generation on-shore in ISONew England, particularly solar electric generation.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. Additionally, BOEM's role is to evaluate the potential effects of the proposed Project as outlined in the COP as well as the impacts of a range of reasonable alternatives as required by NEPA. BOEM does not have control over any state or grid operator structure and whether or not the proposed Project would compete with other renewable projects outside of BOEM's purview.
12930-029	The EIS and BOEM also ignore how overall greenhouse gas emissions and climate impacts will vary among substitute sources of renewable energy generation. The EIS and BOEM should have—and easily could have—evaluated the No-Action Alternative's climate effects.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
12930-030	Approving the proposed Project increases the supply of offshore wind generated electricity, lowering demand for U.S.-based onshore renewable energy generation. Alternatively, in the No-Action Alternative, the demand	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.

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	for U.S.-based onshore renewable energy generation would be higher; and unlike the proposed Project's effects in the first ten or longer years, U.S.-based onshore solar electric generation would reduce greenhouse gas emissions and overall climate effects. Similarly, in the No-Action Alternative, the higher demand for U.S.-based onshore renewable energy generation would result in increased economic benefits for the United States, as compared to the proposed Project's economic benefits.	
12930-031	The failure of the SEIS to analyze the potentially devastating impacts on United States onshore renewable energy producers is clear error.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
12930-032	Changes in the relative amounts of coal, natural gas, renewable sources, and nuclear energy used to generate electricity—as well as changes in total energy demand—would, in turn, change total greenhouse gases emissions. In short, the SEIS' unexamined and unsupported assumption that the No-Action Alternative would have no effect on onshore solar energy is contradicted by fundamental economics and market analyses. The SEIS fails to meet NEPA's requirements, and should be revised.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
12930-033	Considering the size and nature of the Project and the balance of the 2,021 WTGs, it is a fallacy to assume that under the No-Action Alternative there would be no substitution with no effect on price, consumption, or emissions.	Thank you for your comment.
12930-034	... it is clear error to not analyze the substitutions that would occur if the Project and the balance of the 2,021 WTGs were not built... The Project and the balance of the 2,021 WTGs and the certain transmission build-out represents an enormous amount of renewable energy that has a major effect on resources. If the Project and the balance of the 2,021 WTGs are not approved, utilities in ISONew England will acquire other renewable energy production to satisfy their respective renewable energy goals and standards, and therefore, lower greenhouse gas emissions. In the No-Action Alternative, any renewable energy substituting for the Project and the balance of the 2,021 WTGs may provide a more positive impact on emissions and climate change. Yet, the SEIS does not analyze this environmental impact in its alternatives analysis. In short, the SEIS' flawed economic assumptions render its alternatives analysis ineffective and misleading, and the EIS must be revised.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
12930-035	The DOE's mistaken assumption that taking no action on the Project and the balance of the 2,021 WTGs and the massive certain transmission build-out would have, compared to approving it, no net effects on greenhouse gas emissions, fisheries, endangered species, marine mammals and other resource values represents a substantial break with a 35-year history of proper analysis	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.

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	by Interior and its sister agencies, and is inconsistent with the Interior's actions in other reviews.	
12930-036	The Draft EIS and SEIS for the Project wholly ignore alternative generation resources that would fill the void [under the NAA]. The Draft EIS and SEIS assumes that the Project and the balance of the 2,021 WTGs would prevent future natural gas electric generating plants. Such an assumption does not pass the muster of informed decision making [and] is absurd and defeats the entire purpose of analyzing viable replacements when the No-Action alternative is selected. It is also a rationale that has been rejected by the courts.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
12930-037	The Draft EIS' and SEIS' analysis is also inconsistent with BOEM and Interior's use of market modeling in other environmental impact statements. Such inconsistent action is itself arbitrary and capricious agency action.	Thank you for your comment.
12930-038	Local taxing jurisdictions would realize increases in tax revenues as a result of the onshore renewable generators that would be built instead of the proposed Project and the balance of the 2,021 WTGs. The offshore components of the Project and the balance of the 2,021 WTGs which is substantially all the Project's and the balance of the 2,021 WTGs assets are outside state taxing jurisdiction. As such it is not subject to state and local property, sales or income taxation.	In light of the number of potential future offshore wind energy developments listed in Appendix A and the Commonwealth of Massachusetts's mandate that distribution companies jointly and competitively solicit proposals for offshore wind energy generation (220 Code of Massachusetts Regulation [CMR] 23.04[5]), there is no evidence that any proposed alternative, including the "No-Action" alternative, would have a significant effect on the economics of renewable energy in the region. Therefore, further revision of the FEIS was not warranted.
12930-039	Similarly, direct or indirect economic impacts for those alternative renewable onshore United States-based generators would occur within the region under the No-Action Alternative, and indeed would far exceed those from the Project and the balance of the 2,021 WTGs. There would also be a reduction in the wholesale price of electricity for those alternative United States-based generators, and a far greater decrease in CO ₂ emissions.	As described in Appendix A and Section 3.6 of FEIS, the geographic analysis area for economic impacts is limited to the counties where proposed onshore infrastructure and potential port cities are located, as well as the counties in closest proximity to the WDA. Economic impacts evaluated in Section 3.6 of the FEIS reflect up to 775 WTGs in the RI and MA Lease Areas. In light of the number of potential future offshore wind energy developments listed in Appendix A and the Commonwealth of Massachusetts's mandate that distribution companies jointly and competitively solicit proposals for offshore wind energy generation (220 Code of Massachusetts Regulation [CMR] 23.04[5]), there is no evidence that any proposed alternative, including the "No-Action" alternative, would have a significant effect on the economics of renewable energy in the region; therefore, further revision of the FEIS was not warranted.
12930-040	Under NEPA regulations, agencies must consider all reasonable alternatives, including those not specifically under their authority to implement...Thus, the failure to consider and take a hard look at onshore renewable generation resources because they would not require a permit within BOEM's or the cooperating agencies' jurisdiction is clear error.	As described in the DEIS, SEIS, and in Section C.5 in Appendix C of the FEIS, BOEM considered additional alternatives but did not analyze them in detail if they did not meet the purpose and need or the established screening criteria. Since onshore renewable generation does not meet the purpose and need, it was not evaluated through the NEPA process.

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12930-041	Therefore, the “Socioeconomic” impacts of the No-Action alternative are manifestly wrong. The No-Action alternative would result in different renewable energy projects filling its place. And because those alternative projects would be located entirely onshore in the United States and fully within state and local taxing jurisdictions, they would far surpass the Project and the balance of the 2,021 WTGs in economic benefits to the United States.	Thank you for your comment.
12930-042	Similarly, the analysis of the No-Action alternative for Air Quality is incorrect. The Project and the balance of the 2,021 WTGs would be replaced with renewable energy projects located closer to the actual electrical load. Those projects would have the higher air quality benefits, and GHG benefits compared to the Project and the balance of the 2,021 WTGs because they would be more efficient, and would not require the adverse climatic impacts caused by WTGs.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. Additionally, BOEM's role is to evaluate the potential effects of the proposed Project as outlined in the COP as well as the impacts of a range of reasonable alternatives as required by NEPA. BOEM does not have control over any state or grid operator structure and whether or not the proposed Project would compete with other renewable projects outside of BOEM's purview.
12930-043	The Project and the balance of the 2,021 WTGs will displace American jobs related to construction and operation of onshore renewable energy projects in the United States that would fill any void if the Project and the balance of the 2,021 WTGs were not built. The SEIS has not analyzed those economic impacts and the loss of American jobs and tax revenues if the Project and the balance of the 2,021 WTGs were built.	As described in Appendix A and Section 3.6 of the FEIS, the geographic analysis area for economic impacts is limited to the counties where proposed onshore infrastructure and potential port cities are located, as well as the counties in closest proximity to the WDA. Economic impacts evaluated in Section 3.6 of the FEIS reflect up to 775 WTGs in the RI and MA Lease Areas. In light of the number of potential future offshore wind energy developments listed in Appendix A and the Commonwealth of Massachusetts's mandate that distribution companies jointly and competitively solicit proposals for offshore wind energy generation (220 Code of Massachusetts Regulation [CMR] 23.04[5]), there is no evidence that any proposed alternative, including the “No-Action” alternative, would have a significant effect on the economics of renewable energy in the region; therefore, further revision of the FEIS was not warranted.
12930-044	The SEIS' description of the effects of the No-Action Alternative is manifestly erroneous. The SEIS does not properly and adequately analyze the “No-Action” Alternative. The Project and the balance of the 2,021 WTGs will result in the loss of thousands of American jobs by displacing other renewable energy projects in New England.	Thank you for your comment.

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12930-045	The SEIS violates the CWA’s requirements by not taking a hard look—indeed not taking any look—at the proposed purpose of the Project and the balance of the 2,021 WTGs being able to be accommodated by onshore renewable energy. The Draft SEIS is utterly devoid of sufficient information that would support a decision of compliance with the Guidelines.	Section C.5 in Appendix C of the FEIS has an updated discussion of Alternatives Considered but not Analyzed in Detail for the proposed Project. Table 1.3-1 in Appendix B of the FEIS has updated the status of permits and consultations required for the proposed Project. USACE is the agency that would be responsible for regulating activities under Section 404 of the Clean Water Act. In addition, Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project, and as noted in the Appendix C, USACE is a cooperating agency in the preparation of the EIS.
12930-046	The Draft SEIS simply fails to offer any explanation as to why Project meets the public interest test. In order to have taken a hard look at whether the proposed Project meets the public interest test, BOEM would need at the very least to conduct a thorough review of the ISO-NE electricity supply and alternatives to meet renewable energy demand.... Moreover, in order to determine that the proposed Project meets the public interest test, a thorough review of its potential competitive effects on United States onshore based generators must be conducted. The SEIS made no such effort(s).	Under NEPA and Outer Continental Shelf Lands Act (OCSLA), BOEM’s evaluation of the Project does not require a public interest determination. Further revisions to the FEIS were not warranted.
12930-047	The proposed Project would raise global warming in the early years of the Project, and overall as compared to renewable energy substitutes such as solar...will raise temperatures at and near its location adding additional stress on marine life that is already under stress... [and] would create vulnerabilities to the New England electric grid by concentrating so much electricity from one source. No analysis has been conducted to compare the Project to distributed generation sources near load that could form the basis for local microgrids and reduce the grid’s risk to severe weather events as well as criminal acts. The adverse impacts of the Project and the balance of the 2,021 WTGs could be avoided, and all the purported benefits of the Project and the balance of the 2,021 WTGs achieved, under the No-Action Alternative with deployment on onshore solar energy. The SEIS’ failure to evaluate whether the proposed Project satisfies the public interest test requires that the SEIS be revised.	Under NEPA and Outer Continental Shelf Lands Act (OCSLA), BOEM’s evaluation of the Project does not require a public interest determination. Further revisions to the FEIS were not warranted.
12930-048	The SEIS calculates the “economic benefits,” impacts on other resource values and climate impacts of Project and the balance of the 2,021 WTGs by assuming that and the balance of the 2,021 WTGs would be built anyway, and that no onshore renewable energy facilities would be built to take their place if they were not built. As explained above, that is simply not true. Because onshore sources of renewable energy generation would substitute for the Project and the balance of the 2,021 WTGs, the SEIS must subtract from its calculation of the Project’s economic, energy supply and climate benefits,	Under NEPA and Outer Continental Shelf Lands Act (OCSLA), BOEM’s evaluation of the Project does not require a public interest determination. Further revisions to the FEIS were not warranted.

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	the lost benefits from all those would-be sources of onshore renewable energy generation that would no longer be built.	
12930-049	If the Project and the balance of the 2,021 WTGs were not selected by Massachusetts and/or Connecticut for a PPA, then other renewable energy projects would have been selected, with onshore solar having greater positive impacts, and none of the negative impacts of offshore wind.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action.
12930-050	The jobs conclusion fails to account for the jobs that are lost related to onshore substitutes, particularly solar. The jobs report also fails to reflect the negative impact on fishing and environmental justice communities. Thus the “Socioeconomic” impacts of the No-Action Alternative are wrong. The No-Action Alternative would result in onshore renewable energy projects filling its place.	As described in Appendix A and Section 3. 6 of the FEIS, the geographic analysis area for economic impacts is limited to the counties where proposed onshore infrastructure and potential port cities are located, as well as the counties in closest proximity to the WDA. Economic impacts evaluated in Section 3. 6 of the FEIS reflect up to 775 WTGs in the RI and MA Lease Areas. In light of the number of potential future offshore wind energy developments listed in Appendix A and the Commonwealth of Massachusetts’s mandate that distribution companies jointly and competitively solicit proposals for offshore wind energy generation (220 Code of Massachusetts Regulation [CMR] 23.04[5]), there is no evidence that any proposed alternative, including the “No-Action” alternative, would have a significant effect on the economics of renewable energy in the region; therefore, further revision of the FEIS was not warranted.
12930-051	The EIS and SEIS must subtract from its calculation of the Project’s economic, energy supply and climate benefits, the lost benefits from all those onshore sources of renewable energy generation that would no longer be built. Once that is done, Project and the balance of the 2,021 WTGs may (and likely would) have a net negative impact on economics, climate benefits, fisheries, marine mammals, endangered species, commercial fishing, and all other resource values compared to its substitutes. The SEIS does not comply with NEPA because it fails to analyze those effects.	As described in Appendix A and Section 3. 6 of the FEIS, the geographic analysis area for economic impacts is limited to the counties where proposed onshore infrastructure and potential port cities are located, as well as the counties in closest proximity to the WDA. Economic impacts evaluated in Section 3. 6 of the FEIS reflect up to 775 WTGs in the RI and MA Lease Areas. In light of the number of potential future offshore wind energy developments listed in Appendix A and the Commonwealth of Massachusetts’s mandate that distribution companies jointly and competitively solicit proposals for offshore wind energy generation (220 Code of Massachusetts Regulation [CMR] 23.04[5]), there is no evidence that any proposed alternative, including the “No-Action” alternative, would have a significant effect on the economics of renewable energy in the region; therefore, further revision of the FEIS was not warranted.
12930-052	Neither the SEIS or the EIS accounts for the additional stress on endangered species caused by the devastation from a category 4 or category 5 hurricane hitting the WEA (which is virtually certain) and destroying the WTGs, resulting in a catastrophic release of oil and contaminants into the marine environment.	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years. Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly

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		different from currently available data. Therefore, further updates to the FEIS are not warranted.
12930-053	The SEIS and EIS also wholly ignore the devastation from a category 4 or category 5 hurricane hitting the WEA and destroying the WTGs, resulting in a catastrophic release of oil and contaminants into the marine environment and causing the take, and possibly the extinction, of endangered species, such as the Right Whales, sea turtles, and the piping plover, which nests on beaches that would be contaminated by an oil spill that could be as large as that of the Exxon Valdez's.	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years. Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted.
12930-054	The SEIS fails to properly analyze the effect on marine life and fisheries. The SEIS does not account for the additional stress on the marine population caused by the increase in temperatures caused by the Project itself and the balance of the 2,021 WTGs... Such incomplete analysis does not comply with NEPA, and does not provide information sufficient for either BOEM or the Corps to make the required determinations.	Section 3.2 of the FEIS has been revised to discuss the potential impact of heat from operating cables.
12930-055	[The marine life and fisheries] analysis does not account for the additional stress on the marine population caused by the increase in temperatures caused by the Project and the balance of the 2,021 WTGs themselves. See, Harvard Wind Study. That analysis does not account for the additional stress on the marine population caused by the devastation caused by a category 4 or category 5 hurricane hitting the WEA and destroying the WTGs, resulting in a catastrophic release of oil and contaminants into the marine environment...Such incomplete analysis does not comply with NEPA, and does not provide information sufficient for either BOEM or the Corps to make the required determinations.	Section 3.3 and Appendix E Section E.4.4 of the FEIS have been revised to discuss the effect of the proposed Project on local ocean temperatures. Appendix E Section E.2.4 of the DEIS discussed the risk of hurricanes, and Appendix A Section A.8.2 of the SEIS discussed a catastrophic release of all oil and contaminants from the proposed Project. Therefore, no further revision to the FEIS is warranted.
12930-056	The Project does not meet the criteria for an incidental take authorization under the Marine Mammal Protection Act ("MMPA"). The MMPA prohibits the proposed action.	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. The NMFS Biological Opinion and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures are discussed Section 3.4.2 and Appendix D of the FEIS. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.

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12930-057	An IHA is inappropriate for multiple reasons. First, the proposed action will certainly require more than 1 year for construction. Second, the warming caused by the Project itself will constitute ongoing take for the life of the Project and the life of the balance of the 2,021 WTGs. Third, the occurrence of a category 3 or greater hurricane that is virtually certain to occur during the 30-year assumed operating period exceeds the WTGs survival speed. Prior reported incidences of cyclones exceeding a WTGs survival speed have resulted in a “twisted wreckage.”...Take that occurs from such an event that is virtually certain to occur is intentional and not accidental. Furthermore, the twisted wreckage of the WTGs from such an event have the likely potential to result in an oil spill the size of Exxon Valdez’s causing serious injury or mortality to marine mammals. Fourth, the impact from both Project-caused warming and the eventual hurricane that exceeds the WTGs survival speed results in the inability to find that the take would (i) be of small numbers, (ii) have no more than a "negligible impact" on those marine mammal species or stocks, and (iii) not have an "unmitigable adverse impact" on the availability of the species or stock for subsistence uses.	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. The NMFS Biological Opinion and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures are discussed Section 3.4.2 and Appendix D of the FEIS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project.
12930-058	Together with the Harvard study, the Record Paper establishes that the warming caused by the Project and the balance of the 2,021 WTGs pose a significant risk to the food supply of the right whales, which in turn threatens the survival of the right whales. The SEIS and the EIS simply fail to analyze those risks. The risk of diminished or elimination of the food supply for the Right Whales is a risk that cannot be ignored under NEPA and the ESA.	The analysis in the FEIS represents the best available science. The commenter is misrepresenting the information from the referenced study (Miller and Keith 2018). While there is some warming associated with wind power due to the atmospheric mixing, these impacts are generally localized to the immediate area around the turbines. Additionally, the study addressed surface temperature at land based WTGs. The same level of heating would not be expected to occur on the OCS given the thermal buffering characteristic of the ocean. As described in the Biological Opinion issued by NOAA, while it could lead to higher surface water temperature, "these effects will not extend more than a few hundred meters from each foundation." (NMFS 2020). Section 3.3.7.1 of the DEIS and Section 3.5.1 discuss zooplankton abundance and distribution in the region and the importance of these species for many fish species and NARW. Further, a detailed analysis of impacts to ESA listed marine mammal species, including a discussion of zooplankton abundance and distribution is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional information regarding Project impacts on zooplankton as a result of the Vineyard Wind 1 Project and the consequences to marine mammals is

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		provided in the Biological Opinion issued by NMFS on September 11, 2020. Therefore, no change to the FEIS is warranted.
12930-059	BOEM and the cooperating agencies failed to take the required hard look at the direct, indirect, and cumulative GHG emissions and the impacts of those emissions on climate change. BOEM and the cooperating agencies failed to sufficiently quantify and account for direct [greenhouse gas] GHG emissions, and failed to analyze the effect of those emissions on other resource values.	Climate change was addressed in the DEIS and SEIS and is included in Section A.8.1 of the FEIS. The effects of climate change were also an impact-producing factor that was assessed in the appropriate resource sections in Chapter 3 and Appendix A of the SEIS. Lacking specific examples or feedback related to the comment presented, no specific updates to the FEIS are warranted.
12930-060	BOEM and the cooperating agencies failed to address the foreseeable indirect impacts from downstream displacement of United States based renewable energy resources...[and] failed to discuss the cumulative effects of these emissions...[and] failed to analyze the cumulative environmental effects of the proposed Project and reasonably foreseeable projects.	Climate change was addressed in the DEIS and SEIS and is included in Section A.8.1 of the FEIS. The effects of climate change were also an impact-producing factor that was assessed in the appropriate resource sections in Chapter 3 and Appendix A of the SEIS. Lacking specific examples or feedback related to the comment presented, no specific updates to the FEIS are warranted.
12930-061	BOEM and the cooperating agencies have never taken a comprehensive hard look at the climate impacts of the proposed Project, which NEPA requires it to do.	Climate change was addressed in the DEIS and SEIS and is included in Section A.8.1 of the FEIS. The effects of climate change were also an impact-producing factor that was assessed in the appropriate resource sections in Chapter 3 and Appendix A of the SEIS.
12930-062	The SEIS fails to analyze the cumulative and life cycle GHG impacts of offshore wind. The SEIS assumes without analysis that the ability of utilities within ISO-NE to purchase electricity from an offshore wind facility is desirable and is a solution to the strawman used by the SEIS. The SEIS assumes, without analysis, that the offshore wind generation from the Project is renewable, sustainable, and does not emit atmospheric pollutants, and does not itself add to global warming over the next decade. Such an assumption does not pass the muster of informed decision making.	Climate change was addressed in the DEIS and SEIS and is included in Section A.8.1 of the FEIS. The effects of climate change were also an impact-producing factor that was assessed in the appropriate resource sections in Chapter 3 and Appendix A of the SEIS. The FEIS, as did the DEIS and SEIS, quantifies the amount of greenhouse gas emissions associated with the proposed Project.
12930-063	BOEM and the cooperating agencies have failed to take a hard look at the direct, indirect, and cumulative impacts to the climate from warming caused by the Project and the balance of the 2,021 WTGs from their alteration of wind flow, and failed to discuss the severity of these impacts. The SEIS assumes, without analysis, that the Project will not have any such impacts... The SEIS fails to sufficiently quantify and account for the warming that is generated by the Project and the balance of the 2,021 WTGs...The SEIS fails to explain how the adverse effects of the Project and the balance of the 2,021 WTGs would be offset over the next century. The SEIS must make an informed decision, and it cannot ignore the adverse climatic impacts of the Project and the balance of the 2,021 WTGs over the next ten or longer years.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. Additionally, BOEM's role is to evaluate the potential effects of the proposed Project as outlined in the COP as well as the impacts of a range of reasonable alternatives as required by NEPA. BOEM does not have control

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		over any state or grid operator structure and whether or not the proposed Project would compete with other renewable projects outside of BOEM's purview.
12930-064	The Project is one of many projects in process of approval through which offshore wind energy producers intend to decimate U.S. onshore renewable energy producers and other generators in the United States, including Allco. The EIS and BOEM fail to analyze the Project's and the balance of the 2,021 WTGs cumulative effects with other projects that have been approved by federal agencies such as the various hydro-electric projects from Canada, which further decimate U.S. onshore renewable energy producers.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. Additionally, BOEM's role is to evaluate the potential effects of the proposed Project as outlined in the COP as well as the impacts of a range of reasonable alternatives as required by NEPA. BOEM does not have control over any state or grid operator structure and whether or not the proposed Project would compete with other renewable projects outside of BOEM's purview.
12930-065	The SEIS fails to analyze the projected massive increase in Canadian imports of hydroelectricity... [and] the impacts on other renewable energy forms of generation. The failure to analyze impacts of wind and solar, with or without storage, and other forms of onshore renewable generation as a reasonably foreseeable alternative is clear error.	In the DEIS, SEIS, and FEIS, BOEM considered a range of alternatives that would meet the proposed Project's purpose and need and the screening criteria outlined in Section C.5 in Appendix C of the FEIS. Assessing the impacts of wind and solar projects and onshore renewable generation where such effects would not overlap in time or space with the proposed Project are outside of the scope of BOEM's NEPA analysis.
12930-066	The SEIS and EIS fail to properly analyze the effects of climate change on hurricane activity in the Northeast and the Project area and the balance of the 2,021 WTGs over the next 30 years, which could cause catastrophic failure of the turbines, and leave turbine parts and oil and chemical spills in the Atlantic and reaching Martha's Vineyard, Nantucket, Cape Cod and Rhode Island.	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years. Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted.
12930-067	The proposed Project and the balance of the 2,021 WTGs are not permitted by the ESA because they will, to a virtual certainty, result in take of multiple listed species.	Other reasonably foreseeable offshore wind projects will be individually evaluated separately by BOEM.
12930-069	In addition, the SEIS fails to discuss the potential impact on fisherman and navigation from the microclimate and potential fog creating ability of the Project and the balance of the 2,021 WTGs as is illustrated below by a photo	The FEIS discusses weather in Sections 3.11.2 and 3.11.5, and has been revised to state that, under certain atmospheric conditions, offshore wind

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	of the Horns Rev wind farm. [photo provided in text shows turbines apparently generating fog - page 48 of doc]	farms could contribute to fog formation. This reflects a published case study of The Horns wind farm (Hasager et. al. 2017, as cited in the FEIS).
12930-070	The Supplemental Draft Environmental Impact Statement (“SEIS”) for the Vineyard Wind Project (the “Project”), like the EIS, does not conform to the National Environmental Policy Act (“NEPA”), 42 U.S.C. §§4321-4370h, 36 C.F.R. Part 251, 43 U.S.C. §1761, 43 U.S.C. §15926.	Section 3.11.2 of the FEIS includes a discussion of potential radar interference. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted equipment, marked wind turbines, and the use of AIS enable safe navigation with minimal loss of radar detection.
12930-071	The failure to examine the authorized [lease] term is clear error and does not comply with NEPA.	Chapter 2 of the DEIS, SEIS, and FEIS outline the time periods for construction, operation, and decommissioning, and the effects of these activities are assessed in the resource sections in Chapter 3 and Appendix A of the FEIS.
12930-072	The Army Corps of Engineers does not have the authority to issue a permit for the proposed action. The 404(b)(1) Guidelines prohibit the Corps from granting a Section 404 permit “if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.” 40 C.F.R. § 230.10(a). Delivering renewable energy to the New England and Mid-Atlantic area is not water-dependent. Solar and onshore wind could deliver all requirements. If the Corps finds that a proposed project by its general nature is not water dependent, which it must here, then the Corps must presume that practicable alternatives to the project are available in less sensitive areas. See 40 C.F.R. § 230.10(a)(3). Likewise, the Corps must presume that such practicable alternatives have less adverse impact on the aquatic ecosystem.	BOEM's action is to assess the potential impacts of the proposed Project as defined in Vineyard Wind's COP. Onshore renewable alternatives would not meet the purpose and need and are outside of BOEM's purview.
12930-073	BOEM and the cooperating agencies’ failures are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” in violation of NEPA, 42 U.S.C. § 4332(C)(ii), its implementing regulations at 40 C.F.R. §§ 1508.7, 1508.8, 1508.25, 1508.27, and the APA at 5 U.S.C. § 706(2)(A).	Thank you for your comment.
12930-074	The SEIS’s assumptions for the No Action Alternative are especially flawed by assuming that if the proposed action does not occur then other offshore wind would take its place. That analysis makes zero sense. First, it is illogical to assume that if the proposed project is rejected (presumably for substantive reasons such as destroying fisheries) that a substantially identical project would be approved. Second, the result of the SEIS’s approach is comparing building 21GW of offshore wind versus 21.8GW. If that were the proper comparison then it would be logical to believe that there would never be	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.

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	much marginal effect caused by the proposed Project. But that is not the right analysis.	
12930-075	The SEIS concludes that it is only reasonably foreseeable that 21.8GW of off-shore wind would exist. There is no basis to exclude the additional 3.2GW for which there are existing Atlantic leases. Nor is there a reasonable basis to exclude the additional 7.5GW of “State Capacity Planned Commitment—Pledged” simply because there does not exist an existing Atlantic Lease for all of it. On July 21, 2020, New York announced an additional procurement of up to 2.5GW for offshore wind energy.	Chapter 1 of the SEIS and the FEIS outline the assumptions that were used to assess the effects of reasonably foreseeable projects.
12930-076	On SEIS page 3-1, the no action alternative assumptions are flawed...That assumption is irrational. If the proposed Project does not occur, it is foreseeable that the state demand for renewable energy would be met with onshore wind and solar, and that future off-shore wind facilities would not be approved.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
12930-077	The SEIS’s No Action Alternative assumption that is a constant thread throughout is that if the proposed action is not undertaken then other offshore wind project would nevertheless still be approved, which is illogical and flawed.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
12930-078	The SEIS fails to examine the 25-year term of the authorization. While it is acceptable for the draft SEIS to analyze a 30-year term, the SEIS must also analyze the only term that is authorized, which is 25 years from COP approval. The Harvard Wind Study concludes that a facility such as the Project has negative climate effects for the first 10 years, and offsetting those negative impacts will take a century. By extending the SEIS study period to longer than the authorized term, the amount of positive climate effects would be overstated.	The referenced study referenced localized heating effects caused by land-based windfarms, mostly at night. These are caused by mixing the boundary layer, not adding heat to the Earth’s atmosphere. As such, there is no contribution to global climate change and the comparison of localized transient heating to global warming is incorrect. The following is a summary of that information and incorporates new information specific to the Proposed Action. The temperature of the Earth’s atmosphere is regulated by a balance between the radiation received from the sun, the amount reflected by the earth’s surface and clouds, the amount of radiation absorbed by the earth, and the amount re-emitted to space as long-wave radiation. Greenhouse gases (GHGs) keep the Earth’s surface warmer than it would otherwise be because they absorb infrared radiation from the earth and, in turn, radiate this energy back down to the surface. Although these gases occur naturally in the atmosphere, there has been a rapid increase in concentrations of GHGs in the Earth’s atmosphere from human sources since the start of industrialization, which has caused concerns over potential changes in the global climate. The primary GHGs produced by human activities are carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), and halocarbons (MMS 2007). The surveying, construction, and decommissioning activities associated with the Proposed Action would produce GHG emissions. As GHGs are relatively

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		stable in the atmosphere and are essentially uniformly mixed throughout the troposphere and stratosphere, the climatic impact of GHG emissions does not depend upon the source location. Therefore, regional climate impacts are likely a function of global emissions. The causes and effects of climate change can be summarized as follows. First, GHGs are emitted into the atmosphere, causing global warming (i.e., an aggregate average increase in the temperature of the Earth's atmosphere). Second, global warming induces the climate to change in disparate ways at various places around the globe, altering global precipitation regimes, decreasing the salinity of the oceans, and altering the seasons. Finally, climate change leads to direct impacts on the environment, such as changes in the structure of an ecosystem, changes in air quality, a reduced supply and increased cost of food, warming polar regions, higher precipitation totals, sea level rise, extreme temperatures, and severe weather events. Additionally, uptake of CO₂ in marine waters decreases the pH buffering capacity of the ocean. BOEM does not agree with the assumption that offshore renewable energy projects result in more adverse impacts on climate change than fossil-burning projects, as proposed by the commenter. While there would be some GHG emissions associated with the project during its operation (e.g., vessels conducting routine and emergency maintenance), such emissions would have negligible impacts on air quality and climate change if the project operates for 5 additional years. In fact, the project is expected to have a beneficial effect on climate change when compared to other energy projects that use fossil fuels for energy generation purposes. The additional GHG emissions anticipated from the Proposed Action, over the 5-year period, would have a negligible incremental contribution to existing GHG emissions and, therefore, would have a negligible effect on climate change. Compared to a similarly sized fossil fuel-powered generating station or to the generation of the same amount of energy by the existing grid, the proposed Project would have an overall minor beneficial impact on GHG emissions. Therefore, no further revisions to the FEIS were warranted.
12930-079	The SEIS bases its entire analysis on conjecture. The SEIS assumes without adequate support that offshore electricity generation is needed, a need that was never analyzed. There surely cannot be informed decision making when the threshold question—need for the proposed Project and the balance of the 2,021 WTGs—is based merely upon conjecture.	The purpose and need for the proposed Project was developed based on Vineyard Wind's COP and was concurred upon with the cooperating agencies involved in the proposed Project.
12930-080	The SEIS fails to take a hard look at the No Action Alternative on those five ESA listed [sea turtle] species and other listed species and instead takes the approach that if the proposed Project is not approved, then other offshore	A detailed analysis of impacts of the Vineyard Wind 1 Project to ESA listed species is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/, as well as the Biological Opinion issued by NMFS

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	wind projects would have the adverse effects on the ESA listed species in any case, so there is no real impact from the proposed project.	on September 11, 2020. Section 3.3.8.3 of the DEIS and Section 3.6.2 of the SEIS discussed potential impacts to sea turtles as a result of construction, operation, maintenance, and eventual decommissioning of the proposed Vineyard Wind 1 Project. Additionally, Section 3.0 of the SEIS outlined the approach and assumptions used to analyze the No Action alternative. Therefore, no change to the FEIS is warranted.
12930-081	The SEIS' analysis of oil and other contaminant spills [in 3-43] is also flawed...The SEIS appears to be saying that the oil spills from the WTGs do not matter because there will be other spills anyway. The SEIS conflicts with the oil spill analysis performed in 2006 for the Cape Wind project which concluded that 7% of all spills could be attributed to the 400 MW Cape Wind project. Now the size analyzed is exponentially larger, 22GWs or more than 50 times larger, which likely increases the spill probability by more than 50 times or 5000%.	Section A.8.2.2 of the SEIS addressed the potential for accidental releases and discharges associated with the proposed Project. Therefore, no change to the FEIS is warranted. The SEIS stated the most likely size spill to occur is small; therefore, within the geographic analysis area the impacts would be negligible based on size and likelihood of occurrence. Therefore, no change to the FEIS is warranted.
12930-082	The SEIS fails to mention, much less take a hard look at, whether the Project and the balance of the 2,021 WTGs affect a special aquatic site.	The analysis for the SEIS for each resource was based on a specific geographic analysis area. As stated in Table A-1, the geographic analysis area for water resources included a 10-mile (16.1-kilometer) radius around the WDA, the OECC, and vessel approach routes to port facilities that would be used by the proposed Project. Section A.8.2.2 of the FEIS has been revised to include "other special aquatic sites" when referencing wetlands. Sections 3.2 of the SEIS included a discussion of coastal habitats within the analysis area for coastal habitats. Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative. Please note that the NEPA process for the proposed Project is not intended to be a programmatic EIS evaluation. Instead, the impact analysis focused on Vineyard Wind's potential contribution to impacts on the various resources assessed. Furthermore, the USACE is a cooperating agency to the proposed Project. Therefore, no change to the FEIS is warranted.
12930-083	The Draft SEIS makes no mention of "special aquatic sites" as defined in 40 C.F.R. §§ 230.40-230.45, particularly 40 C.F.R. §§ 230.43 (vegetated shallows) and 40 C.F.R. §§ 230.44 (coral reefs). The failure of the SEIS to specifically review whether the Project and the balance of the 2,021 WTGs have any effect on "special aquatic sites" and the specific review related thereto is clear error.	Section 3.2.1 of the SEIS included vegetated shallows and coral as "special, sensitive, and unique habitats." Therefore, no change to the FEIS is warranted.
12930-084	BOEM and the cooperating agencies have failed to take a hard look at the direct, indirect, and cumulative impacts to commercial fisheries and for-hire recreational fishing climate from warming caused by the Project and the	Appendix E of the FEIS discusses hurricane data, and COP Volume II-A Section 2.2.1 (Epsilon 2018d) indicates that the average recurrence interval for Category 3 hurricanes in the WDA is approximately every 50 years.

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	balance of the 2,021 WTGs from their alteration of wind flow, from the virtual certainty that a hurricane of category 4 or 5 strength will directly hit the WEA and from the likelihood of a catastrophic oil spill from a category 4 and 5 hurricane and failed to discuss the severity of these impacts...It cannot ignore the devastation and destruction of not only the WTGs that would occur but the devastation on the marine environment.	Section 2.3 of the FEIS also discusses potential effects of the proposed Project being hit by a hurricane. More precise forecasts of hurricane frequency in future climate scenarios are not likely to be significantly different from currently available data. Therefore, further updates to the FEIS are not warranted.
12931-001	the Vineyard Wind Project will generate, clean renewable energy while reducing significantly carbon emissions. The SDEIS documents significant potential for adverse consequence that If the Vineyard Wind Project is not approved.	Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
12933-001	Offshore wind makes GREAT economic sense!	Thank you for your comment.
12935-001	As a resident of Oak Bluffs, I write to express my support for the offshore wind projects on the eastern seaboard. These projects are critically important to our efforts to create a sustainable source of renewable energy for our nation. We must authorize and fully utilize these wind farms to give ourselves a chance of preserving our earth as we know it. The review process and environmental impact statement have carefully acknowledged and addressed safety and industry concerns. Well done. The benefits of these projects are so wide-ranging and vital, from helping us achieve our net-zero objectives to creating jobs and meaningful economic benefits. The delays in this process are very unfortunate due to the urgency of addressing adverse environmental impacts.	Thank you for your comment.
12936-001	...I submit general support...Alternatives D2 and request rejection of Alternative E through G....Proposed Alternative D2 is the result of significant work of stakeholders and offers the best balance of interests between the offshore wind industry and the benefits it may bring, and private and commercial users of the state and federal waters.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12936-002	The U.S. offshore wind industry has the potential to provide a substantial boost to the U.S. economy and economic recovery considering Covid-19, reduce greenhouse gases and provide a significant boost in the combat of climate change. U.S. East Coast states and Federal Agencies have acted and invested significant public funds to the furtherance of the offshore wind industry in America. These funds must be returned to U.S. citizens via good paying, family sustaining, American jobs.	Thank you for your comment.
12936-003	By AWEA's estimates, utilization of a U.S. workforce throughout the supply chain will increase the economic impact of the Industry by \$11.2B Economic Output, \$5.5B Value Add. and 37,000 jobs over the next 10 years yet produce zero negative impacts. The United States, East Coast States and their communities, including those assessed in section 3.7 and others that will be	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also

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	impacted by the larger Foreseeable Scenario, the IBEW and other trade unions, need those jobs.	included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
12937-001	As you know this project is important to setting the stage for consideration of broader commitments to sustainable development of the offshore wind energy in the Mid-Atlantic, which is necessary to meeting energy needs, creating new jobs, reducing emissions and meeting New Jersey and other state renewable energy goals.	Thank you for your comment.
12938-001	Vineyard Wind 1 has undergone ten years of rigorous environmental review to ensure that it has the least possible impact on fisheries, shipping, and communities, and is now almost at the finish line. The success of this project will kickstart a pipeline of offshore wind projects in New York, Connecticut, and the US: We cannot afford to see it delayed or stopped.	Thank you for your comment.
12940-001	Some of the alternative proposals seeks to expand the turbine area footprint so the turbines would be placed further apart on the shelf. Upon examining these alternative proposals, we question how economically feasible it is for the company, and, ultimately the consumer, to have to pay for the expanded construction costs associated with placing the turbines further apart if they will generate the same amount of energy closer together? But, more importantly, we wonder how it can benefit, the marine life and oceanic ecosystem to potentially disturb four times more area of their natural habitat? therefore, we are respectfully asking that you approve Vineyard Wind's proposal as submitted.	Chapter 2 of the DEIS, SEIS, and FEIS address the assumptions that were used in the alternatives analysis.
12941-001	Thank you to the entire team at the Bureau of Ocean Energy Management for the timely release of the Supplement to the Draft Environmental Impact Statement (SEIS) for Vineyard Wind 1. As a company with a financial interest in the growth of the US offshore wind industry, the SEIS is an important milestone for the entire industry and the many businesses that support it. I urge you to move the Vineyard Wind 1 project forward without delay....There are many offshore wind projects in the skyline and the global resources are limited so we consider that further delays in the approval process may create uncertainty in the local industry and inhibits industrial growth and services development in the area.	Thank you for your comment.
12941-002	The Department of Interior's decision to delay Vineyard Wind's final permits last year reverberated through the entire industry and had a chilling effect on the industry's investment capabilities. The SEIS does not factor this into its cumulative analysis. The analysis assumes that even without a green light for Vineyard Wind, industry investment will move forward as planned. This assumption is greatly flawed as companies need regulatory and market	The methodology for assessing reasonably foreseeable actions or projects that was presented in the SEIS was carried forward in the FEIS.

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	certainty in order to justify investment in new markets and the US would be sending a signal that it is not yet ready to get serious about offshore wind.	
12941-003	In addition, by requiring additional transit lanes through projects and reducing capacity to develop lease areas to their full extent, BOEM is effectively reducing the industry's opportunities for investment, which will translate to lost economic benefits and jobs for the US overall. As a company with an interest in investing in the US market, we strongly urge BOEM to reject this Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12941-004	According to the American Wind Energy Association, states have set offshore wind procurement goals that will invest roughly \$57 billion in the US economy by 2030. If the Department of Interior gets behind this industry now, the potential for additional jobs and economic investment multiplies exponentially, with the potential for tens of thousands of jobs throughout the nation from shipbuilders to turbine and cable manufacturing to companies like mine in the Offshore Foundations manufacturing field.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
12942-001	The Vineyard wind farm project will not only help to reduce carbon emissions but also create jobs in the surrounding area. Projects like this are essential to making the economy thrive in a changing world.	Thank you for your comment.
12943-001	The US has massive offshore wind potential, and yet that potential it is almost completely untapped. We must not wait to bring jobs and clean energy to our communities. After many years of study and public input, I am confident that this responsibly-sited project will not only bring clean, emission-free renewable energy to Massachusetts, it will also respect the fragile ocean ecosystem.	Thank you for your comment.
12943-002	The COVID-19 pandemic has decimated both public health and our economy. Vineyard Wind 1 will create pollution free energy, providing cleaner air and benefiting public health when it is needed most. Furthermore, the project will create 3,600 jobs for residents and save ratepayers more than \$1.4 billion. This is the exact type of project that our nation needs for a sustainable economic recovery.	Thank you for your comment.
12948-001	While the SEIS may have implications for all projects on the Outer Continental Shelf, DMME recommends that BOEM recognizes that each project depending on location will dictate different environmental reviews and circumstances. This is the basis for these comments. The Bureau's analysis in the SEIS illustrates clearly that turbine layout and vessel transit considerations are highly	Thank you for your comment.

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	dependent on local practices, resources, conditions and users of ocean resources.	
12948-002	The 1nm x 1nm layout assumptions may be appropriate for the Northeast wind energy areas, specifically the Massachusetts and Rhode Island wind energy areas. However, these assumptions should not be imposed on projects outside of the Northeast absent the presence of similar local resources and conditions...Site-specific considerations should be the primary criteria for determining the layout of projects in areas outside of the Massachusetts and Rhode Island lease areas. We believe it is important that BOEM clearly articulate that any analysis done does not set the standard for use of 1nm x 1nm spacing for projects outside of the Northeast.	BOEM is responsible for assessing proposed projects based on the information presented in an applicant's COP. During the NEPA review process, BOEM will consider alternatives, and alternatives for future projects could include alternate WTG layout options much like the proposed Project's NEPA process did.
12948-003	Likewise, the vessel transit lane alternative (F) providing a four nautical mile wide lane through the Vineyard Wind development area for vessels transiting from southern New England to Georges Bank fishing grounds would make little sense in Virginia or other Mid-Atlantic states.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12951-001	While the SEIS may have implications for all projects on the Outer Continental Shelf, DMME recommends that BOEM recognizes that each project depending on location will dictate different environmental reviews and circumstances.....DMME encourages BOEM to make the significance of these kinds of project-specific distinctions clear and explicit in the SEIS, so that impact mitigations for the Vineyard Wind 1 development area are not perceived as the model to be followed by other states and regions.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
12951-002	The 1nm x 1nm layout assumptions may be appropriate for the Northeast wind energy areas, specifically the Massachusetts and Rhode Island wind energy areas. However, these assumptions should not be imposed on projects outside of the Northeast absent the presence of similar local resources and conditions....Site-specific considerations should be the primary criteria for determining the layout of projects in areas outside of the Massachusetts and Rhode Island lease areas. We believe it is important that BOEM clearly articulate that any analysis done does not set the standard for use of 1nm x 1nm spacing for projects outside of the Northeast.	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted.
12951-003	Likewise, the vessel transit lane alternative (F) providing a four nautical mile wide lane through the Vineyard Wind development area for vessels transiting from southern New England to Georges Bank fishing grounds would make little sense in Virginia or other Mid-Atlantic states.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted. Spacing and orientation layouts and transit lanes for other regions will be determined through future analysis and coordination with USCG.

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12953-001	The MVC urges BOEM to approve the SEIS as drafted, as it further ensures the co-existence of the emerging offshore wind industry, maritime stakeholders, and the natural environment on which we depend.	Thank you for your comment.
12953-002	In response to the growing impacts of climate change, the MVC in 2019 adopted a Climate Crisis Resolution that formalizes our support for eliminating fossil fuel use on the Vineyard by 2040, along with developing policies that further incorporate the effects of climate change into our planning and regulatory activities, and drafting master plans for mitigating and adapting to the effects climate change in the coming years. Without the rapid development of offshore wind in Massachusetts, the Commission's energy-reduction goals will remain well out of reach, and climate change will continue to disrupt our economy, culture, and environment at an increasing rate.	Climate change is addressed in Section A.8.1 of the FEIS as it related to air quality.
12953-003	The Commission is aware of the 2015 Community Benefit Agreement between Vineyard Wind and the Island's non-profit Vineyard Power Cooperative pursuant to which the parties regularly consult, with input from members of the Island community, to identify opportunities to benefit Island residents. We understand such benefits to include Aircraft Detection Lighting Systems (reducing the amount of light visible on our shores); sighting an operations and maintenance facility, which includes investment in the Tisbury Working Waterfront and the creation of up to 40 year round well paid jobs; providing funding for job training; and direct funding from the Vineyard Wind Affordability and Resiliency Program, which will enable the development of local renewable energy projects to improve energy security, resiliency, climate change mitigation and adaptation, and affordability for Island residents. The Commission broadly supports these initiatives.	Section 3.6.2 of the FEIS has been updated to include information on the Community Benefit Agreement between Vineyard Wind and the Vineyard Power Cooperative as contributing to the economic benefits that would result from the Vineyard Wind 1 Project.
12958-001	This venture by Vineyard Wind will provide economic strength and technical expertise to ensure not only that the project is delivered on time and on budget, but that it will produce significant numbers of new high-quality union jobs and investment. It also represents an exciting opportunity to create expanded access to apprenticeships and careers in the construction trades for low-income and workers of color in the communities where the onshore operations of these projects will be based.	Thank you for your comment.
12958-002	Vineyard Wind 1 alone will create 3,600 jobs for local residents, while making a significant contribution to the efforts to tackle climate change by avoiding the emission of almost 1.7 million tons of carbon dioxide per year, the equivalent of removing 325,000 cars of the road. These benefits will be multiplied by each project that is built out over the next few years.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Appendix A,

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		Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
12958-003	Vineyard Wind has indicated a strong commitment to workforce development initiatives aimed at educating, training, and certifying local residents and students with diverse socioeconomic and professional backgrounds for careers in the offshore wind sector. Vineyard Wind has made outreach to organized labor a priority and pledged to sign the nation's first offshore wind Project Labor Agreement (PLA) for Vineyard Wind 1 to ensure both fair compensation and the highest construction standards for the project. Doing so sets precedent for the industry that offshore wind projects will be constructed by the building trades unions, ensuring fair wages and consistent work for local tradesmen and women as the industry is built out....Offshore wind power development represents a generational opportunity for the hardworking men and women in the building trades, and will result in thousands of new, local good-paying jobs with good benefits.	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project would provide, including job training for offshore wind-related trades. This information was also provided in the DEIS. The Project Labor Agreement is not included in the FEIS.
12959-001	I strongly recommend that BOEM in the final EIS: (1) Adopt Alternative D2 as the Preferred Alternative for addressing vessel navigation safety issues because, among other benefits, it has a lower impact on national security than Alternative F. (2) Reduce the overall cumulative impact rating for military and national security issues to minor or, at least, moderate.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12959-002	Based on my experience in the Navy, I have no doubt that offshore wind can be deployed in a way that is consistent with safe vessel navigation. And, in light of my engagement with the Department of Defense's (DoD) Military Aviation and Installation Assurance Siting Clearinghouse's ("Siting Clearinghouse") review process for proposed energy projects during my time as Assistant Secretary of the Navy, I am confident that offshore wind developers, DoD and BOEM can design projects ways that are fully compatible with military testing, training and operational activities and ensure that any potential impacts will be mitigated or minor.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The FEIS has also been modified to specify that other project developers would be required to coordinate with military and national security entities to identify and mitigate potential conflicts. The impact ratings for military and national security uses and SAR activities were updated due to additional analysis and comments provided by the USCG and other entities in the course of the SEIS development. BOEM and Vineyard Wind have conducted extensive coordination with the DoD and the USCG, including coordination through the DoD Clearinghouse, which is described in Section 3.12 of the FEIS.
12959-003	The U.S. Coast Guard (USCG), as the ultimate arbiter of what measures are needed to maintain safe navigation for ocean users, should be given deference in making safety recommendations. With respect to offshore wind	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	development off the coasts of Massachusetts and Rhode Island, the USCG has been clear. In the final Massachusetts and Rhode Island Port Access Route Study (MARIPARS) published in May 2020, the USCG concluded that 1x1 nautical mile (nm) spacing between turbines in a uniform grid layout across the multiple adjacent leases areas will “maximize safe navigation within the MA/RI WEA” and that “formal or informal vessel routing measures would not be required as such a grid pattern will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing within the wind energy area.” The 1x1 nm spacing and uniform layout the USCG found is the best alternative to help ensure vessel navigation safety, and it is reflected in Alternative D2 in the SDEIS.	
12959-004	By contrast, the USCG found that imposing 2 nm to 4 nm mile transit lanes, as proposed in Alternative F, through the lease areas would make “navigation more challenging	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12959-005	I would also strongly urge BOEM to adjust the major rating for cumulative impacts to military and national security in the final EIS to minor, or at most, moderate. As BOEM recognizes in the SDEIS, there is already a robust DoD review process managed by the Military Aviation and Installation Assurance Siting Clearinghouse. Under that process, offshore wind energy project developers are already required under federal law, BOEM regulations, FAA regulations, and DoD regulations (which includes an instruction memorandum process that defines engagement on offshore wind) to engage with DoD and resolve concerns. And if DoD so chooses, it can object to a proposed energy project.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The FEIS has also been modified to specify that other project developers would be required to coordinate with military and national security entities to identify and mitigate potential conflicts, and clarify the requirement to coordinate with the DoD through the FAA review process for WTGs located in U.S. Territorial Waters. BOEM and Vineyard Wind have conducted extensive coordination with the DoD and the USCG, including coordination through the DoD Clearinghouse, which is described in Section 3.12 of the FEIS.
12959-006	As someone who participated in the DoD review process from the inside when I was Assistant Secretary of the Navy, I can validate the process is thorough and is solely focused on what is needed to protect the military mission. In my experience, neither DoD nor the individual military services will sign-off on a proposed project that may pose a major impact to military testing, training, or operations. Further, under federal law, the potential for any “adverse impact” on military operations and readiness triggers discussions with project proponents about potential ways to resolve DoD concerns. If those concerns can be resolved, the solution is typically memorialized in a signed memorandum of agreement and, in the case of an	The FEIS has also been modified to specify that other project developers would be required to coordinate with military and national security entities to identify and mitigate potential conflicts, and clarify the requirement to coordinate with the DoD through the FAA review process for WTGs located in U.S. Territorial Waters. BOEM and Vineyard Wind have conducted extensive coordination with the DoD and the USCG, including coordination through the DoD Clearinghouse, which is described in Section 3.12 of the FEIS.

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	offshore wind project, could be memorialized in conditions imposed by BOEM through the issuance of a permit.	
12959-007	In sum, I strongly urge BOEM to select Alternative D2 as the Preferred Alternative, reject Alternative F as unreasonable, and lower the overall military and national security cumulative impact rating to minor.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12960-001	While acknowledging these improvements, we are concerned about the integration of the DEIS and SEIS into a comprehensive FEIS. We know BOEM is working under Secretarial Order regarding maximum document length and worry that page limits will relegate too much content to appendices, making the document hard to follow. BOEM should carefully consider whether some information from the appendices can be included in the body of the FEIS. For example, the written descriptions and maps of resource geographic analysis areas (Appendix A.1 and A.7, respectively) are fundamental to understanding the assessment and would be helpful to include in the body of the document.	BOEM has been granted a 300 page limit for the FEIS which assists with the culmination of multiple analyses into the FEIS. Even so, in order to comply with the page limits in the Department of the Interior’s Secretarial Order 3355 and focus on the impacts of most concern, BOEM had to include tables, figures, and analysis of resources in appendices. The information located in the appendices is readily accessible and conveniently labeled for the review of all interested stakeholders.
12960-002	In addition, Tables 3-1 and 3-2 in Appendix B which provide impact definitions (negligible, minor, moderate, major) are important, and should be pulled forward.	BOEM has been granted a 300 page limit for the FEIS which assists with the culmination of multiple analyses into the FEIS. Even so, in order to comply with the page limits in the Department of the Interior’s Secretarial Order 3355 and focus on the impacts of most concern, BOEM had to include tables, figures, and analysis of resources in appendices. The information located in the appendices is readily accessible and conveniently labeled for the review of all interested stakeholders.
12960-003	To the extent that information must be placed in an appendix, it is essential that BOEM hyperlink to relevant sections of the document so that related information can be easily identified. It would also be useful to include hyperlinks to figures, tables, and section headings throughout the body of the EIS itself.	BOEM has considered how to incorporate the components of the EIS. To help comply with the page limits in the Department of the Interior’s Secretarial Order 3355 and focus on the impacts of most concern, BOEM had to include tables, figures, and analysis of resources in Appendices. Hyperlinks will be added where appropriate.
12960-004	To the extent that the EIS references the COP, BOEM should provide very specific references to the relevant volumes and sections (with page numbers, if possible), as the COP itself is a complex document.	The EIS has included the COP Volume and Section, where appropriate, when information has been incorporated by reference. Hyperlinks will be added where appropriate.
12960-005	Ideally the FEIS document would stand alone and not incorporate DEIS and SEIS sections by reference. Given revisions to the project over time, referencing entire sections of the DEIS and SEIS would be very confusing.	The FEIS is a standalone document and does not incorporate by reference the DEIS or SEIS.
12960-006	During preparation of the FEIS, BOEM should ensure that an assessment of magnitude (minor, moderate, major) is made for all alternatives and VECs.	The SEIS and FEIS resource sections include the assessment of magnitude (minor, moderate, etc.) as shown in Chapter 3 and Appendix A. The magnitude approach and select ratings are based upon coordination with cooperating agencies.
12960-007	Also, we recognize that it is an editorial decision to specify magnitude but not direction for adverse impacts (vs. magnitude and direction for beneficial	Due to the need to comply with the page limits in the Department of the Interior’s Secretarial Order 3355, BOEM will not specify direction for each

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	impacts), but it might improve clarity to identify the direction of adverse impacts, or, at the very least, reiterate this caveat at intervals throughout the text.	impact determination. Instead BOEM will explain this and their rationale in the Chapter 3.0 introduction.
12960-008	In addition, BOEM should be careful when summarizing the effects of an alternative on a VEC when a range of positive and negative outcomes are expected, over different time frames, due to a range of impact producing factors (IPFs; for example, the diverse range of IPFs and effects associated with fish, invertebrates, and EFH). This is not a significant issue when reading the text, where differences across IPFs are clearly laid out, but should be noted as a caveat where impacts are summarized, for example in Table ES-2 on page ES-5. Some readers may not read much more than these summary tables.	The summary tables are intended to provide an overall impact level, and the details for those levels are included in the body of the EIS.
12960-009	Further, depending on the VEC and IPFs in question, an assessment of net effects might not be appropriate, and instead a range of effects should be specified.	BOEM has decided to provide impact ratings in the FEIS that specify net effects rather than ranges, as was done in the SEIS.
12960-010	It would be helpful for the FEIS to identify BOEM’s preferred action, as indicated by NEPA regulations (EIS documents shall “identify the agency’s preferred alternatives, if one or more exists...in the final statement” (CFR § 1502.14 (e))).	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12960-011	It would also be informative to clearly outline which actions are feasible and preferred on the part of Vineyard Wind. Specifically, Vineyard Wind and other developers have agreed to a 1x1 nautical mile east-west oriented layout (Alternative D2), which differs from the original layout outlined in the COP, and is not part of the ‘proposed action’ alternative (Alternative A). Also, Vineyard Wind has negotiated with the local community around the Covell’s Beach cable landfall (Alternative B), vs. the New Hampshire Ave. landfall (included in Alternative A). The June 3, 2020 COP does not provide any additional clarity as to which options might be likely or preferred. While many readers may be aware of these developments, the FEIS should convey which are the most likely outcomes, and the proposed action as defined in the FEIS should reflect these plans released by the developers.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Vineyard Wind has updated their COP to remove the New Hampshire Avenue landfall location as they have secured all their necessary state and local permits for Covell's Beach landfall site. Therefore, that landfall location has been removed from the Proposed Action. The FEIS has been updated to reflect this change.
12960-012	However, as described on pages 2-4 and 2-5 of the SEIS, the transit lane Alternative F does not seem feasible. For example, a discussion of issues associated with the cables indicates a need for technically impossible factory joints should the transit lanes be incorporated into the design, which seems to render Alternative F impossible to execute. Is this a function of having a 2 or 4 nm distance between wind turbine generators (WTGs) that would need to be covered by longer sections of inter-array cable?	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.

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12960-013	With respect to tradeoffs around power loss under Alternative F, is this related to the footprint of the project and turbine spacing? Or to increasing distance from shore as additional areas of the lease are built out?	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
12960-014	Finally, in the context of regional demand, it would be helpful to understand how the placement of 2 or 4 nm transit lanes throughout the MA and MA-RI WEAs intersects with the use of larger 14 MW WTGs, vs. the 10 MW originally considered. As compared to the original project design, it seems that loss of turbine placements due to transit lanes might be balanced out by generating more electricity per turbine, thereby still meeting regional demand. Perhaps an in-depth analysis of number of WTGs vs. WTG capacity would show that this is not the case, but a discussion of these tradeoffs would help to demonstrate this.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12960-015	Also related to the alternatives, the FEIS should be clear that in the context of both direct and cumulative impacts, no action (Alternative G) means that the Vineyard Wind I project would not be built, but that other nearby wind farms are still presumed likely. Readers may assume that no action means no offshore wind construction in the region, especially because this is the first large-scale wind farm to reach this stage of development.	The SEIS included this explanation that if Vineyard Wind were not approved, the effects of the No Action Alternative which included future offshore wind actions in addition to other actions would result in the impacts covered in the resource sections. The FEIS also includes this explanation.
12960-016	Multiple aspects of wind farm construction and operations involve noise production. Noise can negatively affect biological processes for many species of fishes and invertebrates. The SEIS indicates that pile driving will generate the most impacts. We ask that BOEM carefully evaluate the information on pile size and hammer energy provided in the Vineyard Wind I COP, as well as information available for other reasonably foreseeable future projects, to ensure that the radial estimates of impacted area are accurate (e.g. the difference in effects between 2,500 kJ vs. 4,000 kJ hammers).	Section 3.3.2 of the FEIS has been updated to consider higher hammer energies.
12960-017	It would be useful to monitor noise during construction activities to ground truth these estimates at as many locations as possible. Time of year restrictions related to pile driving should be considered as a mitigation measure, since some species, including longfin squid, could be disproportionately affected if most pile driving occurs in summer during their spawning season.	Section 3.3.2 of the FEIS has been updated to address time-of-year restrictions and acoustic monitoring.
12960-018	It is our understanding that the geographic scope for private recreational fishing will be expanded for the FEIS. This is necessary as the geographic scope for private recreational fishing as defined in the SEIS excludes impacts to communities based in Rhode Island, Connecticut, and New York.	Sections 3.9.1 and 3.10.1 of the FEIS have been updated to include data on the states from which recreational HMS fishing originates, based on an online survey (from August 2019 through May 2020), data from the National Marine Fisheries Service Large Pelagics Intercept Survey, and tagging data (Kneebone 2020). As stated in Section 3.10.1, "From 2002 through 2018, approximately 12 percent of HMS trips and 18 percent of tagging events in

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		southern New England occurred within the RI and MA Lease Areas (Kneebone 2020). From 2002-2018, HMS trips in the Vineyard Wind lease area (OCS-A-0501) represented 1 to 5 percent of total trips in southern New England and 6 to 28 percent of trips in the RI and MA Lease Areas, depending on the year (Kneebone 2020). Within the Vineyard Wind lease area, trips primarily originated in Massachusetts and Rhode Island. The same was true for the RI and MA Lease Areas overall, although a notable number of trips also originated in Connecticut and New York."
12960-019	Precise information on the location of private fishing trips is lacking; however, private recreational fishing effort based out of states other than Massachusetts does occur within the wind energy lease areas included in the geographic area of the analysis. The grouping of private recreational fishing with "recreation and tourism," rather than with commercial and for-hire fisheries, is not intuitive to us and makes it challenging for readers to understand the full picture of potential impacts on all fishery sectors.	The DEIS (Section 3.4.5) explained that 97% of recreational boating occurs within 3 miles of shore and addressed the volume of for-hire recreational fishing trips from ports in states neighboring Massachusetts. The DEIS noted that "NOAA NFSC found only about 0.2 percent of for-hire boat trips from Massachusetts, New Hampshire, New York, and Rhode Island were near the MA WEA (Kirkpatrick et al. 2017)." Section 3.10.1 of the FEIS includes this text, and was updated to include information from the Rhode Island Party and Charter Boat Association noting the importance to their businesses of fishing within the Vineyard Wind WDA, as well as NOAA data showing that a substantial number of for-hire recreational fishing trips to the MA wind lease area originate from Montauk, New York. Additionally, Section 3.9.1 of the FEIS has been updated to include newly available data on the originating states for HMS fishing, which occurs further from shore than most recreational fishing and is therefore far more likely to take place within the RI and MA Lease Areas. As stated in the FEIS, the data from the New England Aquarium study include both charter and non-charter fishing trips and indicated that "HMS trips in the Vineyard Wind lease area (OCS-A-0501) represented 1 to 5 percent of total trips in southern New England and 6 to 28 percent of trips in the RI and MA Lease Areas, depending on the year. Within the Vineyard Wind lease area, trips primarily originated in Massachusetts and Rhode Island. The same was true for the RI and MA Lease Areas overall, although a notable number of trips also originated in Connecticut and New York (Kneebone 2020)." Section 3.9.2 of the FEIS was updated to discuss the potential impacts of offshore wind development on HMS fishing (under the Noise and Presence of Structures IPFs). While there is overlap between impacts on for-hire and private recreational fishing, the FEIS continues to analyze for-hire recreational fishing within Section 3.10, and all recreational boating within Section 3.9, because: (1) for-hire (charter) fishing businesses generally share more characteristics with commercial fishing (e.g. the impact on earnings resulting from factors such as increased trip length and disruption of access to certain locations); and (2) private recreational fishing generally share more characteristics with recreational

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		boating, such as a greater proportion of small vessels that stay within one mile of shore, and impacts resulting from reduced enjoyment rather than reduced income potential. To assist readers in understanding the relationship between the two types of recreational fishing, Section 3.9.2 of the FEIS was updated to cross reference the for-hire fishing analysis in Section 3.10.2 and to explain the relationship between the for-hire fishing analysis in Section 3.10 and the analysis of recreational boating generally in Section 3.9. Section 3.9 of the FEIS has been updated to provide additional details regarding the impact of offshore wind development in the RI and MA Lease Areas on recreational fishing, regardless of where the fishing trips originate.
12960-020	We continue to hear concerns from commercial fishing partners about navigation safety, including the potential for impacts due to use of radar.	Section 3.11.2 of the FEIS includes a discussion of potential radar interference. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted equipment, marked wind turbines, and the use of AIS enable safe navigation with minimal loss of radar detection.
12960-021	The continued ability of the Coast Guard to effectively conduct search and rescue, or SAR operations, described in the Other Uses analysis, is also of concern.	Section 3.12 of the FEIS has been modified to include additional information about impacts to USCG SAR activities.
12960-022	The ability of fishing vessels to operate within the Vineyard Wind I and adjacent wind farms will influence the magnitude of negative effects of the projects on commercial fisheries.	Section 3.11.2 of the SEIS discusses the impacts to the ability of fishing vessels to operate within Vineyard Wind 1 and additional wind farms; therefore, no change to the FEIS is warranted.
12960-023	A clear description of mitigation measures (which are summarized in the DEIS, but not described in the SEIS) will be important to understanding the impacts of the proposed action and should be included in the FEIS. The document should indicate which mitigation measures are assumed in the EIS analyses and which measures might be required as conditions on the construction permit. It is challenging to piece these mitigation elements together, absent a consolidated summary. This should include a summary of fisheries mitigation funds for fishermen from Massachusetts and Rhode Island, as well as a description of how fishermen from other states can be compensated appropriately for any losses.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
12960-024	Related to this, a robust monitoring program, while not mitigation per se, is important to understanding project effects and adaptively managing wind farm construction in the region going forward. In terms of process, it would be helpful to understand how Vineyard Wind and other regional developers will be held accountable to monitoring plans, as well as the mechanism for modifying these plans over time. Given that large scale offshore wind development is new for our region, and that the spatial scale of reasonably foreseeable projects is unprecedented world-wide, there are certain to be	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of

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	effects that we cannot fully anticipate at present. We appreciate developer commitments to the work of the Responsible Offshore Science Alliance and the coordination around monitoring that will result, but these are voluntary agreements, vs. permit conditions.	Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
12960-025	There are many opportunities for learning and adaptive management going forward. For example, the SEIS discusses that there may be positive effects associated with the creation of artificial hard bottom habitats. A range of materials could be used for scour protection and for cable armoring where burial is not possible. These materials will likely have different ecological benefits, depending on the species. Materials can be selected for their expected benefits, and/or the effects of different types of materials might be compared.	The SEIS and FEIS address ecological benefits to resources that could be positively impacted by the use of scour protection. The current benthic monitoring plan (Epsilon 2020c) is posted on BOEM's website. Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
12960-026	There are many opportunities for learning and adaptive management going forward...Time of year restrictions on construction and maintenance, e.g. to protect fish spawning activity, also provide an opportunity for data gathering and adaptive approaches. These windows may shift over time as the region continues to experience the effects of climate change. Such shifts could have implications for best practices related to operations and maintenance of the Vineyard Wind I project, as well as other projects in the region.	Thank you for your comment.
12960-027	Consistency of layout across this and future projects is critical to mitigating certain types of adverse impacts, including on fishing operations. Learning from the construction process and from monitoring should lead to adaptive management, for this and other projects. BOEM should articulate how it will ensure that regional development occurs in a coordinated manner across projects. For example, once the Vineyard Wind I turbine layout is established, will extension of this layout to adjacent projects in the MA and MA-RI WEAs be assumed in future COPs, and be the starting point for future EIS analyses? Should a single planning and environmental evaluation process be conducted when multiple projects wish to use similar routes for their export cables? If the effects of installation or operation are found to be unacceptable despite best efforts to mitigate them, will this information be used to alter future projects?	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
12968-001	The Vineyard Wind 1 project will alone create 3,600 jobs for local residents, and potentially create tens of thousands more as the supply chain and additional projects are built out over the next several years. This project	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction

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	presents a tremendous opportunity for our highly skilled unionized workforce in the manufacturing and building trades.	and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. Jobs and investment are national, but are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12968-002	Vineyard Wind pledged to sign the nation’s first non-demonstration offshore wind Project Labor Agreement (PLA) for Vineyard Wind 1 to ensure both fair compensation and the highest construction standards for the project. Following through on this commitment will set a precedent for the industry. Offshore wind projects will be constructed by building trades unions, ensuring fair wages and consistent work for a generation of local tradesmen and women.	Although the Project Labor Agreement is not addressed in the FEIS, Section 3.6.2 provides projections of estimated direct job creation by the Vineyard Wind 1 Project in Massachusetts, and primarily in southeastern Massachusetts.
12968-003	This project is an opportunity to not only drive the nation’s clean energy future, but to create quality, family-sustaining jobs at the same time.	Thank you for your comment.
12968-004	The S-E-I-S claims that if Vineyard Wind 1 is not approved, the economic potential of the offshore wind industry will be realized by future projects. However, this claim ignores the possibility that the failure of VW1 will have a chilling effect on future investment and could send the signal that the United States is not serious about offshore wind. If VW1 is not approved, the chances this industry moves forward in the United States will be severely compromised, potentially resulting in a reduction in projects built, as well as uncertainty in manufacturing supply chain investment.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-impact scenario in terms of potential impacts.
12968-005	Additionally, the industry has already conceded 13,000 MW of capacity and over 1,000 turbine locations by accommodating fishermen with its proposed 1x1 nautical mile layout. As referenced in Alternative F in the S-E-I-S, additional transit lanes would reduce capacity by another roughly 4,000 MW and over 300 turbine locations. This translates to an estimated 1,400 turbines that would not be built. Cancellation of this project would mean thousands of fewer jobs for the skilled men and women in the region—with no additional benefits to navigation safety.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12972-001	The Vineyard Windfarm will severely impact my summer squid fishery. This is 50 percent of my income. The summer squid fishery is done in two areas 1)off Nantucket/ Martha’s Vineyard 3 to 15 miles off the beach and 2) off Long Island 1 to 6 six miles then out through Cholera Bank. Both areas will be heavily impacted by wind farms. Not just by the windfarms but by the	The FEIS discusses qualitative and quantitative impacts to the squid fishery throughout Section 3.10 (Commercial Fisheries and For-hire Recreational Fishing), including potential impacts from construction and projected revenue exposure over 10 years during the build out of future offshore wind development. Section 3.10.2 and Appendix D of the FEIS were updated to

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	cables that carry the electricity. 100 percent of my summer activity is in and around the Vineyard Wind and Equinor lease areas. Both areas will be lost so that a foreign company can benefit from United States waters at the expense of real US businesses. Tax breaks to foreign companies.	discuss additional mitigation including daily two-way communication during construction in order to reduce conflict with the commercial squid fishery in the spring and summer.
12972-002	The SEIS (Supplemental Environmental Impact Statement) says that there will be major impacts to commercial fishing and navigation. Yet In contrast, it says there will be negligible impacts to climate change and greenhouse gas emission from the Vineyard Wind project. That's The whole point of offshore wind anyway- to help with climate change. Even if all the wind farms are built, it says that it will only have minor beneficial impacts. So why are we doing it? Do minor impacts outweigh the major ones? Are we going to majorly impact the lives and businesses of Americans to benefit foreign wind companies for zero benefit to the environment?	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12972-003	If I am not supposed to tow over cables or if Vineyard wind is going to put mats over the cables then all surrounding areas are off limits. No matter what wind people say I cannot tow over mats nor can any other fishermen.	Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS discuss that some vessels may choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures, the potential for hanging up on structures, and has been updated to discuss potential mitigation measures. BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details. The FEIS states that some impacts due to the presence of structures may be permanent.
12972-004	As a fisherman with over 50 years of experience I will not fish in, nor will I steam through the areas because of false radar targets. In the summer you have fog and small fiberglass boats that don't show very well on radar so this is a fatal accident waiting to happen.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1.
12973-001	As an organization, NOIA strongly supports ongoing attempts to build new offshore wind resources in federal waters. We believe projects like the 800 megawatt Vineyard 1—with its potential to bring clean, affordable energy to nearly a half a million homes and businesses in southern New England—are vital to the economic growth of this country and efforts to meet environmental goals for the 21st century.	Climate change is addressed in Section A.8.1 of the FEIS as it related to air quality. Section 3.6 of the FEIS addresses implications for employment and economics from the proposed Project.

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12973-002	According to 2019 estimates, we have a \$70 billion market off America’s coasts for offshore wind in the next 10 years. That means clean, reliable and affordable energy in places like New England and New York where building infrastructure onshore is famously difficult and industrial growth has sometimes been hard to come by and energy costs can be prohibitively high.	Thank you for your comment.
12973-003	Given this, southern New England is primed and ready for a new economic opportunity such as what is offered by offshore wind—and thankfully the potential scope of the economic benefits are enormous.	Section 3.6 of the FEIS addresses impacts to employment and economics from the proposed Project.
12973-004	The Massachusetts Clean Energy Center (MassCEC), a state economic development agency, has identified a host of potential economic opportunities within the commonwealth related to offshore wind. This includes not just ports used for staging and construction but also cables, secondary steel, substations, monopile and gravity foundation manufacture and assembly sites, nacelle, tower and blade construction and assembly sites and also component storage. Even sites that don’t see new jobs from Vineyard 1 could benefit from future projects as the scope of the offshore wind opportunities in New England develop.	The SEIS in Section 3.7.1.1 noted the waterfront sites identified by MassCEC as suitable to support the offshore wind industry. Section 3.6.1.1 of the FEIS has been updated to include additional information on the location and possible uses of these 18 waterfront sites, which include manufacturing as well as staging and port usage. BOEM is not aware of any other documentation by MassCEC of potential sites available for offshore wind-related industrial development.
12973-005	To drive that point home, we are already seeing efforts to increase employment in offshore wind across the region. We know, for example, that a wind-centric jobs fair is planned for the weeks ahead...Bristol Community College in southern Massachusetts has also created a training program related to offshore wind workforce development which we suspect will be replicated at other schools around the country. As they describe it, the school’s National Offshore Wind Institute offers “basic and advanced safety and technical training programs to prepare workers for jobs in construction, deployment, operations and maintenance of offshore wind farms.” We have also seen a NOIA member, Ørsted, announce the creation of an innovation center in Providence, Rhode Island to foster next-generation entrepreneurs in offshore wind business. Given the state’s current economic morass, the possibility of a startup accelerator in addition to other jobs and investment are significant. There will be very real economic benefits to the region related to offshore wind, possibly beyond what BOEM is considering.	Section 3.6.1.1 of the FEIS was updated to include information on the Bristol Community College training program and offshore-wind-related infrastructure improvements within the geographic analysis area as examples of local economic activity begun in preparation for the anticipated offshore wind industry.
12973-006	It is also clear that offshore wind will bring benefits far beyond New England...In fact, many of our member companies along the Gulf Coast are interested in the opportunities presented by offshore wind. For example, NOIA member company Gulf Island Fabrication Inc. of Houma, Louisiana created the steel foundations for the Block Island Windfarm.	Section 3.6 of the FEIS addresses impacts to employment and economics from the proposed Project.
12973-007	The Chairman of NOIA’s main working group on renewable energy resides not in New England but in Houston, helping guide a company with a long	Thank you for your comment.

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	history in traditional fossil fuels as it looks to renewable energy. We know that our member companies with decades of experience working in offshore oil and gas have the technical know-how, training and equipment to work on the initial wave of offshore wind projects, alongside local companies and local labor.	
12973-008	Further adding to the national impacts of local projects, building offshore wind will also hopefully offset some of the Russian gas that is occasionally shipped into Boston harbor to provide energy.	Thank you for your comment.
12973-009	Offshore wind is an incredible opportunity not just for the people in communities across New England but also for national security and a national supply chain hungry for new business.	Section 3.6 of the FEIS addresses impacts to employment and economics from the proposed Project.
12973-010	In almost every area reviewed in the Draft Supplemental, we see a major project bringing relatively inconsequential negative impacts to the area. Many of the negative impacts mentioned by BOEM would be temporary—such as more significant lighting or noise during construction. The limited construction season would be a temporary negative for a long-term net positive of jobs and affordable clean energy.	Thank you for your comment.
12973-011	Similarly, we agree with BOEM’s finding in the draft that the impact on marine mammals would generally be negligible. What moderate impacts may occur during construction, we at NOIA have been deeply impressed by efforts of companies involved in offshore wind to mitigate such impacts. The company Vineyard Wind, for example, signed what a leader in the environmental community called an “unprecedented agreement” to ensure species protection—particularly the critical NARW—during construction...Vineyard Wind has also launched the Offshore Wind Challenge dedicated to finding ways to accelerate innovations around the protection of marine life in areas with offshore wind project plans.	Section 3.4.2 and Appendix D of the FEIS include an updated discussion of comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, particularly the NARW. These measures include, but are not limited to, avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
12973-012	Another of our member companies, Ørsted, has partnered with the Woods Hole Oceanographic Institution and a group of universities to launch the Ecosystem and Passive Acoustic Monitoring project—explicitly designed to better understand the presence of key mammals. Remarkably, this technology could also prove to be a boon for weather and storm forecasting for coastal communities, improving quality of life and even public safety in New England well away from the proposed offshore wind areas. Further, their innovation hub mentioned previously has been discussed as a potential launching point for novel technologies dedicated to marine mammal protection. Given all of this, we not only agree that the impact on marine mammals in the area will be manageable, but also believe that those impacts	Thank you for your comment.

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	will be lessened in the future as new technologies and techniques are developed to further protect species.	
12973-013	Other impacts noted by BOEM, like the physical presence of the towers, bring their own positive impacts. We agree with the DSEIS that there will be some level of benefit related to these structures. In fact, we have seen in the nearby Block Island area that wind turbines can increase tourism. We have seen European projects for offshore wind prove popular with tourists as well; for example the Scroby Sands windfarm off the shores of the United Kingdom has an onshore visitor center that hosts tens of thousands of students and others each year. Wind farms built offshore Nysted, Denmark have attracted pleasure-craft, with the then-mayor commenting that more sailboats have come to the town since the windfarm was built and the harbor master discussing how popular the ability to sail inside the wind energy area has been with tourists and boat owners. Clearly, the global experience and even limited local experience show that we should not assume negative impacts from wind farms for the domestic tourism economy.	As stated in this comment, the Section 3.14 of the SEIS noted that the offshore wind structures would have potential benefits from recreation and tourism due to the potential for sightseeing tours to the offshore wind energy area and the reef effect of the structures in attracting fish, seals, small odontocetes, and sea turtles. The reef effect would provide opportunity for recreational fishing and sightseeing. Therefore, no changes to the FEIS are warranted. The benefits noted in the SEIS are found in Sections 3.9.1.1 and 3.9.2 of the FEIS.
12973-014	We also know global studies have found that offshore wind can increase the population of certain fish species. For example, studies in Europe have found that “researchers found evidence that the wind turbines not only attracted fish, providing both shelter and food (from the organisms that grew on the turbines), but also served a role in their life cycle, with young fish attracted to the wind farm where they would grow, then leave to spawn, and then other juveniles would come to the wind farm to grow.”	Section 3.4.1 of the SEIS discussed how a wind farm could create an artificial reef effect; therefore, no change to the FEIS is warranted.
12973-015	Even those environmental impacts that have proven thornier have seen Vineyard Wind working hand-in-glove with local officials to mitigate impacts and allay concerns. One example of this can be found in the agreement for the cable landing onshore at Covell’s Beach in Barnstable, where project developers agreed to improve the beach area and even improve local infrastructure to save the community money in the future. This type of cooperation is becoming a hallmark of offshore wind and we expect that this trend will continue as future projects are brought online.	Thank you for your comment.
12973-016	For a new and significant infrastructure project that will bring electricity to communities across the region, we think this is an incredibly “light touch” in terms of local impacts. We know that building new energy capacity with other forms of energy like coal in the communities of coastal New England would bring far more significant negative impacts. We can think of few more environmentally sustainable ways to power 400,000 homes and businesses than by allowing projects like Vineyard 1 to move forward.	Thank you for your comment.

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12973-017	That is why NOIA firmly agrees with the concept of a uniform layout, despite the fact that an even, 1 nautical mile layout as captured by Alternative D-2. A uniform layout such as this has been generally agreed to by the industry, despite the fact it would reduce density of turbines and the ability of an area to produce energy. Quite simply, this type of layout best balances the interests of all who want to use federal waters and provides a clear path forward for historic fishing communities.	The SEIS and FEIS assess the effects of a uniform WTG layout under Alternative D2; therefore, no changes to the FEIS are warranted.
12973-018	We defer to the experts at the Coast Guard who have reviewed a uniform, well-spaced layout for offshore wind projects. Just this year in the Port Access Route Studies, we were told that: USCG has determined that if the MA/RI WEA turbine layout is developed along a standard and uniform grid pattern, formal or informal vessel routing measures would not be required as such a grid pattern will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing within the WEA. While these navigation corridors would be smaller than those suggested by some commenters, the USCG believes they should be sufficient to maintain navigational safety and provide vessels with multiple straight-line options to transit safely throughout the MA/RI WEA.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
12973-019	Further, several of our members were involved in commissioning a report by W.F. Baird and Associates, which made key findings that fit hand-in-glove with existing work done by BOEM and the U.S. Coast Guard. Critically, W.F. Baird concluded that an east/west 1 nautical mile layout (such as Alternative D-2) would create 40 individual transit lanes. These lanes could accommodate ships up to 400 feet. Even many fishing vessels that already skirt the edges of the area in question could simply go around it and adding perhaps only 30 minutes to their travel time. For an area that belongs to the people of the United States and not any one industry or stakeholder, this clearly appears to be a common-sense compromise.	Thank you for your comment.
12973-020	We would though like to express caution regarding one point in particular: Alternative F. As you know, this alternative would establish up-to 4 nautical mile-wide transit lanes through the proposed wind energy areas. BOEM's analysis clearly says that this change would increase the impact-producing factors (IPFs) of offshore wind and expand the area we are looking at to produce energy significantly.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12973-021	Critically, we agree with the Coast Guard's assessment that wider fishing lanes, as contemplated by Alternative F, have the potential to be a safety hazard. As the PARS found, "most traffic would be funneled into the corridors thereby increasing traffic density and risks for vessel interaction." NOIA's member companies have nearly half a century of experience with	Thank you for your comment.

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	running vessels through multi-use areas, primarily in the Gulf of Mexico. We as an organization do not believe that an arbitrary, limited number of corridors for a variety of ships would be a prudent approach to routing vessel traffic, especially for ships which will come from different fleets, different ports, and different industries. Congested transit lanes can be complicated enough for even the largest commercial vessels, providing no shortage of ink spilled on how to reduce deadly incidents. Subjecting commercial fishermen, the Coast Guard, recreational fishermen, pleasure-boaters, and others to this unnecessarily would be a mistake.	
12973-022	Finally, regarding spacing, we would caution the Department not to “split the baby” and adopt an approach that encompasses both Alternative D2 and Alternative F—even spacing with additional transit lanes. Even beyond the arguments above expressing caution on Alternative F, we think this mixed approach provides unique threats and drawbacks. We absolutely agree with BOEM that a mixture of transit lanes—some 1 nm in an east/west approach with other somewhat wider lanes mixed in at odd angles is a recipe for potential disaster. As BOEM staff found, “The differing orientations of the transit lane and WTG layout could increase navigational complexity for vessels operating within the area including military and national security vessels.”...A mixed-approach would bring together the “worst of both worlds” in NOIA’s opinion; it reduces the density of wind turbines with the 1x1nm approach—already a compromise by the wind industry—and then adds unnecessary, potentially hazardous intersecting thoroughfares to further reduce that density and add to the complexity for mariners.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12974-001	The Department of Interior's decision to delay Vineyard Wind's final permits last year reverberated through the entire industry and had a chilling effect on the industry's investment capabilities. The SEIS does not factor this into its cumulative analysis. The analysis assumes that even without a green light for Vineyard Wind, industry investment will move forward as planned. This assumption is greatly flawed as companies need regulatory and market certainty in order to justify investment in new markets and the US would be sending a signal that it is not yet ready to get serious about offshore wind.	The methodology for assessing reasonably foreseeable actions or projects that was presented in the SEIS was carried forward in the FEIS.
12974-002	In addition, by requiring additional transit lanes through projects and reducing capacity to develop lease areas to their full extent, BOEM is effectively reducing the industry's opportunities for investment, which will translate to lost economic benefits and jobs for the US overall. As a company with an interest in investing in the US market, we strongly urge BOEM to reject this Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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12976-001	These are jobs that will provide working families with fair wages and benefits which will allow them to invest more in our communities and the local economy in a time of uncertainty and despair for many people.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
12977-001	I support offshore wind and urge BOEM to move forward with this project and approve it by the end of the year. Vineyard Wind 1 is slated to be the nation's first large-scale offshore wind farm, but the success or failure of this project will dictate the future of offshore wind projects up and down the east coast.	Thank you for your comment.
12977-002	This project has gone through a decade of exhaustive review and stakeholder negotiations, and it will set an important precedent for the future of offshore wind. It will provide benefits, both economic and environmental, to Massachusetts communities, but Vineyard Wind 1's impact will not be limited to local residents. This project can also lead the way for other states to move towards offshore wind and invest in becoming renewable energy hubs. Please approve Vineyard Wind 1 and kickstart offshore wind in this country.	Thank you for your comment.
12978-001	Please support Vineyard Wind as the project moves forward. I am most concerned about climate change, and wind energy is essential to avoiding catastrophe	Thank you for your comment.
12979-001	It is essential that we invest in renewable energy projects to stave off the impacts of climate change, provide clean energy to our citizens, and to facilitate an economic recovery from COVID-19. Vineyard Wind 1 will create jobs, save ratepayers money, and has been through rigorous study and analysis. We have a huge opportunity with this project for our nation. I support offshore wind.	Thank you for your comment.
12981-001	We hope that the BOEM will continue with original plans and published schedule of the 1x1 Nautical Mile layout that the Coast Guard has already approved, and reject the 4x4 nautical mile proposal.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12982-001	I am writing to support Alternative F: Vessel Transit Lane Alternative in combination with Alternative D2: East-West and One-Nautical Mile Turbine Layout Alternative....Inclement weather, radar interference, search and rescue, gear conflicts and collisions are just some of the many reasons why we have consistently stressed the importance of transit lanes and proper turbine spacing. Both transit and proper spacing will be necessary for the successful coexistence of these two industries....It is without a doubt that	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	fishermen are going to be impacted by the development of these wind farms. It is my opinion that	
12982-002	at almost every step of the way the fishermen have been on the losing end of any type of “compromise” or transparency that has been promised to us. For years now the industry has been commenting in detail about the concerns we have with the development of this area. We understand that development is going forward, all we have been asking for all along is that this be done correctly, and that the industry be consulted and involved, and our concerns be taken seriously.	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing. Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discuss voluntary compensation funds related to the proposed Project. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
12982-003	Due to the lack of science and studies of the effects of wind farms on the ecology in and around the development area we support sufficient scientific research to occur prior to development, we stressed this and all of our concerns to Vineyard Wind at the very start of their outreach efforts. The entire development area and the surrounding grounds and waters are extremely important fishing grounds for multiple fisheries and home to many protected and endangered species.	The environmental assessment for the Vineyard Wind 1 Project has relied upon the best available information regarding impacts from the proposed action by using the results of local site characterization information from the developer, the National Marine Fisheries Service, and others. Impact information from the Block Island Wind Farm and European projects are applicable to the anticipated impacts of the proposed action.
12982-004	The Northeast Fishery Science Center has made it very clear that they will no longer be able to conduct their surveys in these areas, which will add another layer of uncertainty into fishery management that will negatively impact the fishing industry.	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail, and acknowledged potential impacts to the fishing industry. The discussion of impacts on scientific research and surveys was developed through collaboration with NMFS and BOEM will continue to collaborate on survey protocols. It has been acknowledged that additional studies are needed and discussions are ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted.
12982-005	We are hoping that BOEM will hear our concerns and help us move forward in a way that will help us maintain our way of life as alternative energy comes to our waters. This process has been fast tracked and has left science,	Thank you for your comment.

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	research and an industry that has thrived and depended on these waters for hundreds of years as an afterthought. We just want to see this done right; we cannot afford any mistakes with projects that have the potential to have great ecological and biological impacts to the resources we rely on.	
12983-001	I oppose offshore wind development in ocean waters for environmental reasons. My reasons include irreparable damage to the ocean ecosystem, habitat, and sea creatures, birds, and plant species; environmental effects on humans including white noise. Careful planning, assessment of environmental risks, and construction of wind development on land is better in appropriate locations in the United States.	Thank you for your comment.
12992-001	Lonza is interested in the Vineyard Wind LLC Energy Facility because of the potential for this and other related wind energy facilities that are the subject of the Draft EIS to adversely impact horseshoe crabs from which a critical component of the LAL assay is derived and to adversely impact critical habitat for the horseshoe crab. It is clear that the Draft EIS does not consider the impacts to the horseshoe crab and cannot and must not be made a final Environmental Impact Statement until its omission of assessing this impact on horseshoe crabs is addressed, including essential mitigations of the effects once evaluated.	Section 3.2 of the FEIS has been revised to discuss the current condition and potential impacts on horseshoe crabs. However, a quantitative assessment of the impact on any particular species or stock is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives.
12992-002	The Draft EIS considers environmental impacts not only from the Vineyard Wind LLC Proposed Facility Offshore Massachusetts but also is intended to serve as the Environmental Impact Statement for additional windmill farms, including the one to be proposed within boundaries of the Carl N. Shuster Horseshoe Crab Preserve.	This EIS is not a Programmatic EIS, and therefore it only focuses on the impacts of the proposed Project and how they may combine with those of reasonably foreseeable environmental trends and planned actions.
12992-003	While the Draft EIS considers effects on benthic organisms generally and finds those effects to be moderate, the Draft EIS does not specifically consider effects on horseshoe crabs which are a resource vitally important to human health. Wind farm projects require embedding electric transmission cables in the sea floor and place innumerable boulders around the foundations of the windmill towers. Horseshoe crabs live on the sea floor and embed themselves in its soft bottom. It is obvious that these actions will have impacts reducing the horseshoe crab population and restricting their critical habitat. Furthermore, these facilities will emit electromagnetic radiation from the cables and there is insufficient research on how this radiation will effect horseshoe crabs and their ability to spawn.	Section 3.3 of the SEIS addressed the potential impacts of structures on soft-bottom habitat, of EMF on benthic fauna, and of the proposed Project on horseshoe crab spawning beaches. However, a specific assessment of the impact on any particular species or stock is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives.
12998-001	As someone who has studied environmental science, and seen the effect of climate change throughout my lifetime, I understand that it is important to do everything we can to mitigate climate change effects with ethical and renewable energy sources. I support offshore wind, and I believe that	Thank you for your comment.

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	investing in these projects now will ensure that we have long lasting positive effects in the region for our economy, environment, and public health. Offshore wind is an opportunity to create a domestic energy source that creates good jobs for Americans, creates reliably priced energy, and shows that America can be a leader in mitigating our climate change effects. Additionally, after a decade of environmental study and analysis, it is clear that this project will be as harmless on the aquatic environment as possible. Please approve this project and allow smart and clean renewable energy to thrive in this country.	
12999-001	The Bureau of Ocean Energy Management must reject Alternative F and adopt Alternative D2....Transit Lanes are unnecessary with a uniform 1x1 NM spacing The Joint Developer Agreement Layout does adopt a uniform 1x1 NM spacing for the MA/RI WEA, the impacts will be less than major. The Joint Developer Agreement Layout is consistent with both the Draft and Final MARIPARS and BOEM's assumptions for future OSW development of up to 22 GWs as described in Section A.4 of the Draft SEIS....An approval that requires a dramatic reconfiguration of the project - i.e. requiring additional 2 NM or 4 NM-wide transit lanes - is tantamount to no approval at all.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
12999-002	The Department of the Interior must work with CEQ to ensure that the Vineyard Wind federal permitting process strictly complies with the One Federal Decision permitting timeline published on February 7, 2020....By approving the full Vineyard Wind project configuration in adherence to the One Federal Decision permitting timeline, the DOI will send a clear message to the OSW market and investors that the U.S. is open for business and intends to be a central player in a global energy industry that will expand to \$1 trillion by 2040.	Thank you for your comment.
12999-003	The failure to approve Vineyard Wind project will have serious negative economic consequences upon Americans, because firms may consider investing in more certain European markets, or may expand manufacturing investments in Asia.	Thank you for your comment.
13001-001	Offshore wind is critical for cleaning up air pollution. As a person with severe asthma this is very important to me. Also, with so many millions of people out of work, this would bring jobs into the area in all its phases from construction to the running of the wind farm. This is the best and only way to go forward to reach our renewable energy goals. I totally support the Vineyard Wind project !!!	Thank you for your comment.
13002-001	Our country is going through a once-off transition to a carbon free economy and with that the creation of a new multi-billion-dollar industry.	Thank you for your comment.

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13006-001	I love renewable energy. It is a vital next step to a cleaner earth. It can help drive our economic recovery and will create tens of thousands of local jobs in a burgeoning industry over the next ten years. As such I support the vineyard wind project.	Thank you for your comment.
13007-001	I support the Vineyard Wind Project because it's important for our nation to move forward towards a green future for us and the next generation.	Thank you for your comment.
13008-001	First, there is the matter of the document's font size and line spacing. Simply put, the text is so small and dense as to be functionally illegible. It causes eye strain and fatigue, leading even the most engaged reader to lose focus and eventually give up on the document. The "large type" option does not cure the problem; the font size is so large that it degrades any effort to maintain the context in which a given impact assessment is presented. Second, much of the SEIS's impact data is set forth in various tables with font sizes so tiny that one cannot read them without a magnifying glass. Third, some of the key impact analyses are contained in appendices and not in the body of the SEIS itself, which means the reader must rifle through multiple studies and reports to find the critical information he or she is looking for. This practice, too, diminishes the SEIS's value as an informational document.	A large print version of the SEIS was posted to the BOEM website. BOEM has updated the FEIS to use single spacing for document layout to be more in line with the DEIS format.
13008-002	For example, the SEIS categorizes impacts as negligible, minor, moderate, and major, yet does not explain what those terms mean, how they were derived, or the legal authority on which they are based. Worse, the SEIS does not apply the criteria attached to these designations to the impacts of the project. In other words, the SEIS does not test any particular effect against the "major" impact criteria to determine if that effect qualifies for that designation. By failing to apply the evaluative criteria to each impact of the project, the SEIS impedes the public's effort to assess the seriousness of that impact.	The definitions for the impact ratings were included in the introduction text of Section 3.0 and presented in Tables 3-2 and 3-3 of Appendix B of the SEIS and have been carried forward to the FEIS.
13008-003	The document also fails in its stated purpose of analyzing the impacts of the Vineyard Wind Project in conjunction with the impacts of the other off-shore wind projects currently proposed for the coast of New England and elsewhere along the Atlantic seaboard. Regardless of the impact under review – be it damage to benthic fauna or disruption of marine mammal behavior – the SEIS does not provide the basic information necessary to qualify as a NEPA-compliant cumulative analysis	Lacking specific information to update the analysis based on this comment, no change was made to the FEIS.
13008-004	Without a clear understanding of the ambient conditions, including ambient underwater noise, there is no way to assess the cumulative impacts of the project and the other off-shore windfarms currently being proposed adjacent to or near Vineyard Wind.	Each resource section in Chapter 3 and Appendix A of the FEIS includes baseline condition information against which the effects of the proposed Project can be analyzed.

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13008-005	The SEIS makes virtually no effort to quantify the actual cumulative impacts of the project...The issue to be analyzed and disclosed is whether those cumulative impacts, when subjected to a proper quantitative assessment, are intense enough to cause significant harm to the resource in question (e.g., North Atlantic right whales). The SEIS fails to provide this information.	Lacking specific information to update the analysis based on this comment, no change was made to the FEIS.
13008-006	Note also that the number of wind arrays now being contemplated along the eastern seaboard has increased significantly since the Draft EIS for Vineyard Wind was released to the public...Given that the number of wind turbines has more than tripled since the Draft EIS was prepared and released, the SEIS must make every effort to examine and explain the extent to which these wind arrays, when viewed from a cumulative impact perspective, will affect whales, fish, sea turtles, birds, and other resources. Unfortunately, the SEIS does not provide this information.	BOEM supplemented the Vineyard Wind DEIS released in December 2018, in consideration of the comments received during the NEPA process and in coordination with cooperating agencies. As explained in the SEIS, BOEM thoroughly analyzed the possible extent of future offshore wind development in the United States on the Atlantic OCS to determine reasonably foreseeable planned action effects measured by installed power capacity. BOEM expanded the impact analysis in the SEIS as it had concluded that approximately 22 GW of Atlantic offshore wind development is reasonably foreseeable. Each resource has a geographic distribution and area in which effects of the proposed Project would be felt. Appendix A of the SEIS as well as the FEIS describes the geographic analysis area and provides figures depicting the geographic analysis area for each resource; identifies reasonably foreseeable wind energy projects and other activities in addition to the proposed Project that are or could be located within the geographic analysis areas depicted; and includes an expanded planned action scenario for each resource that considers impacts from these projects and activities collectively.
13008-007	Another structural/system defect in the SEIS is that the document's impact determinations are often conclusory and not derived from any real analysis. Further, the SEIS rarely identifies any technical report or study in support of the conclusions drawn, leaving the reader to wonder how BOEM arrived at those conclusions and whether they are based on scientific evidence or mere conjecture.	The definitions for the impact ratings were included in the introduction text of Section 3.0 and presented in Tables 3-2 and 3-3 of Appendix B of the SEIS and have been carried forward to the FEIS. The FEIS provides adequate supporting information for the conclusions made in the analysis.
13008-008	[Table 3.3-1] provides no information as to the numbers of each benthic species or to their relative abundance. Nor does the Table describe population trends among benthic fauna except to say that according to data collected between 1990 and 2010, benthic fauna along the Atlantic coast appear to be migrating northward in response to rising water temperature... Other than this brief and insufficient description of existing benthic conditions in the cumulative impact area, the SEIS provides no baseline information from which to determine the extent of the project's individual or cumulative impacts on benthic resources.	Section 3.2.1 of the FEIS has been revised to include new data sources on existing conditions of the benthic environment. However, a specific assessment of the impact on any particular species or stock is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives.

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13008-009	Next, the SEIS indicates that the wind turbine foundations will result in benthic mortality covering approximately 2,493 acres. According to the SEIS, however, “[t]he affected areas would likely be recolonized in the short term.” No evidence is cited in support of this conclusion. Further, the SEIS does not examine the extent to which impacts on benthic resources will affect marine animals further up the trophic ladder.	Sections 3.2.1 and 3.2.2 of the FEIS have been revised to discuss the timing and dynamics of the recolonization of affected areas. Sections 3.3 and 3.4 of the SEIS discussed impacts on food webs and local ecosystems.
13008-010	With regard to cumulative impacts on benthic fauna, the SEIS states that “[t]he cumulative impacts of the Proposed Action when combined with past, present, and reasonably foreseeable activities would be of similar types as described in Sections 3.3.1.1 and 3.3.1.2, but may differ in intensity and extent.” (3-16, emphasis added.) The highlighted text shows that BOEM does not understand what a cumulative analysis is supposed to include. It is not enough to identify the types of impacts that might occur; nor is it enough to say that the project will contribute to the cumulative effects on a given resource. Instead, a proper cumulative analysis must examine the “intensity” and “extent” of those impacts – the very thing the SEIS fails to do.	Section 3.3.2 of the SEIS discussed the intensity and extent of impacts when they differed from those discussed in Section 3.3.1 of the SEIS. Therefore, no change to the FEIS is warranted.
13008-011	Finally, Figure A.7-3, entitled “Benthic Geographic Analysis Area”, uses a purple line to mark the area evaluated for impacts to benthic resources. This area, however, fails to include most of the wind-farm leaseholds to the west, south, and east of the Vineyard Wind project. By using such a truncated study area, the SEIS underreports the cumulative impacts on benthic resources, resulting in a violation of NEPA.	As specified in Appendix A of the SEIS and the FEIS, BOEM selected the benthic resources geographic analysis area based on the area that may be affected by the proposed Project. Since BOEM determined that the proposed Project would not affect benthic resources outside of the purple line, an expansion of the area is not warranted in the FEIS.
13008-012	First, the SEIS does not explain what constitutes a negligible, minor, moderate, or major noise impact on fin fish, so those words [assessing the impact of noise on finfish in 3-22] are meaningless. Second, even if the SEIS did include some definition of these terms or provided the criteria that would trigger any of those definitions, there is no evidence that the SEIS applied them in this case. That is, there is no indication that any evaluative criteria were applied with respect to noise impacts on fish; so, there is no way to test whether the EIR’s conclusions are valid or arbitrary.	The definitions for the impact ratings were included in the introduction text of Section 3.0 and presented in Tables 3-2 and 3-3 of Appendix B of the SEIS and have been carried forward to the FEIS.
13008-013	The SEIS also acknowledges that the wind turbine structures, including their foundations, will alter sea currents and obstruct the movement of some migratory species, such as summer flounder, monkfish, and lobster. (3-23—3-24.) Nevertheless, the SEIS concludes that the project’s contribution to these impacts are negligible to moderate, and even indicates that the wind turbines could have a “moderate beneficial” effect on fish. Again, however, the SEIS fails to articulate the criteria which establish whether an impact is deemed negligible or moderate or major; nor does the SEIS attempt to apply	Impact ratings in the SEIS are provided for each impact-producing factor; therefore, overall potential impacts for a given resource could be different than an individual rating for a particular impact-producing factor.

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13008-014	any such criteria to the impact in question. Instead, the SEIS provides only conclusory statements void of support or analysis. The SEIS provides little information on the current status of the NARW. It does not discuss population trends, current whale numbers, or the most recent data on threats to the species. Nor does it identify the migration routes that NARW [NA Right Whale] typically use or investigate whether those routes have changed over time. The SEIS should but does not address recent information suggesting that NARW are remaining off the coast of Massachusetts for longer periods than previously assumed. Consequently, the SEIS's analysis of cumulative impacts on the NARW lacks context and hovers untethered to any understanding of existing conditions.	A detailed discussion of current marine mammal distribution and occurrence in and around the Vineyard Wind 1 WDA was provided in Appendix E of the SEIS. A discussion of current marine mammal distribution as well as population size and trends are also provided in the Biological Opinion issued by NMFS on September 11, 2020. A detailed analysis of impacts to ESA listed species, including the NARW, is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional information regarding impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13008-015	In our comment letters on the Draft EIS, we pointed out that BOEM had failed to evaluate the project's noise impacts on whale communication and echolocation, as such impacts could greatly affect the whale's ability to locate prey, avoid vessels, find mates, and navigate hazards along their migration routes. The SEIS, unfortunately, does not cure this deficiency...Instead, the SEIS focuses almost exclusive on project-related pile driving noise and its ability to physically damage whales ...While noise-related physical damage is certainly a serious concern, noise impacts on whale behavior – e.g., interference with the whales' ability to locate prey or mates – are just as troubling; yet these impacts are not analyzed.	Section 3.3.7.2 of the DEIS and 3.5.1 of the SEIS provide a discussion of auditory masking. Further, a detailed analysis of impacts to ESA listed marine mammal species, including the potential impacts arising from behavior avoidance during construction is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional information regarding masking impacts as a result of the Vineyard Wind 1 Project is provided in the Biological Opinion issue by NMFS on September 11, 2020. As described in the Biological Opinion, communication between animals within and located on different sides of the Project area could be intermittently masked as vessels are transiting through the area on a daily basis. This masking is expected to last intermittently while animals remain in the area. Since the greatest amount of vessel traffic will occur concurrently with pile driving activities, whales may choose to leave the area during construction. In either scenario, some short-term harassment is expected to occur due to vessel operations or pile driving during construction. As described in the Biological Opinion, "even if masking were to interfere with

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		mother-calf communication in the action area, we do not anticipate that such effects would result in fitness consequences given their short-term nature" (NOAA 2020). As such, no change to the FEIS.
13008-016	How do these “avoidance behaviors” conflict with or otherwise affect the whale’s normal life-cycle activities? The SEIS does little to address this issue.	Section 3.3.7.3 of the DEIS discussed the potential impacts of behavioral avoidance during construction activities. Further, a detailed analysis of impacts to ESA listed marine mammal species, including the potential impacts of auditory masking is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additional discussion regarding the consequences of avoidance behaviors is provided in the Biological Opinion issued by NMFS on September 11, 2020. Finally, the Sections 3.5.1 and 3.5.2 of the SEIS discuss the consequences of avoidance behaviors. Therefore, no change to the FEIS is warranted.
13008-017	Part of the problem is that the neither the Draft EIS nor the SEIS provides a full and accurate description of the existing/ambient underwater noise environment within the cumulative impact area. The waters off the coast of New England receive heavy vessel traffic, resulting in significant underwater noise. A myriad of other noise sources – some anthropogenic and some natural – contribute to ambient sound levels. Yet, the SEIS does not provide any measurement of existing underwater noise, so one is left to wonder what additive effect the proposed wind projects will have. Without an accurate baseline, the impact analysis is largely abstract and meaningless.	Appendix D of the FEIS provides and updated discussion of mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including the Use PAM buoys or autonomous PAM devices to record ambient noise in the lease area (before, during, and immediately (within 2 year of operation) after construction), record marine mammal vocalizations, and monitor Project noise including vessel noise, pile driving, and WTG operation. Results must be provided within 90 days of construction completion and again within 90 days of the 1-year and 2-year anniversary of commissioning.
13008-018	... the SEIS does not discuss zooplankton (copepods, including krill) abundance off the New England coast. This information is critical, given that zooplankton is the NARW’s primary food source...It is a virtual certainty that the Vineyard Wind project, in conjunction with the other offshore wind projects being proposed, will reduce forage opportunities for the NARW, further driving the species toward extinction. Yet, the SEIS does not discuss this issue.	Section 3.3.7.1 of the DEIS and Section 3.5.1 discuss zooplankton abundance and distribution in the region and the importance of these species for many fish species and NARW. Further, a detailed analysis of impacts to ESA listed marine mammal species, including a discussion of zooplankton abundance and distribution is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additional information regarding Project impacts on zooplankton as a result of the Vineyard Wind 1 Project and the consequences to marine mammals is provided in the Biological Opinion issued by NMFS on September 11, 2020. Therefore, no change to the FEIS is warranted.
13008-019	...the SEIS discusses noise impacts on whales and it also discusses the impacts of underwater structures (wind turbines) on whales, but these analyses are never combined... Both types of impacts have the potential to adversely affect whales in a cumulative/additive way, but the SEIS does not address these impacts from this perspective. Instead, the impact analysis is atomized, with each impact type treated as if it were in a vacuum, cut off	As pointed out by the commenter, a variety of anthropogenic noise sources related to the offshore wind development was discussed in Sections 3.5.1 and 3.5.2 of the SEIS and Sections 3.4.1 and 3.4.2 of the FEIS. Each of the noise sources was analyzed and an impact rating was assigned. However, at the conclusion of the of the noise section, all noise sources collectively were assigned an overall impact rating. As discussed in the Biological Opinion

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	completely from other impacts. Such an approach defeats the entire purpose of a cumulative impacts assessment.	issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Also discussed in the Biological Opinion are the potential effects to copepods and other prey items of marine mammals.
13008-020	First, the issue is not whether vessel traffic connected to offshore wind projects would be small “relative” to ongoing and future non-offshore activities. The issue is whether the offshore wind farm vessels, when added to the already-heavy boat traffic in the affected area, will increase the risk of collision with whales. The SEIS does not address that question.	As described in BOEM's National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019a), more than 12,000 vessel calls were made at ports in the North Atlantic. The expected peak of 125-230 vessels associated with offshore wind development, as described in Section 3.5.1 of the SEIS, would represent an approximate 1.0 to 1.9 percent increase in vessel traffic. In reality the increase would be even smaller as the 12,000 vessel calls represent only commercial vessels and does not include recreational vessel trips. In addition, there is currently a high degree of uncertainty regarding the number of vessels, ports to be used, and primary transit routes that future offshore wind developments use. Section 3.4.1 of the FEIS has been updated to reflect this information. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS. These measures include, but are not limited to, use of PSOs, PAM, vessel speed restrictions, and other measures
13008-021	...the SEIS provides no evidence as to how many vessels currently enter and cross through the cumulative impact area, so there is no support for the claim that the wind project-related vessels would have “no measurable cumulative impact”. In short, BOEM has not measured anything, and thus the entire statement is misleading.	Section 3.11 of the FEIS has been updated to incorporate newer vessel traffic data, including both AIS and VMS data for the WDA and RI and MA Lease Areas. This information is sufficient to support the conclusions in Section 3.11.
13008-022	...the Jones Act restricts the ability of non-U.S. vessels to serve the offshore wind arrays, which means that many of the vessels needed to support construction, operation, and maintenance of the wind turbines must be based in U.S. ports, significantly increasing the number of vessel-miles traveled. This, in turn, increases the potential for increased vessel strikes against whales and other marine mammals. The SEIS does not discuss this impact.	As described in BOEM's National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019a), more than 12,000 vessel calls were made at ports in the North Atlantic. The expected peak of 125-230 vessels associated with offshore wind development, as described in Section 3.5.1 of the SEIS, would represent an approximate 1.0 to 1.9 percent increase in vessel traffic. In reality the increase would be even smaller as the 12,000 vessel calls represent only commercial vessels and does not include recreational vessel trips. In addition,

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		there is currently a high degree of uncertainty regarding the number of vessels, ports to be used, and primary transit routes that future offshore wind developments use. Section 3.4.1 of the FEIS has been updated to reflect this information. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS. These measures include, but are not limited to, use of PSOs, PAM, vessel speed restrictions, and other measures
13008-023	... the SEIS’s discussion of project and cumulative impacts on NARW...fails to refer to much of the recent scientific literature about the plight of the whale. The few technical articles cited in the SEIS are seven to ten years old and thus do not provide information on the recent drops in NARW numbers. The SEIS also includes no data as to how many NARW the Vineyard Wind project, both singly and in combination with other wind projects, is likely to “take” over the 30-year operational life of the wind array. Given that even a single NARW death pushes the species ever closer to extinction, it is imperative that the SEIS examine the “take” issue and disclose the number of NARW that will be lost. Again, however, the SEIS provides no data on this critical issue.	A detailed discussion of current marine mammal distribution and occurrence in and around the Vineyard Wind 1 WDA, including the NARW was provided in Appendix B of the DEIS and Appendix E of the SEIS. A discussion of current marine mammal distribution as well as population size and trends are also provided in the Biological Opinion issued by NMFS on September 11, 2020. A detailed analysis of impacts to ESA listed species, including the NARW, is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additional information regarding impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13008-024	As pointed out in the article “Nature’s Solution to Climate Change,” published last December in Finance & Development, whales stimulate the growth of phytoplankton, which pulls more than 37 billion metric tons of CO2 out of the atmosphere, approximately 40 percent of all CO2 produced each year...The SEIS does not discuss this issue or evaluate the extent to which Vineyard Wind and the other offshore wind projects could contribute to diminished whale numbers, thereby cancelling the very CO2 reductions the wind farms are supposed to provide. In short, the entire Atlantic offshore wind program, including Vineyard Wind, would be counter-productive and	As discussed in the Section 3.4.2 of the FEIS and in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, as discussed in the Biological Opinion, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals is expected to occur as a result of the project.

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	self-defeating if they directly or indirectly cause whale numbers to drop. We would be killing nature's "carbon sink" (i.e., whales) to install a poor manmade substitute, gaining nothing by the effort but profit for the wind-energy companies.	
13008-025	The SEIS, however, does not discuss whether and to what extent aerial monitoring will affect [the NARW and other sensitive marine mammals]. The SEIS also does not disclose whether aerial monitoring can be effectively performed after certain of the wind arrays are installed. As to underwater acoustical monitoring, the SEIS should – but does not – evaluate the extent to which the noise and vibrations of the wind turbines would mask the sounds of whales, thereby compromising the monitoring effort.	Section 3.3.7.3 of the DEIS and Section 3.5.1 of the SEIS discuss the use of helicopters and the potential consequences on marine mammals. Section 3.3.7.2 of the DEIS and Section 3.5.1 of the SEIS provide a discussion of auditory masking. Further, a detailed analysis of impacts to ESA listed marine mammal species, including the potential impacts arising from behavior avoidance during construction is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additional information regarding masking impacts as a result of the Vineyard Wind 1 Project is provided in the Biological Opinion issued by NMFS on September 11, 2020. As described in the BA, communication between animals within and located on different sides of the Project area could be intermittently masked as vessels are transiting through the area on a daily basis. This masking is expected to last intermittently while animals remain in the area. Since the greatest amount of vessel traffic will occur concurrently with pile driving activities, whales may choose to leave the area during construction. In either scenario, some short-term harassment is expected to occur due to vessel operations or pile driving during construction. As described in the Biological Assessment, "even if masking were to interfere with mother-calf communication in the action area, we do not anticipate that such effects would result in fitness consequences given their short-term nature" (NOAA 2020). The FEIS addresses the issue of aerial monitoring surveys throughout Section 3.12 (Other Uses, Scientific Research, and Surveys). Therefore, no change to the FEIS is warranted.
13008-026	But then the SEIS backs away from this number [6.9 birds per turbine] and claims without study or proof that the 2,021 wind turbines currently planned for the Atlantic seaboard would kill only 75 marine birds per year. Not only is this number low and unsupported, it is hard to square with the SEIS's claim that the wind turbine structures will attract fish and thereby invite more birds to forage within the wind arrays. If we accept this claim, it is likely that bird mortality will increase well beyond the numbers reported in the SEIS.	Section A.8.3.1 of the FEIS includes an updated discussion of Loss et al. (2013) and the applicability of mortality estimates derived from terrestrial WTGs to offshore WTGs. Several factors as to why potential collision mortality is expected to be much lower are presented in the FEIS. As pointed out by the commenter, and discussed in Sections A.8.3.1 and A.8.3.2, BOEM expects some level of reef affect to attract fish to the WTGS foundations, which would increase collision risk to those individuals utilizing the foundations for foraging. However, based on the biology of these species, most would be flying and foraging well below the Rotor Swept Zone and collision with operating WTG blades would not be expected.
13008-027	The SEIS also fails to provide a true cumulative impacts analysis with regard to birds. As the SEIS points out, marine and shore birds along the Atlantic	Section A.8.3.2 provides an updated discussion of bird use of the Atlantic Flyway along the North American Atlantic Coast. Within the Atlantic

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	Coast are on the decline and face a host of stressors. (A-67.) Nevertheless, the SEIS makes no effort to combine these stressors with the wind farm impacts, so the reader has no means to gauge the true cumulative effect of the project on birds.	Flyway, much of the bird activity is concentrated along the coastline concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). Additionally, as depicted in Figures A.8.3-1 and A.8.3-2 in the SEIS, total avian abundance for species with high collision sensitivity and displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. Additionally, the SEIS discussed two studies of offshore wind facilities in Europe (Desholm 2006 and Skov et al. 2018) that used a variety of monitoring methods to monitor operating offshore WTGs for bird collision mortality. In both cases very little bird mortality was documented. The FEIS was updated to explicitly state these conclusions. Further, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices.
13008-028	Neither the Draft EIS nor the SEIS provide an accounting of the fossil-fuel energy required to produce, install, and operate the wind arrays contemplated under BOEM’s Atlantic offshore wind program – energy that would not be expended but for the windfarm projects.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information. Construction related activities were included in the analysis.
13008-029	...to ensure that wind farms maintain their contribution to the energy grid, the operators must use backup generators to produce electricity. These backup generators use fossil fuels and emit GHGs and other air pollutants. The SEIS does not disclose this fact, does not explain the role that such backup generators play, and does not provide a full, accurate, and cumulative accounting of the GHGs and air pollutants emitted by the backup generators.	The FEIS has been updated to specifically call out emergency generators. The emissions of backup generators are part of the total emissions considered (COP Volume III-B, page 14; Epsilon 2020b). The function of the emergency generators is to allow for protection of equipment and communication with WTGs in the event of an emergency. These generators are not commercial scale, and would not be connected to the energy grid.
13008-030	Instead, the SEIS just declares these 2.2 million tons of emissions to be “minor”. (Ibid.) The SEIS does acknowledge that Vineyard Wind’s construction emissions would include 4,961 tons of NO _x and 122 tons of volatile organic compounds (VOCs), which together form ozone, the one regulated pollutant for which coastal Massachusetts is out of attainment. (See, A-42.) The SEIS, however, does not assess whether such ozone emissions would contribute to any exceedances of federal ozone thresholds.	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS. Vineyard Wind is required to have and is applying for an OCS air permit with the USEPA which includes Prevention of Significant Deterioration. Other future offshore wind projects will require similar permitting and will require compliance with the Clean Air Act.
13008-031	It is unclear what the SEIS means by “emergency” generators, but it appears that the SEIS has grossly underreported how often generators will be used and the amount of emissions they will produce.	The expanded plan action scenario considered in the SEIS assumed that operation and maintenance emissions would be similar to the proposed Project. In the COP for the proposed Project, multiple options regarding the potential use of emergency generators in the event of a loss of connection to

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		the grid were considered as a damage prevention and safety measure. The option that yielded the highest emissions was selected to capture the highest impact case. See COP Volume III-B, page 14; Epsilon 2020b. Other offshore wind projects with submitted COPs within the geographic analysis area were also factored into the emissions calculations. Emergency generators including maximum case estimates of their associated emissions are part of these emissions calculations.
13008-032	the wind turbines will be 15 to 20 percent larger and taller than was previously disclosed and studied. It is unclear, however, whether the SEIS's visual impacts studies – including the visual simulations – took these increases into account.	The assumptions for turbine size and height as it related to the impact assessment are included in Chapter 1 and Appendix A of the SEIS and FEIS.
13008-033	In fact, the SEIS should (but does not) include visual simulations – day-time and nighttime – from each tourist location on both islands. The need for such visual simulations is especially acute now that the project applicant has decided to increase the height of the wind turbines by more than 100 feet.	Section 3.9.2 of the FEIS has been updated to discuss new visual simulations provided by Vineyard Wind. The simulations show the proposed taller, 14 MW Vineyard Wind turbines and also show combined simulations for Vineyard Wind with other future offshore wind development within the same viewshed. COP Volume III, Appendix III-H.a (Epsilon 2020d) describes how simulation viewpoints were selected, and discusses how those viewpoints are broadly representative of publicly accessible locations where the Project may be visible. Section 3.10.2.1 of the SEIS stated that Vineyard Wind had committed to use ADLS, which would greatly reduce the time when nighttime aviation lighting is activated. The nighttime simulations for the Vineyard Wind turbines were completed based on the COP submitted in 2017, and do not include the mid-tower lighting that will be required for the taller, 14 MW turbines that are evaluated in the FEIS. The nighttime simulations can be viewed at https://www.boem.gov/vineyard-wind . Although updated simulations for the taller turbines with mid-tower lighting are not available, Section 3.9.1.1 of the FEIS has been updated to address nighttime views and night sky concerns in greater detail than in the DEIS or SEIS.
13008-034	The[construction] vessels may, and likely will, discharge some of their ballast water into ocean near the wind arrays, potentially introducing invasive, non-native species. The SEIS does not provide an adequate assessment of this impact.	Section A.8.2.2 of the SEIS addressed control measures for non-indigenous species. The SEIS stated, "all vessels would need to comply with the USCG ballast water management requirements outlined in 33 CFR Part 151 and 46 CFR Part 162." The FEIS has been updated to reference Subpart D of 33 CFR Part 151, which specifically addresses Ballast Water Management for Control of Nonindigenous Species in Waters of the United States.
13008-035	The waters off Nantucket are clear and pristine, and the southern shoreline is especially fragile and prone to erosion. The Vineyard Wind project, by itself, will alter currents and potentially effect beach sand replenishment, wave size,	Appendix E of the FEIS has been updated to include additional information regarding the oceanographic environment, including the potential impacts on mean flows near offshore wind foundations. Information related to potential changes in mean flows provides implications for shoreline erosion. Section

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	and sand erosion along Nantucket’s coastline. The SEIS does not address this issue on a project-specific or cumulative basis.	3.3.2 of the FEIS has been updated to explain that background hydrodynamic conditions would exist approximately 328 feet (100 meters) from each monopile foundation.
13008-036	it appears that the SEIS’s cumulative analysis failed to include key wind energy-related projects, such as the Offshore Export Cable Corridor and Anabatic’s Southern New England OceanGrid project. To comply with NEPA, the SEIS’s cumulative impact assessment must take these projects into account.	The mentioned projects are discussed in Appendix A of the SEIS and considered in the impact analyses in Chapter 3 of the SEIS, which were carried over to the FEIS.
13009-001	...the concerns of the commercial fishing industry have not been included in the plans of any of the Wind Developers. For example, the commercial fishing industry has been saying the turbines must be spaced at least 2 nautical miles apart among many other suggestions yet not one of the 6 Alternatives in the SEIS even considers this spacing.	Section C.5 in Appendix C of the FEIS addresses alternatives considered but not analyzed in detail. Specifically, BOEM provides information on “alternative spacing between wind energy turbines.” See that section for more information on why a spacing of 1.5 to 2 nautical miles or greater was not assessed in detail.
13009-002	When questioned regarding [the spacing of turbines] during a BOEM/RODA Q&A session July 14, 2020, a BOEM representative replied, “because it is not economically feasible for the Wind Developers [to space at least 2NM apart]”. This was a BOEM report and the most important thing is the economic feasibility to the FOREIGN Wind Developers!? That in and of itself tells you that this process is flawed and unfair to a historic industry on which this country was founded to the benefit of Foreign owned companies coming into our EEZ (which will no longer be exclusive) and displacing thousands of jobs, small businesses and our heritage.	Section C.5 in Appendix C of the FEIS addresses alternatives considered but not analyzed in detail. Specifically, BOEM provides information on "alternative spacing between wind energy turbines." See that section for more information on why a spacing of 1.5 to 2 nautical miles or greater was not assessed in detail.
13009-003	The report [from scientists hired to review the SEIS by the National Science Foundation's Science Center for Marine Fisheries ("SCMFIS")] states that the cumulative nature of the SEIS falls short. “In the case of the present SEIS, one cannot evaluate the total impact of the proposed development of the Mid-Atlantic Bight as insufficient attention is paid to the impact beyond the Vineyard Wind project, whereas the cumulative impact is the issue of greatest concern,” the SCMFIS team wrote. While the SEIS analysis is “extensive across potentially affected resources,” its frequent “lack of detail” is a weakness	The FEIS includes additional detail and responds to public comments.
13009-004	The SCMFIS report says, “The greatest direct impact of offshore wind on fisheries could be the impact of turbine placement on stock assessments... Surveys could not be conducted in wind areas; in which case it is assumed that no stock exists there. This would likely lead to quota reductions, especially due to increased uncertainty in the assessments, and the resulting long-term effects would not be able to be resolved by single-year compensation plan”.	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail, including the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed through collaboration with NMFS and BOEM will continue to collaborate on survey protocols. It has been acknowledged that additional studies are needed and discussions are ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted. BOEM is funding a process to begin to

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		understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13009-005	There are also several potential environmental impacts from offshore wind that the SEIS did not adequately explore, the SCEMFIS team found. For instance, the SEIS considered impacts on the ecologically important “cold pool” of water that extends seasonally off the U.S. East Coast, but only focused on impacts during some parts of the year. Weakening this cold pool could help generate “the most catastrophic ecological event on the continental shelf the world has ever seen,” the researchers wrote, so great care must be taken to show the chance of an impact from offshore wind is “vanishingly small.” Such science is not present in the SEIS, they wrote.	Section 3.4 of the SEIS discussed the cold pool and potential effects of offshore wind development. Therefore, no change to the FEIS is warranted. Potential impacts on the cold pool are dominated by factors other than the Proposed Action; nevertheless, the FEIS considers impacts of reasonably foreseeable environmental trends and planned actions, including the Proposed Action.
13009-006	The biggest indirect threat to fisheries is a likely increase in marine mammal entanglements, according to the SCEMFIS report. This would result from an increased density of fishing gear due to a reduction in available fishing areas, more recreational fishing, and recreational fishing further offshore at the wind sites. Greater threats to marine mammals would lead to greater limitations on fishermen, and the SEIS should have classified these impacts as “major” instead of “moderate,” the researchers wrote.	Section 3.5.1 of the SEIS discussed the potential for interactions with commercial and recreational fisheries as a result of either displacement of vessels out of the WDAs or an increased presence of recreational fishing vessels in the WDAs. While the reef effect may result in drawing in recreational fishing effort from inshore areas, an overall interaction between marine mammals and fisheries resulting from increased effort offshore would not change the overlap in recreational fishing effort and marine mammal distributions. Fishing in and around foundations may increase marine debris from fouled fishing gear in the area. However, as discussed, entanglement and ingestion of marine debris, is not considered a new impact-producing factor but rather a change in the distribution of this factor if inshore fishing effort is moved offshore, with the potential for different species to be affected. A detailed discussion of the potential consequences of fishing displacement is provided in the Biological Opinion issued by NMFS. More information regarding the potential for displacement of fishing vessels is provided in Section 3.10 of the FEIS. Therefore, no change to the FEIS is warranted.
13009-007	If wind turbines are placed one nautical mile apart in each direction, the fishing and transit through those areas will dramatically reduce the safety factor for one of the most dangerous occupations in the United States.	Thank you for your comment.
13009-008	Some of the turbine types that have been discussed are monopoles and gravity base turbines. I would call your attention to the gravity base turbines as described by Equinor Wind during their development meeting, these	Section C.5 in Appendix C of the FEIS, as well as the DEIS and the SEIS, include text related to alternative wind turbine foundation types. BOEM

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	structures would have a rock pile around them that covers 160,000 square feet or approximately 4 acres. Even with the water line interaction being 1 nautical mile apart the bottom interaction is dramatically reduced. The interference to marine radar is known to exist but the true measure in reduction in safety has not been established.	considered such alternatives but did not analyze them in detail in the NEPA document.
13009-009	The Atlantic Surf Clam and Ocean Quahog fishery uses a hydraulic dredge method to loosen high energy sands and retrieve the clams as they are released from the bottom. It is our understanding that each wind turbine will be connected to the grid by a buried cable. These cables are approximately 10 inches in diameter and will carry 60,000 volts through each one. Any mobile tending bottom gear would run the risk of interaction with these electrified cables but a hydraulic dredge that is made out of steel and weighs up to 32,000 pounds with a cutting edge up to 180 inches wide will not interact well with these electrified cables. The Wind Developers say they will bury the cables 2 meters deep, there are many areas within the WEA's that 2 meters of sand can be moved over night in a storm. If the bottom is deemed too hard to bury the cables, they will use pads. The pads are made of concrete and can be as high as 6 feet off the bottom, thus rendering this tract unfishable.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses vessel displacement and financial impacts on commercial fisheries, including the surfclam fishery. Table 3.11-3 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS discuss that some vessels may choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures, the potential for hanging up on structures, and they have been updated to discuss potential mitigation measures. BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details. Voluntary financial compensation packages are also discussed in Section 3.10, Table 3.10-13, and Appendix D of the FEIS.
13009-010	The Block Island WEA used current technology bury the transmission cables in the bottom, yet only a few years later the cables have become unburied. This is actual proof that the right technology does not exist to bury high voltage transmission cables under the ocean bottom and ensure that they will stay buried.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered (including cable burial monitoring), has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information. Section 2.1.1 of the FEIS has been updated to address cable burial risk for the proposed Project. The OECC would have a target burial depth of 5-8 feet (1.5-2.5 meters). Potential interactions with fishing gear are discussed in the revised Section 3.10.2 of the FEIS.

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13009-011	Why not place the WEA's on land, this has worked for decades in the west? Why not convert electric power producing plants to natural gas and cut emissions by 50% immediately. Solar fields have become common place and seem to have little adverse effect on the environment around them.	BOEM's action is to approve, approve with modifications, or disapprove Vineyard Wind's COP. Other projects or activities that do not meet the purpose and need are not evaluated in the NEPA process.
13009-012	What we are opposed to are US Fishing Vessels protected under the Jones Act and the Magnuson-Stevens Act being displaced from historic fishing grounds without proper consideration of coexistence. It is our understanding that the majority ownership in these Wind Farms will be European and the technology and hardware will be imported from overseas including but not limited to China, Canada, and France.	Thank you for your comment.
13009-013	We would ask that you accept Alternative G, No Action regarding the Vineyard Wind I project.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13009-014	We would ask that you issue a 5-year moratorium on all WEA leasing, construction, and surveying (on foreign vessels) as suggested by RODA in their petition. This 5-year moratorium would allow the proper science to be done so the effects on the environment, ecology and economy are minimal. It would also allow time for US based companies to develop the technology and build plants to truly employ US citizens and make this sustainable US lead path forward if the science proves that this can be safely and effectively accomplished.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13009-015	Streamlined permitting and clear regulatory processes, such as those the Council on Environmental Quality have brought to life through the recent revamping of the National Environmental Protection Act review process, will benefit offshore wind and we support any BOEM efforts to bring needed clarity through the Vineyard Wind review.	Thank you for your comment.
13009-016	As we fight through intertwined economic crises in America - the COVID-19 outbreak and the energy market's disruption - there has never been a more important time for the offshore wind industry to establish its footing for the future while creating jobs on shovel-ready projects that put Americans to work on our economic recovery. Vineyard Wind is such a project, and BOEM and the Department of the Interior have the opportunity to set in place pro-American, business- and labor-friendly policies that can unlock the enormous potential of this industry, while ensuring that the maximum benefits of it accrue to American entities and citizens. These policies can help revitalize port and coastal communities across the country beyond just the Atlantic coast, and all of their maritime industries. We advocate for all those who will benefit from U.S. offshore wind expansion. We encourage BOEM to carefully weigh the economic impacts and potential benefits of this	Thank you for your comment.

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	industry to all stakeholder groups - which are vast when the entire supply chain that will be required is considered - against those of smaller, more vocal interests who have no intention of reaching an end state where offshore wind development is possible.	
13010-001	Moving forward on Vineyard Wind, and indeed U.S. offshore wind, is essential for creating a regulatory environment that can bring much-needed progress to this rapidly emerging market and new industry for the United States.	Thank you for your comment.
13010-002	Offshore wind is a crucial and emerging new industry for the United States. These first projects and how well they advance through regulatory processes will send a signal to the industry that indicates whether the US is open for business, or not. If projects like Vineyard Wind 1 will need to go back to the drawing board to accommodate onerous conditions such as 4-mile wide transit lanes after years of partnerships, compromises and agreements, all offshore wind projects are at risk of being indefinitely slowed and significantly minimized in positive impacts.	Thank you for your comment.
13013-001	I support the Vineyard Wind Project due to the fact that it will provide a renewable yet cost-effective source of energy to Massachusetts.	Thank you for your comment.
13015-001	Two particular issues that we feel have been subject to robust processes and have received exhaustive and relevant input are where the cables make landfall, and the layout of the turbines as they relate to shipping and the fishing industry. On the landfall, we support Alternative B, Covell's Beach, so as to avoid potential negative impacts on Lewis Bay. With regard to turbine spacing and layout, we support Alternative D2 to eliminate potential conflicts with existing and future marine uses such as fishing and navigation. We have been extremely impressed with the stakeholder processes in these two areas and have noted Vineyard Wind's efforts to listen and be flexible in them.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Vineyard Wind has indicated that New Hampshire Avenue landfall location is no longer a consideration as they have received all the necessary state and local permits for the Covell's Beach landfall site.
13015-002	Offshore wind also brings a rare economic opportunity: to cement the Bay State as a global leader in renewable energy, with southeastern Massachusetts as a hub of offshore wind development. All three offshore wind proposals offer economic benefits, and Vineyard Wind has pledged to commit millions on regional workforce and supply chain development, providing an excellent model for building and sustaining a local offshore wind industry.	Thank you for your comment.
13016-001	I highly support the Vineyards Wind project as a crucial step towards producing renewable energy and the transition away from fossil fuels. Not only is this wind energy project important for climate change mitigation, but it will also create thousands of much needed jobs. One of my biggest reasons	Thank you for your comment.

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	for supporting Vineyard Winds is that there has been a decade of extensive scientific study on its impact.	
13017-001	Within the Supplemental EIS, CEA notes the lengths BOEM took to study the “reasonably foreseeable effects from an expanded cumulative activities scenario for offshore wind development”. While CEA does not generally favor project delays, the delays caused by BOEM’s supplementation process should result in a stronger future for American offshore wind because the agency took the time to “get it right” for the industry – not just for the Project. The additional work done on the reasonably foreseeable effects of development also provide a path forward to future environmental permits to swiftly move through the agency and provide shelter from litigation. Additionally, the delay did not seek to stop development but allowed the agency to consider new fishing data and a transit lane alternative that will protect the Project from legal challenges and now provide a clear path forward for all offshore wind projects in the future.	Thank you for your comment.
13018-001	Offshore wind, with its stellar record in Europe, is the proven alternative that we must turn to today in the United States. Offshore wind has the potential to provide 50% of the potential clean energy in New England. What are we waiting for? Answer: BOEM approval, greenlighting the Vineyard Wind project and future projects as well.	Thank you for your comment.
13018-002	The Intergovernmental Panel on Climate Change (IPCC) has underscored the extreme danger to our planet that is caused by rising temperatures exacerbated by greenhouse gas emissions from the burning of fossil fuels. Extraction, delivery, and combustion of fossil fuels are all causing irreversible damage to our Earth. We are setting records for hottest years. This is not a record to be proud of.	Thank you for your comment.
13018-003	SAFE and Salem know firsthand the damage to our health caused by fossil fuels: early death, heart attacks, strokes, respiratory disorders, asthma, and other acute breathing problems have all been documented in our community by the Harvard School of Public Health and the Boston University School of Public Health, and confirmed by the Commonwealth of Massachusetts. For years, Salem hosted a coal and oil burning power plant. The new gas-fired plant is betterbut it continues to impact public health. No highly developed urban area should be hosting a power plant.	Additional health benefits of the proposed Project have been added to Section A.8.1 of the FEIS.
13018-004	As an historic coastal community, Salem experiences the effects of the encroaching ocean. Neighborhoods are routinely flooded, and seawalls built to protect us are routinely breached. The recently updated federal flood maps make it eminently clear that some of our neighborhoods will not exist at the	Thank you for your comment.

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	end of this century or earlier. Had the path of hurricane Sandy been just a few degrees off the cours	
13018-005	SAFE cannot agree with the commercial fishing objections to Vineyard Wind. Vineyard Wind has made dramatic adjustments to its initial proposal to make commercial fishing easier in its array area. We also know firsthand from our proximity to and knowledge of the Gloucester fishing industry that numbers of the large commercial fishing operations need to greatly curb some of their practices that are depleting fish stocks and damaging our ocean habitat. Offshore wind development will bring an expanded job market for the building and maintenance of wind turbines and the industry will spawn the development of many ancillary businesses. Again, we look to Europe for the blueprint.	Thank you for your comment.
13018-006	On January 22, 2019, Vineyard Wind signed a landmark agreement with the Natural Resources Defense Council, National Wildlife Federation, and Conservation Law Foundation to protect the highly endangered North Atlantic right whale during project construction and operation. The agreement should give impetus to federal and state governments to adopt measures that avoid, minimize, and mitigate underwater noise, ship strikes, and turbine collisions.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13019-001	In considering the various direct and indirect impacts of Alternative F as required under NEPA, BOEM determined that navigation and maritime safety with respect to commercial fishing would be among the most potentially affected resources...Additional transit lanes beyond the ample sea space provided in the predictable and measured 1x1 grid would unquestionably hinder delivery of contracted supply to the market. For Mayflower, this decision would decimate delivery of contracted supply to the market that is currently the lowest levelized net present value for Massachusetts rate payers. In light of the MARIPARS report's expert conclusions, which already took the RODA proposal into consideration, BOEM is justified in relying on the MARIPARS to determine that Alternative F is not the appropriate alternative.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13019-002	BOEM also evaluated the environmental, technical and practical consequences of Alternative F and the six additional (4 nm) transit lanes	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	proposed by RODA related to assessment of cumulative impacts...BOEM acknowledged that Alternative F “could further erode project economics and viability.” This threat to viability is certainly true with respect to Mayflower. With respect to Vineyard, Mayflower and other projects to come, this threat would in fact result in failure to meet BOEM’s mandate under the Outer Continental Shelf Lands Act to develop the leased area in a “available for expeditious and orderly” manner. For these powerful reasons, Mayflower urges BOEM select Alternative D2 as the agency’s preferred alternative for the Project.	
13019-003	By anticipating as reasonably foreseeable an eventual build out of the full 21.8 GW of offshore wind capacity under current state commitments for existing Atlantic leases, a build out that is far from certain and which approval of the Project in no way compels, the SEIS is consistent with, and arguably exceeds, the statutory and regulatory standards that guide the federal environmental impact review process.	Thank you for your comment.
13021-001	Offshore wind renewable resources are key to furthering Governor Cuomo’s commitment to achieving 100% clean and carbon-free power by 2040 and at least 9 gigawatts (GW) of offshore wind by 2035 under the Climate Leadership and Community Protection Act (CLCPA), which will only be possible to achieve through the responsible development of existing and new leases in the northeast region.	Climate change is addressed in Section A.8.1 of the FEIS as it related to air quality.
13021-002	The Agencies generally agree with the scope of the issues identified in the Supplement and believe that these issues can be addressed in ways that will provide for a successful outcome.	Appendix C of the FEIS includes updated information on agency consultation and coordination performed for the proposed Project.
13021-003	BOEM’s No Action Alternative is not an acceptable path forward based on the analysis of impacts in this Draft EIS.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13021-004	The Supplement’s cumulative impacts analysis, which covers virtually the entire east coast, appears to be intended as a template and sets an untenable threshold for future evaluation of potential offshore wind impacts at other leases in the region. It is appropriate for BOEM to acknowledge future projects’ existence, but the Agencies caution against weighing the potential impacts of those projects on the same level as a project undergoing active federal review. Potential projects are real but may still be unformed, and the Supplement should infer that those potential projects will adjust to lessons learned from constructed offshore wind projects.	Each applicant is required to submit a COP with their proposed action for BOEM’s review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13021-005	...there may be adaptive management measures gleaned from the monitoring of constructed projects that could reduce future projects’ long-term impacts (e.g., project design and layout, construction methods and timing, technology changes, advances or changes in monitoring techniques, mitigation on noise	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring

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	and electro-magnetic fields). In these ways, near-term offshore wind development is anticipated to evolve to support a lower incremental impact when compared to the Vineyard Wind Project.	measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13021-006	Should the Supplement indeed represent a template for future evaluation, the Agencies express concern regarding the jurisdictional scope exerted by BOEM in exploring inland impacts, such as cable landfall, operation and maintenance facilities, and environmental justice. New York has robust state processes to inform the permitting and approval of the onshore elements of offshore wind projects. New York, furthermore, has the nation's most aggressive legislation to support the replacement of harmful fossil-fuel electrical infrastructure with renewable energy under the CLCPA which is designed to directly address environmental injustice issues and provide direct support for disadvantaged communities. This duplication of review could cause confusion and/or conflicts in layering questions of jurisdiction and has the potential to invoke further unnecessary development risk, which can translate to higher costs for New York ratepayers.	For future offshore wind applications, BOEM will coordinate with New York and other states as applicable in order to avoid duplicating any analyses of onshore impacts. In addition, as part of NEPA, connected actions need to be included. Connected actions are those proposed Federal actions that are “closely related” and “should be discussed” in the same NEPA document (40 CFR 1508.25 (a)(1)). The USACE is a cooperating agency to the proposed Project and the USACE has jurisdiction over some of these port expansions. BOEM, as the lead federal agency, is responsible for organizing the federal environmental review and authorization processes for a proposed project, including the preparation of a single EIS and ROD for the project in coordination with the other federal cooperating agencies. BOEM is required to evaluate the entire proposed Project as submitted in an applicant's COP, including inland impacts.
13021-007	Because the Supplement's cumulative impacts analysis is complicated by a vast geographic extent, difficulty in analyzing unformed, future projects, and may in part duplicate states' reviews, it ultimately provides only a marginal improvement in the identification of potential cumulative impacts as compared to the substantial diligence already inherent in BOEM's standard offshore wind permitting and approvals processes.	As noted in Section 1.7 of the SEIS, BOEM thoroughly analyzed the possible extent of future offshore wind development in the United States on the Atlantic OCS to determine reasonably foreseeable cumulative effects measured by installed power capacity and expanded what offshore wind actions were considered reasonably foreseeable beyond those included in the DEIS to include approximately 22 gigawatts of offshore wind power projects. Therefore, no change to the FEIS is warranted.
13021-008	Moreover, these inefficiencies [in the identification of cumulative impacts] could inhibit BOEM's ability to deliver on new lease areas, including advancing the draft New York Bight Wind Energy Areas, which as the Supplement acknowledges, are necessary for both New York and New Jersey to realize their offshore wind goals. Based upon the projections presented by BOEM at its November 2018 Intergovernmental Renewable Energy Task Force Meeting on the New York Bight, ⁴ which cited the announcement of “Final” Wind Energy Areas in 2019 followed by a Lease Sale in “Early 2020”, this process is already significantly delayed.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
13021-009	Just as the State is re-evaluating its renewable energy regulatory processes, we encourage BOEM to explore options within its existing regulatory framework to conduct environmental reviews responsibly and expeditiously, maintain project timelines, and thereby indirectly incentivize the necessary capital investment in offshore wind development to encourage this nascent	The focus of the NEPA process for the proposed Project is specific to assessing the potential impacts of the proposed Project. It is not intended to evaluate or amend BOEM's regulatory framework for all offshore wind projects.

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	industry to address the pressing issue of climate change and meet the renewable energy goals of the east coast states.	
13021-010	BOEM’s cumulative impacts analysis identified major impacts to the “Commercial Fisheries and For-Hire Recreational Fishing” and “Navigation and Vessel Traffic” resource categories, including impacts to New York. The Draft EIS identifies New York interests in the Rhode Island/Massachusetts Wind Energy Areas (“RI/MA WEAs”) and Vineyard Wind Lease Area by acknowledging the regional setting of commercial fishing, highlighting the importance of the Montauk, New York fishing port in value and volume of commercial landings, and drawing attention to the fact that, on average, more for-hire recreational fishing trips to this area originate from Montauk, New York than any other state. While the Agencies support the inclusion of the 1x1 nautical mile (nm) alternative in the Supplement, BOEM should continue evaluating transit issues regionally alongside developers and fishermen to deconflict and minimize future navigation risks.	BOEM will continue to work with maritime community and USCG regarding safe navigation through offshore wind facilities.
13021-011	Turbine layout schemes, like the 1x1 nm alternative, may not be appropriate at all lease areas. East-west and diagonal routes through the RI/MA WEAs provide access for Long Island fishermen to and from very productive fishing grounds on the shelf edge. Activities that impact access to fishing grounds, safety conditions, and the availability of fish in the RI/MA WEAs would have reasonably foreseeable effects on New York’s commercial fishermen. In these and other ways, the Supplement sufficiently illustrates the regional and connected nature of offshore wind projects and the need for New York’s participation in future reviews.	Thank you for your comment.
13021-012	...fishing is pressed by many topics, not the least of which is climate change which offshore wind development will help to mitigate. While the layout alternatives could decrease impacts to the fishing community on a local scale, it is unlikely to appreciably change the overall major cumulative impact.	Thank you for your comment.
13021-013	Wider spacing of turbines reduces the overall energy density of a lease area, ultimately requiring more lease areas to achieve states’ goals and mandates.	Chapter 2 of the SEIS addressed the practical and technical challenges of wider turbine spacing. Therefore, no change to the FEIS is warranted.
13021-014	...a growing body of evidence points to fishing communities from Maine to North Carolina facing declining fishing options, catching different species and/or fishing in different areas, which have already introduced a range of impacts to their livelihoods prior to any projects being constructed [(Lauren A. Rogers, Robert Griffin, Talia Young, Emma Fuller, Kevin St. Martin, Malin L. Pinsky. Shifting habitats expose fishing communities to risk under climate change. Nature Climate Change, 2019; DOI: 10.1038/s41558-019-0503-z)]. Fishermen may require fundamentally new approaches to fishing	Section 3.10.1.1 of the FEIS discusses climate change impacts on fisheries and was updated to include this study.

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	and appropriately managed fisheries that account for species population shifts, habitat losses, and other threats.	
13021-015	Where the experience of the United States in permitting, approving, constructing, and operating offshore wind farms is still in early stages versus the region’s potential development, BOEM should proceed prudently in requiring mitigative measures for cumulative impacts, given that many of these impacts are presumed, not known. The Agencies recommend a precautionary approach that reasonably estimates future projects and acknowledges the uncertainty of impacts across these projects. Measures that are promulgated absent direct experience with this technology could easily result in approaches that, even despite the best of intentions, risk being counterproductive to the coexistence of both this new industry and existing important offshore uses and resources.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13021-016	The State has demonstrated a strong commitment to actively address the interests of ocean users and establish environmental protections for offshore resources while working with BOEM to develop existing contracted projects and site new lease areas off its coast... Additionally, New York is collaborating directly with the fishing industry through the Responsible Offshore Development Alliance (RODA) to develop fishing transit options in the New York Bight to assess how to maximize commercial fishing access within turbine arrays and to aggregate commercial fishing data to support better decision-making... These types of research, collaborations, and stakeholder engagement supplement the baseline stakeholder engagement prescribed by the BOEM processes and should be presumed to continue to play an important role in addressing impacts to fishing and fisheries, including an emphasis on regional dialogue and cumulative impacts.	Thank you for your comment.
13021-017	...the Agencies recommend greater collaboration between BOEM and the National Oceanic and Atmospheric Association (NOAA) so as not to conflate offshore wind development and fisheries regulation (e.g., quotas). BOEM presents an accurate analysis that the integrity of scientific surveys in the North and Mid-Atlantic and the resulting data/indices could decline as more WEAs are built-out if survey vessels are excluded from these areas due to navigation risks (e.g., significant impacts to Northeast Fisheries Science Center [NEFSC] bottom trawl survey strata). As the Supplement points out, poorer data equates to larger uncertainty in stock assessment results. Consequently, larger uncertainty in stock assessment will result in more conservative catch limits (i.e., lower “quotas”). While this may be beneficial to stock biomass, it has a negative impact on fisheries and the management process. Significant federal investment is needed to evolve major scientific surveys to adapt and develop calibrations for long-term time series so that	Section 3.12 of the FEIS has been updated to address additional information on the NMFS scientific research and surveys. BOEM will continue to collaborate with NMFS on the subject of survey protocols. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07

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	adequate surveys can be undertaken and offshore wind development does not become a dominant driver for fisheries management decisions.	
13022-001	Vineyard Wind represents the first utility scale offshore wind project in the United States. The release of this SEIS and its subsequent timely approval are key milestones for offshore wind on our shores. We urge BOEM to adhere to the published schedule for issuance of the Final Environmental Impact Statement and Record of Decision on Vineyard's Construction and Operations Plan.	Thank you for your comment.
13022-002	One of the major factors in supporting any emerging market is regulatory certainty. Unfortunately, this has often been missing in the US business. Consequently, we are far behind Europe in developing this critical resource. BOEM now has the opportunity to begin solidifying regulatory certainty by approving Alternative D2 and rejecting Alternative F in the SEIS. As you are aware, the US Coast Guard has approved the turbine spacing provided in alternative D2 and has said that the transit lanes in Alternative F are not necessary for safe navigation. Implementation of the unneeded transit lanes would remove significant portions of the lease area from potential wind turbine siting, thus reducing the benefits of job creation and greenhouse gas mitigation.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13022-003	Our economy faces significant and unprecedented challenges as a result of the spread of COVID-19. In light of this, WSP is pleased to see that the offshore wind sector remains strong. We believe that offshore wind can be a contributor to sustaining and growing employment as we manage and emerge from this pandemic to re-build our economy. Timely approval of Vineyard Wind is essential for that to continue.	Thank you for your comment.
13029-001	While I support offshore wind energy development as a means of reducing greenhouse gas emissions and their effects on global climate change, I remain concerned about the interests of the commercial and recreational fisheries, safe navigation, and the environment... I am aware that the Rhode Island Coastal Resources Management Council has recently submitted comments on this matter in favor of Alternative D2 in the EIS as the preferred alternative...I am also aware that many in the Rhode Island commercial fishing industry still have significant concerns about the project and are most supportive of Alternative F, which was recently added to the EIS and is essentially Alternative D2 with the addition of several wider transit lanes.	Thank you for your comment.
13029-002	I submit these comments to advocate for BOEM to, at a minimum, adopt Alternative D2 in the EIS as the preferred alternative for the Vineyard Wind project and require the developer to construct the wind farm in a uniform grid	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	pattern with 1 x 1 nautical mile spacing between all turbine foundations (including the OSS platforms) in an East-West, North-South orientation, as recommended by the U.S Coast Guard (USCG) in their June 14, 2020 final Massachusetts Rhode land Port Access Route Study (MARIPARS).	
13029-003	I also ask that BOEM review and consider Alternative F, which includes 4 nautical mile wide transit zones through the project area.	Thank you for your comment.
13029-004	I further request that BOEM adopt the USCG MARIPARS recommendation on the wind farm configuration as a condition of COP approval not only for the Vineyard Wind project, but for all southern New England offshore wind projects. Uniformity by BOEM in adopting the USCG MARIPARS recommendation for all southern New England offshore wind farm configurations will provide regulatory certainty for the offshore wind industry and provide stakeholders with the assurance that there will be a predictable and uniform wind farm pattern that accommodates and facilitates safe navigation, commercial and recreational fishing activities, and USCG search and rescue operations. In addition, this configuration will limit the impacts to navigation and fishing as required by the federal Outer Continental Shelf Lands Act ("the right to navigation and fishing therein shall not be affected."). See 43 U.S. Code§ 1332.	Section 3.11.2.4, 3.13.2.3, and 3.13.2.3 of the SEIS discusses the USCG Final MARIPARS recommendation on the wind farm configuration; therefore, no change to the FEIS is warranted.
13029-005	Of additional significance here is that all (or virtually all) stakeholders in this process have either expressly supported Alternative D2 or expressed support for one or all of the design elements in this Alternative. The Alternative D2 configuration is entirely consistent with the USCG's MARIPARS recommendation. It is also consistent with the offshore wind industry's November 1, 2019 collaborative proposal to the USCG for wind farm layout in the southern New England offshore renewable energy lease areas. It is also supported by the Rhode Island Coastal Resources Management Council (RI CRMC) and the Massachusetts Office of Coastal Zone Management (MA CZM). Additionally, the Rhode Island Fisheries Advisories Board, the Massachusetts Fisheries Working Group, fisheries groups that serve as representatives to the Leaseholders, fishing fleet operators, and fish processing companies, as well as the National Marine Fisheries Service, have all expressed support for one or all of the Alternative D2 design elements.	The formulation of Alternative D2 was explained in the Chapter 2 of the DEIS and is carried forward to Chapter 2 of the FEIS.
13029-006	Rhode Island does want this project to move forward, as it represents a key step in lessening our country's reliance on fossil fuels.	Thank you for your comment.
13029-007	...while I am supportive of offshore wind development, I remain concerned about the interests of the commercial and recreational fisheries, safe navigation, and the environment. It is of the utmost importance for BOEM to balance the interests of the fishing industry, the environment, and wind	Impacts to commercial fisheries and navigation from offshore wind development in the geographic analysis area are discussed in Sections 3.10 and 3.11 of the FEIS.

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	energy development when reviewing this unprecedented project. The decisions made here will directly affect construction and operation plans for the 14 other upcoming offshore wind projects, covering nearly two million acres in federal waters. Without sound planning here, BOEM's decisions will permanently impact our nation's most important ocean resources and commercial fishing industry.	
13033-001	Although most of the world is consumed by the pandemic currently, the climate crisis continues to grow and will not 'magically disappear' or be resolved without a commitment to green energy. As a resident of Salem, MA, I am especially concerned because my community and my home are threatened by extreme weather events and sea level rise. Offshore wind has proven to be a major benefit for many countries, but the U.S. has lagged behind. It is time for us to turn the global warming ship around and make a major investment in offshore wind - especially since opportunities for land-based wind are limited.	Thank you for your comment.
13036-001	Offshore wind is critical to ensuring that the United States achieves emissions reductions consistent with avoiding the most catastrophic impacts of climate change.	Thank you for your comment.
13036-002	It is not, however, simply a given that offshore wind development will proceed along the Eastern Seaboard. If the Bureau of Ocean Energy Management (“BOEM”) declines to approve the Project’s Construction and Operations Plan (“COP”), other wind developers will take note and could be discouraged from proposing new facilities, or from continuing with an existing permitting process. The protracted and ultimately unsuccessful effort to build the Cape Wind project, for example, subsequently cast a pall over offshore wind in the United States. ¹² A failure to permit the Project at this stage is likely to have a similar impact. A decision imposing new requirements that would render the Project economically nonviable—as envisioned by Alternative F—could also act as a deterrent to developers, who may subsequently see no reason to invest in new offshore wind facilities... By contrast, if the Project goes forward, it will represent a crucial precedent and pave the way for wind development along the Eastern Seaboard....Its [Vineyard Wind] approval will signal that the federal government is serious about allowing sensibly sited and environmentally sound large-scale offshore wind development—that the Eastern Seaboard is open for business, and not only for small-scale or pilot projects.	Thank you for your comment.

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13036-003	For these reasons, Win With Wind urges BOEM to approve the Facility's COP without imposing new requirements such as those included in Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13038-001	As a resident of Salem, MA, I live within one-third of a mile from a gas-fired power plant. In Salem, we feel that this plant should be used only to supplement renewable energy such as that which can be provided by Vineyard Wind. Let's use natural gas only as a last resort. We have the technology to do much better for the planet and ourselves.	Thank you for your comment.
13044-001	We commend BOEM for preparing this Supplement in consideration of agency and stakeholder input. We are pleased BOEM has expanded the cumulative analysis to address comments related to the more narrow scope of analysis in the December 2018 DEIS. We appreciate you taking the time to work with us to understand applicable datasets, as well as the limitations of the data and how the information should be considered and applied.	Thank you for your comment.
13044-002	The additional fisheries data that have been incorporated into the Supplement help to strengthen your analysis. We recommend also integrating Fishing Community Social Vulnerability Index data and the results of the recent New England Aquarium study on highly migratory species ¹ [See https://www.fisheries.noaa.gov/national/socioeconomics/social-indicators-fishing-communities-0 . Data query can be found here: https://www.st.nmfs.noaa.gov/data-and-tools/social-indicators/ . New England Aquarium report: https://www.vineyardwind.com/fisheries-science] in the Final Environmental Impact Statement (FEIS) and for other future projects to more fully evaluate impacts to affected communities reliant on fishing activities and pelagic recreational fisheries.	Section 3.6 of the FEIS uses the NMFS Social Indicator Map as a reference and identifies communities within the geographic analysis area that have medium or high ratings for commercial fishing reliance and engagement (see Sections 3.6.1 and 3.6.2). The resource is one source of information leading to the conclusion that the impacts on commercial fishing and onshore seafood businesses resulting from the Proposed Action would have moderate impacts on employment and economic activity for this component of the analysis area's economy. Section 3.9 and 3.10 of the FEIS were updated to include the New England Aquarium report on highly migratory species fishing.
13044-003	We welcome your consideration of additional issues of importance to the fishing industry. You have included an additional alternative focused on facilitating vessel transit to address concerns raised by the fishing industry and are considering known mitigation agreements from Rhode Island and Massachusetts. Although vessels from Massachusetts and Rhode Island are the primary entities affected by the project, they do not represent all fishing interests affected by this or other projects considered in the Supplement. You should consider ways to ensure existing mitigation agreements are carried out and explore ways to mitigate impacts to all affected entities for this and future projects. Specifically, going forward you should consider the feasibility of the existing state-by-state mitigation approach, based on the anticipated number of upcoming projects and level of impacts under the cumulative scenario.	Thank you for your comment.

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13044-004	Given the major impacts to the fishing industry anticipated from foreseeable proposed development, it will be critical to fully engage with all affected communities and give full consideration to the input they provide. Consistent with the March 2019 Memorandum of Understanding between BOEM, NOAA, and the Responsible Offshore Development Alliance, we are committed to working with you to effectively consider and evaluate the interests of and impacts to existing fishing operations and affected communities.	Thank you for your comment.
13044-005	We understand the geographic scope of the analysis for recreation and tourism will be expanded in the FEIS to ensure recreational fishing activity occurring in the project area from ports in other states is considered. We appreciate you incorporating additional information on angler trips from Connecticut, New York, and Rhode Island in the Supplement. Expanding the analysis in the FEIS is important to ensure the analysis fully considers all existing fishing activities within the project area.	Sections 3.9.1 and 3.10.1 of the FEIS have been updated to include data on the states from which recreational HMS fishing originates, based on an online survey (from August 2019 through May 2020), data from the National Marine Fisheries Service Large Pelagics Intercept Survey, and tagging data (Kneebone 2020). As stated in Section 3.10.1, "From 2002 through 2018, approximately 12 percent of HMS trips and 18 percent of tagging events in southern New England occurred within the RI and MA Lease Areas (Kneebone 2020). From 2002-2018, HMS trips in the Vineyard Wind lease area (OCS-A-0501) represented 1 to 5 percent of total trips in southern New England and 6 to 28 percent of trips in the RI and MA Lease Areas, depending on the year (Kneebone 2020). Within the Vineyard Wind lease area, trips primarily originated in Massachusetts and Rhode Island. The same was true for the RI and MA Lease Areas overall, although a notable number of trips also originated in Connecticut and New York."
13044-006	We also previously discussed with you our concern that impact designations were not incorporated consistently throughout the cumulative effects section, and we were glad to see they were incorporated into the Future Offshore Wind Activities conclusion. We understand you will expand these designations throughout the no action alternative section in the FEIS. We believe all these changes together will make it easier for the reader to understand and compare impacts of each alternative, with context of the cumulative impacts of future offshore wind development. We think using the same designations of magnitude and intensity in the different sections consistently throughout the analysis will make the document clearer and easier to compare impacts.	The FEIS has been updated to include an overall impact rating for reasonably foreseeable activities other than offshore wind and for the combination of ongoing activities and reasonably foreseeable activities other than offshore wind.
13044-007	We noted several comments from our cooperating agency review that have not been fully addressed in this Supplement. This includes comments in the sections pertaining to sea turtles, sturgeon, marine mammals, and coastal habitats, in addition to other areas where clarifications should be made in the FEIS. We believe these comments can be easily addressed, and we are willing to work with you so that you can include the correct information in the FEIS.	BOEM appreciates your willingness to continue to work with us as we develop the EIS. The FEIS has been updated to capture your comments.

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13044-008	It is our expectation that you will incorporate the conclusions of our ongoing consultations under the ESA and MSA into the FEIS. Consistent with the milestone date posted on the Permitting Dashboard, we anticipate the Biological Opinion will be completed by September 13, 2020. Any findings, reasonable and prudent alternatives, reasonable and prudent measures, or terms and conditions resulting from our ESA Section 7 consultation should be included in the FEIS.	Consultation under the ESA was completed on September 11, 2020. Sections 3.4.2, 3.5.2, and Appendix D of the FEIS includes updated discussion and descriptions of all monitoring and mitigation that would be required to avoid, minimize, and mitigate adverse impacts on marine mammals and sea turtles. These measures include Terms and Conditions as well as Reasonable and Prudent Measures provided by the National Marine Fisheries Service (NMFS) during the course of consultation under Section 7 of the Endangered Species Act and updated conditions developed through consultation under the Magnuson-Stevens Fishery Conservation and Management Act. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval.
13044-009	We have reviewed your Essential Fish Habitat (EFH) Addendum received on June 26, 2020, and will provide our response under a separate cover. We have not yet received your response to our EFH conservation recommendations. It will be important to have an understanding of how these will be addressed as you move forward on the FEIS. As you know, we have significant concerns with the deficiencies in the habitat information provided by the applicant. We request that you continue to work with us as you develop the FEIS to ensure information related to habitat in the project area is accurately depicted in the final document.	BOEM has coordinated with NMFS on the EFH consultation.
13044-010	As highlighted in the Supplement, the cumulative impacts of reasonably foreseeable offshore wind activities are expected to have major impacts to both our NOAA scientific surveys and the fishing communities that would be directly affected by any added uncertainties to fisheries data used for management. While we are beginning to work with you to better understand the implications of these impacts on our multispecies bottom trawl survey, this is just one of seven core NMFS Surveys. A plan has not yet been established to holistically mitigate these impacts, but addressing the level of impact will require significant effort on NMFS' behalf. We expect substantially more work will be needed to evaluate impacts and develop and implement necessary survey adaptations. Until such a plan is established, information generated from project-specific monitoring plans may be required to supplement or complement existing survey data.	Section 3.12 of the FEIS has been updated to address additional information on NMFS scientific research and surveys. BOEM will continue to collaborate with NMFS on the subject of survey protocols. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13044-011	However, to ... potentially offset some of the impacts to our [NMFS] surveys under the cumulative scenario, it is important that such monitoring plans be developed in a comprehensive and integrated manner consistent with our long-standing surveys. In order to address this need, these fisheries monitoring plans should be developed collaboratively with our agency and	Section 3.12 of the FEIS has been updated to address additional information on the NMFS scientific research and surveys. BOEM will continue to collaborate with NMFS on the subject of survey protocols. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-

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	incorporate NMFS survey standards and requirements to ensure collected data is usable. We consider it paramount that BOEM and developers work with our agency to mitigate the impacts to our scientific surveys and the scientific advice on which sound management of our Nation’s marine resources depends. We look forward to working with you, developers, and groups like the Responsible Offshore Science Alliance to address these difficult issues.	standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13045-001	Offshore wind is our region’s best opportunity for new sources of energy. This clean energy resource is the single biggest lever we can pull to reduce emissions, address the climate crisis, and grow the economy at the same time. All New England states have mandated emissions limits or goals, and offshore wind energy is critical for meeting those targets.	Thank you for your comment.
13045-002	Per ISO-New England’s analyses, around 1/6 to 1/3 of New England’s old fossil fuel plants will likely retire over the next decade, and it is imperative that we fill any gap with clean energy. Closing these plants and replacing them with offshore wind will also reduce pollution and lead to improved air quality, which as COVID-19 has clearly demonstrated, is an extremely important public health issue.	Thank you for your comment.
13045-003	The economic potential of offshore wind must be recognized, and this potential is more important in this time of a severe economic downturn..... Analyses by the American Wind Energy Association (AWEA) have found that the responsible expansion of this industry would bring at least 83,000 jobs as well as generate annual economic impacts of \$25 billion by 2030...The Vineyard Wind 1 project will alone create 3,600 jobs for local residents, and potentially create tens of thousands more as the supply chain and additional projects are built out over the next several years. This project presents a tremendous opportunity for the highly skilled, unionized New England workforce, particularly in the manufacturing and building trades.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment from growth of the wind energy industry along the Atlantic coast. Jobs and investment are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
13045-004	The SEIS claims that if Vineyard Wind 1 is not approved, the economic potential of the offshore wind industry will be realized by future projects. However, this claim ignores the possibility that the failure of this project would have a chilling effect on future investment and would send the signal that the United States is not serious about offshore wind. If Vineyard Wind 1 is not approved, the chances this industry moves forward in the United States would be severely compromised, potentially resulting in a reduction in projects built, as well as uncertainty in manufacturing supply chain investment.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-impact scenario in terms of potential impacts.

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13045-005	We believe strongly in the responsible development of offshore wind. The SEIS reinforces our belief that offshore wind energy can be developed in a manner that protects wildlife and habitat and should advance as quickly as responsible development allows.	Thank you for your comment.
13045-006	We support the uniform 1x1 nautical mile grid layout and commend the offshore wind industry for finding this compromise with the fishing industry, which the US Coast Guard found allows for safe navigation through the wind energy areas.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13045-007	We oppose additional transit lanes through the wind energy areas, which would greatly reduce the amount of energy that could be produced, render this offshore wind project not viable, and seriously curtail our ability to mitigate the severe impacts of climate change.	Thank you for your comment.
13046-001	As a nation that generates nearly 25 percent of the climate-change gases (with about 5 % of the world's population), we must make every effort to accelerate our use of renewable energies to combat climate change. Vineyard Wind is a major step in that direction and should be approved soon. We, as a nation, must be responsible citizens of a world that is at increasing risk of survival as we have known it.	Thank you for your comment.
13046-002	The poles of the earth are warming at twice the rate of the mid-latitude regions of the earth. This has produced very high rates of ice melting and associated sea-level rise. This rise has already impacted Miami, Florida for several years - with sea water in the streets during many days - all year.	Thank you for your comment.
13046-003	The technology related to wind energy is well understood, robust and proven to high standards. The equipment and winds that are available for Vineyard Wind will produce power at rates that are competitive with traditional, terrestrial energy sources and will reduce the energy bills of Massachusetts citizens.	Thank you for your comment.
13047-001	I fully support the comments put forth by Garden State Seafood Association and hope that they get serious consideration.	Thank you for your comment.
13048-001	The Project is an important component of Massachusetts' clean energy future that is expected to provide substantial energy cost-savings to ratepayers.	Thank you for your comment.
13048-002	The SEIS will help facilitate and benefit NEPA review for subsequent wind energy facility projects, including those in development in Massachusetts and New England.	Thank you for your comment.
13048-003	The Project is critically important to the Commonwealth meeting the greenhouse gas emission reductions mandated by the Massachusetts Global Warming Solutions Act (GWSA). Thus, Massachusetts law requires the state's utilities to solicit a combined total of 3,200 megawatts of offshore wind capacity by 2035. The state's utilities have already committed to buy	Thank you for your comment.

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	the Project’s 800 megawatts of wind generated power, the first project to be awarded such a contract. The Project is also fundamentally important to expanding Massachusetts’ renewable energy portfolio, as directed by the Green Communities Act.	
13048-004	...when evaluating the bid, the electric distribution companies found that the Project will reduce greenhouse gas emissions by 4.92 MMT CO2 equivalent from 2019 to 2040 versus the base case ⁷ [D.P.U. 18-76/18-77/18-78, Petitions of Eversource Energy, National Grid, and Fitchburg Gas and Electric Light Company for Approval of Long-Term Contracts for Offshore Wind Generation, Joint Testimony of Waltman/Brennan/Glover, at 34 (July 31, 2018)]. The Project will also reduce emissions of harmful pollutants.	Section A.8.1 of the FEIS has been updated to include additional information from AVERT from air emissions from power generation.
13048-005	Air pollution disproportionately impacts Massachusetts communities of color, in part because energy and industrial facilities are heavily concentrated in low-income communities and communities of color. ⁸ [See Rosofsky, Anna, Jonathan I. Levy, et al., “Temporal Trends In Air Pollution Exposure Inequality In Massachusetts,” Environ Res. 2018 February; 161: 76–86. See also Rosofsky, Levy, et al., “The Impact Of Air Exchange Rate On Ambient Air Pollution Exposure And Inequalities Across All Residential Parcels In Massachusetts,” J Exp Sci Environ Epidemiol 29: 520-530 (2019).] As the AGO recently explored, the environmental factors which exacerbated the unequal impact of the COVID-19 pandemic on these communities could be minimized through investment in and development of clean energy generation like this Project ⁹ [Office of Massachusetts Attorney General Maura Healey, COVID-19’s Unequal Effects in Massachusetts: Remedying the Legacy Of Environmental Injustice and Building Climate Resilience , May 2020, https://www.mass.gov/doc/covid-19s-unequal-effects-in-massachusetts/download . 10 D.P.U. 18-76/18-77/18-78, at 48 (April 12, 2019).].	Section 3.7.1 of the FEIS has been revised to incorporate the suggested references. This section has been revised to include a discussion of the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13048-006	...as the Project is anticipated to kickstart a regional industry, its success is anticipated to contribute towards other New England States’ meeting their state-law renewable energy requirements.	Thank you for your comment.
13048-007	...the Vineyard Wind I Project will result in savings for ratepayers in connection with their energy and renewable energy credit costs as compared to 20-year forecasts without the Project. Indeed, the Massachusetts Department of Public Utilities estimates that the Project will yield ratepayer savings of \$1.289 billion (nominal) ¹⁰ [D.P.U. 18-76/18-77/18-78, at 48 (April 12, 2019)].	Thank you for your comment.

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13048-008	BOEM’s decision to expand the cumulative impact analysis and consider a new vessel transit corridor alternative will ultimately delay Project construction by at least eighteen months.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted. Furthermore, Chapter 1 of the SEIS explains why BOEM undertook the SEIS and expanded the planned action scenario. This information is also contained within Chapter 1 of the FEIS.
13048-009	Any additional delay could threaten the Project’s financial viability and ultimate construction.	Thank you for your comment.
13048-010	Further delay of the Project’s commercial operation date also jeopardizes the achievement of Massachusetts’ clean energy and climate goals and the promise of substantial ratepayer cost savings. For this reason, the AGO strongly urges BOEM to expeditiously proceed with and maintain the current Project schedule by issuing the ROD no later than December 18, 2020, with all remaining federal permits issuing within 90 days thereafter.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project as well as BOEM's anticipated date for a decision on the COP.
13048-011	...BOEM’s expanded analysis evaluating cumulative impacts of the Project and other already proposed or reasonably foreseeable offshore wind energy facility projects can be used in the NEPA reviews of subsequent projects. This will help facilitate timely review of upcoming projects, including those in development for the benefit of Massachusetts and New England residents.	Thank you for your comment.
13048-012	BOEM’s SEIS concluded that implementation of Alternative F may require additional survey work, which, if significant, “would delay Project construction.” SEIS at 2-5. Relocation of Project WTGs would also result in additional transmission losses from cables lengthened to accommodate the Alternative F transit lanes, which “could translate to technical difficulties and additional unanticipated costs” and may require “cable joints not currently technically possible by cable manufacturers.”	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13048-013	...implementation of all the proposed transit lanes intersecting with the Project WDA would diminish the technical capacity of the Project’s offshore wind power generation. Id. While the extent of diminished capacity would vary with width of the incorporated transit lanes between two- and four-nautical miles wide, “less clean energy in the region would be produced” for the Alternative F transit lanes passing through the Project WDA. Id. Implementation of all six of the RODA-proposed, four-nautical mile transit lanes “would reduce the technical capacity of the Rhode Island and Massachusetts (RI and MA) Lease Areas by approximately 3,300 megawatts, which is 500 megawatts less than the current state demand for offshore wind in the area.” Id. See also SEIS Section 3.14.2.4 at 3-122 – 22.	Thank you for your comment.
13048-014	...displacement of Project WTGs further south “could reduce the area available for Vineyard Wind to construct future projects within the lease area.” Id. at 2-5.	Thank you for your comment.

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13048-015	...incorporation in the ROD of the Alternative F vessel transit lane intersecting with the WTD could threaten the Project's financial feasibility. Even if the Project could proceed with the Alternative F vessel transit lane passing through the WTD, implementation of either the two- or four-nautical mile width lane will result in a loss of wind-generated energy delivered from the Project to New England, and as a result, diminish the Project's clean energy benefits to Massachusetts and New England. As discussed above, these benefits include the Project's contributions to the state's progress toward meeting greenhouse gas emission reduction requirements under the GWSA and its renewable energy portfolio standard, as well as the Project's promised ratepayer savings.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13050-001	I am writing to you to express my ardent support for Vineyard Wind and the potential of the entire US offshore wind industry to both bring us needed clean electricity and economic opportunities.	Thank you for your comment.
13050-002	We need the economic stimulation that this industry can provide to the US...We need certainty that these projects will be built soon so that we can train US workers to be qualified to get the jobs.	Thank you for your comment.
13050-004	Vineyard Wind and the other developers of the New England Wind Energy Area agreed to develop all future projects with a uniform 1 x 1 nautical mile (NM) layout throughout the lease areas. This change reduces the potential output of the wind turbine projects by 30% but addresses the main concerns from the commercial fishing industry raised during the comment period of the Vineyard Wind 1 project. The layout creates over 200 transit lanes throughout the entire wind development area.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13050-005	We encourage BOEM to require future developers to incorporate ADLS on their turbines, to significantly reduce the amount of time that lighting will be visible from shore.	Sections 3.10.1 and 3.10.2 of the SEIS stated that use of ADLS for offshore wind other than Vineyard Wind 1 would reduce visual impacts for the combined scenario. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation safety lighting on the wind turbines. BOEM is in the process of developing guidelines and minimum standards for other offshore wind development. Each applicant will be required to submit a COP that describes the proposed FAA lighting scheme. Therefore, no change to the FEIS is warranted.
13050-006	We need the economic stimulation that comes from building out the projects that brought in record revenue from the BOEM offshore wind leasing process. We need the electricity to meet the needs of consumers, both businesses and residents, who want clean energy.	Thank you for your comment.
13053-001	I support the SEIS for Vineyard Wind and urge action on the permitting.	Thank you for your comment.

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13058-001	On page 2-2, Table 2.2-1 there are several changes to the proposed project all happening under the same COP...with all of these changes there appears to be a lack of a thorough analysis to determine how these increases will change the level of impacts...It should not be acceptable to make changes of this scale to a plan without having to revisit the consequential scaling of impacts. Changes like this should require the Vineyard Wind Project to resubmit COP to allow an adequate analysis.	BOEM has assessed the changes to the Vineyard Wind COP and has analyzed the potential impacts to the resources outlined in Chapter 3 and Appendix A of the SEIS as well as in FEIS.
13058-002	In addition, these [COP] analyses seem to have only been done over the course of one year which does not seem like a logical time period to predict long-term impacts. In a quick and ever changing environment, data should be taken over the course of several years to account for any outlying variability.	Thank you for your comment.
13058-003	There is also a serious lack of attention and analysis on noise pollution that will come with not only the construction of the turbines, but also the operation. Nearly all mention of noise refers to the initial construction in a short term manner. It is concerning that there is no mention of an analysis of effects from the noise the turbine will produce in the long term, day-to-day operation. While the amount of noise may be lower than during construction, the turbines would emit a more consistent and long term noise that no doubt will have impacts on the oceanscape and biomass.	Sections 3.3, 3.4, 3.5, and 3.6 of the SEIS discussed the potential impacts of WTG operational noise. Therefore, no change to the FEIS is warranted.
13058-004	...behavioral impacts would likely extend radially less than 5.7 miles (8 kilometers) around each pile,” but this must be considered in scale of the proposed 2,066 piles that could be potentially planted in the ocean. It is simple math to determine that the area in which the noise will reach and the insentisty will accumulate as you add more and more turbines to the equation, yet this is not accounted for in the EIS.	Section 3.4 of the SEIS addressed the intensity and extent of behavioral impacts likely to result from noise from the Proposed Action and other planned actions; these impacts are described in more detail than by distance or area alone. Therefore, no change to the FEIS is warranted.
13058-005	An attempt to address this concern is seen on page 3-95 where it reads that the noise is “Not anticipated to rise to fishery-level impacts since the noise would be very temporary in nature,” and then proceeds to describe this short term period as anywhere from 2-10 years. It seems illogical to consider 10 years as a short term period when it comes to the livelihoods of our fishermen and the lifespan of most of their catch.	The SEIS describes the impacts of construction noise (primarily pile-driving noise) as temporary because each instance would happen for a small portion of the day and would not occur every day of the year. According to the Biological Opinion from NOAA for this Project, such noise would occur for no more than approximately 7.5% of the time during construction.
13058-006	All of the impacts described under noise are categorized at short term, however within those are adverse effects such as permanent injury, loss of hearing and even death to many species. These are not short term effects. Mortality of eggs is not short term as it directly impacts future generations of that species.	Sections 3.3 and 3.4 of the SEIS discussed that the impacts of noise are short term. The anticipated extent of permanent injury or mortality of individuals is expected to be, when considered at the level of the entire population in the Project Area, irrelevant or fully recovered after a short time, perhaps one or a few spawning seasons. Therefore, no change to the FEIS is warranted.
13058-007	The current analysis does not capture long-term trends or short-term anomalies in fish distribution and fishing activity, so resources must be committed in order to address and fill data gaps.	Section 3.4 of the SEIS acknowledged seasonal and long-term trends in fish distributions. The EIS does not assume that fish and fishing are distributed in a static manner. The COP includes a benthic monitoring plan and a

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		commitment to fisheries monitoring. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). Therefore, no change to the FEIS is warranted.
13058-008	As for the fishing industry, many of their major concerns seem to have been brushed off with this same flawed idea of “short term” impacts or the thought that they can simply fish elsewhere. It is important to know that this is not necessarily the case as they are already extremely restricted as to where they can fish already, and now to push them out of what fishing grounds they have left is potentially fatal to the industry.	Section 3.10.1 of the FEIS discusses that, even under the No Action Alternative, BOEM expects all foreseeable factors to result in major adverse impacts on commercial fisheries and moderate adverse impacts on for-hire recreational fisheries. Section 3.11.1 and 3.11.2 of the SEIS discussed the impacts from offshore wind development on commercial and for-hire fisheries, including impacts to access and potential revenue exposure if they cannot fish elsewhere. Section 3.10 and Appendix D of the FEIS also discusses the voluntary compensation funds related to the proposed Project. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. Therefore, no change to the FEIS is warranted.
13058-009	It seems there has been some effort to address this by offering up transit lanes that boats could potentially travel through and/or fish in. However, what is not addressed here is how extremely dangerous that is. One of the leading factors to this is wind turbine radar interference. This issue has been acknowledged but not addressed yet as there is still much more research that needs to be done to implement the best mitigation options.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13058-010	This radar interference poses a serious threat not only to our fishermen, but to national security.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. Sections 3.12.1 and 3.12.2 of the FEIS provide discussions of potential interference with land based radars and related national security considerations. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13058-011	On page ES-3 there is a list of major impacts...These... are extremely concerning issues that are hardly even addressed. As a citizen I want to know what is going to be done to mitigate or avoid these impacts all together, or if the plan is to sacrifice the safety of our nation in exchange for this wind farm.	The information presented in the executive summary is purposefully high-level information, and the details of the impacts described are intended to be in the resource-specific sections of Chapter 3 and Appendix A of the FEIS. Additionally, Appendix D of the FEIS has been updated to reflect the mitigation and monitoring requirements that BOEM could require as conditions of COP approval.

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13058-012	The claim that this is a clean energy source... is used as a counter to many of the cons of offshore wind, however the EIS clearly states that these wind farms will only provide minor beneficial impacts to air quality (chart on ES-5). It then appears that the wind farms then do not really help combat climate change, and then cannot be used as an argument to support the outweighing of pros to cons.	Thank you for your comment.
13058-013	Before this moves forward, there needs to be extensive research dedicated to addressing these national security threats.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The FEIS has also been modified to specify that other project developers would be required to coordinate with military and national security entities to identify and mitigate potential conflicts. The impact ratings for military and national security uses and SAR activities were updated due to additional analysis and comments provided by the USCG and other entities in the course of the SEIS development. BOEM and Vineyard Wind have conducted extensive coordination with the DoD and the USCG, including coordination through the DoD Clearinghouse, which is described in Section 3.12 of the FEIS.
13058-014	Considerations of safe navigation should happen in the first design stages of offshore wind projects, not balanced against the maximum possible power generation after a power purchase agreement is set.	BOEM has consulted with USCG throughout the process for identifying lease areas, reviewing individual COPs, and preparing the EIS.
13058-015	We need a better process for planning, locating, and monitoring transmission lines. This needs to be implemented after significant uncertainties are resolved regarding cable impacts to fisheries and the environment, and the likely benefits of a coordinated transmission system are fully explored.	This is a Project-specific EIS, not a Programmatic EIS, and it complies with the requirements of NEPA. Section 3.4 of the SEIS discussed the potential impact of the cable involved in the proposed Project in light of reasonably foreseeable environmental trends and planned actions. However, a coordinated transmission system is not included in the COP that is the subject of this EIS.
13059-001	This SEIS assessment builds upon our input submitted to the Federal Register on the Draft Environmental Impact Statement, dated March 1, 2019, and includes the enclosed recommended mitigations to further reduce the impact on navigation safety and Coast Guard missions.	Thank you for your comment.
13059-002	In the Massachusetts/Rhode Island Port Access Route Study (MARIPARS) report (referenced in the SEIS as USCG 2020), we concluded the best outcome to mitigate effects on safe navigation, and Coast Guard missions is the adoption of a uniform grid pattern across the entire wind energy area. This outcome is in alignment with SEIS Alternative D2. We concur with the	Thank you for your comment.

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	SEIS that for alternatives that do not incorporate the principles of Alternative D2, there will be a cumulative major impact on navigation and search and rescue (SAR).	
13059-003	The standard and uniform grid pattern with 1 nautical mile (NM) spacing identified in Alternative D2 may also mitigate cumulative impact to commercial and recreational fishing.	Section 3.11.2.4 of the SEIS discusses cumulative impacts from Alternative D2; therefore, no change to the FEIS is warranted.
13059-004	The Coast Guard recommends the adoption of a wind farm layout in the Vineyard Wind lease area and the Massachusetts/ Rhode Island Wind Energy Area, in a uniform grid pattern with at least three lines of orientation and standard spacing. Based on the historic data studied in the MARIPARS, lanes for vessel transit should be oriented in a northwest to southeast direction, 0.6 NM to 0.8 NM wide, to allow vessels to maneuver in accordance with Convention on the International Regulations for Preventing Collisions at Sea (COLREGS) while transiting through wind energy areas along historical patterns.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13059-005	Based on the historic data studied in the MARIPARS... lanes for commercial fishing vessels actively engaged in fishing should be oriented in an east to west direction, 1 NM wide.	Section 2.1.3 and Section 3.11 of the FEIS incorporate, where appropriate, the Final MARIPARS.
13059-006	Based on the historic data studied in the MARIPARS... to ensure two lines of orientation for USCG helicopters to conduct SAR operations, lanes should be oriented in a north to south and east to west direction, 1 NM wide.	The FEIS has been updated in the appropriate chapters or sections to incorporate the Final MARIPARS.
13059-007	We understand small variances may take place in the siting of individual wind turbine generators. Small variances throughout the wind farm should not significantly affect safety of navigation. The MARIPARS provided quantitatively-derived recommendations for turbine spacing and transit lane widths, including that diagonal lanes be 0.6 to 0.8 NM wide. Any variances in turbine location should not reduce these diagonal lanes to less than the 0.6 NM recommended.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
13059-008	The use of a uniform layout along three lines of orientation, in concert with the recommendations and considerations detailed in the enclosure, will provide substantial mitigation of impacts for navigation and Coast Guard missions, including SAR.	The FEIS has been updated in the appropriate chapters or sections to incorporate the Final MARIPARS.
13059-009	Include the USCG recommended mitigations for the EIS	Section 3.11.2 and Appendix D of the FEIS includes a discussion of the potential USCG mitigation measures.
13060-001	We support the five-year moratorium put forth by the Responsible Offshore Development Alliance (RODA) on all wind energy area (WEA) leasing, construction and surveying. WEAs will carry irreversible socioeconomic and biological impacts, so a five-year moratorium is essential to assuring that offshore wind as a component of alternative/renewable energy expansion in	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and

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	the context of domestic energy independence, is done correctly and consistently with overall economic growth.	State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13060-002	A moratorium on WEA development does not mean a moratorium on alternative energy development. Using estimates from the USDA, EPA and DOEi, the American Biogas Council incorporated recent industry data to conclude that a fully-developed infrastructure of renewable natural gas (RNG) in the United States could power 7.5 million homes.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13060-003	...development in RNG infrastructure does not come with the very foreseeable and quantified economic dislocation of a primary production sector, such as the economic dislocation of commercial fishing that accompanies offshore wind development.	Thank you for your comment.
13060-004	Dislocation of commercial fishing and other marine uses is inherent with offshore WEAs because they are among the lowest in terms of power density...In other words, offshore WEAs must cover vastly larger areas to achieve equivalent power delivery thereby vastly increasing the probability of economic dislocation of other marine uses. Economic dislocation is not confined to the loss of fishery landings. The Science Center for Marine Fisheries (SCMFIS) has funded analyses of economic multipliers for landings of several US Atlantic commercial fisheries. Dislocation of total economic activity generated from landings of surf clams and ocean quahogs (SCOQ) would be especially magnified due to the notable high economic outputs and impacts reported by Murrayix for SCOQ landings. Combined landings in 2014 of \$54.873 million resulted in an economic multiple of 11.4x and a total economic output of \$1,308 million. SCMFIS has also supported similar economic research on the longfin squid commercial fishery, which is also subject to severe economic dislocation by WEAs.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries, including estimates of fishing revenue exposure as more offshore wind energy facilities are developed (Table 3.11-3), and Section 3.7 discusses the impacts on commercial fishing and onshore seafood businesses resulting from offshore wind on community employment and economic activity. BOEM acknowledges that any reductions in commercial fisheries landings would impact the seafood supply chain (including processors, dealers, and distributors). However, BOEM did not quantify these impacts because there is uncertainty regarding the net change in landings for each species (once substitution patterns are accounted for). Therefore, BOEM estimated the “exposed value” for each species, which one can more accurately estimate based on available data. However, it would be inappropriate to apply exposed values to economic multipliers since doing so would overstate the potential impacts.
13060-005	While economic expansions are typically anticipated to increase energy prices, natural gas prices declined from the Great Recession through 2019 as domestic production increased over this time. This highlights the importance of increasing supply of domestic energy strategy in spurring and sustaining economic growth.	The SEIS and Sections 3.6.1 and 3.6.2 of the FEIS include the establishment of a resilient and secure electric supply as a benefit of the Vineyard Wind 1 Project and other offshore wind projects.
13060-006	Offshore wind energy should remain a viable component of domestic energy development. Support of offshore wind energy halts when such projects	Thank you for your comment.

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	accompany the likelihood of economic displacement of commercial fishing activities	
13060-007	In consideration of the findings contained herein, the conclusion my comments is to recommend Alternative G, No Action on the Vineyard Wind I project.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13062-001	The Vineyard Wind offshore wind project is several orders of magnitude larger than Berkshire Wind. It represents a critically important, renewable energy project for Massachusetts and New England. In our opinion it represents our region's best near term solution to significantly increasing our renewable energy capacity.	Thank you for your comment.
13062-002	The proposed Project has been thoroughly vetted. It will deliver power to the New England energy grid and contribute to Massachusetts' renewable energy requirements. In addition, the development of utility-scale offshore wind has the potential to stabilize competitive renewable electric prices over the long term. Finally, approval of this Project will kick start a new offshore wind industry that promises new industrial growth, and very importantly, new manufacturing jobs in Massachusetts, New England, and across the United States.	Thank you for your comment.
13064-001	CTDEEP is concerned about the potential material adverse impacts of the new Alternative F reviewed by BOEM on important state policy goals.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13064-002	CTDEEP supports analysis of cumulative impacts, with the recommendation that permit approval is granted with recommendations for coordinated regional monitoring to better guide understanding of the impacts of offshore wind development where information is incomplete.	BOEM would not be able to impose monitoring on a developer for an area greater than their project being evaluated.
13064-003	Through its Comprehensive Energy Strategy and its Integrated Resources Plan, CTDEEP directs the state's efforts to meet both its Global Warming Solutions Act obligations and the requirement of Executive Order 3 to study pathways to achieve a zero-carbon grid by 2040. Integral to this effort are CTDEEP's procurement of large-scale offshore wind resources...CTDEEP issued a request for proposals in August, 2019 and selected an 804 Vineyard Wind II project in December, 2019. The Vineyard Wind project, combined with the previously contracted offshore wind projects, will account for about 19% of Connecticut's total electric load.	Thank you for your comment.
13064-004	As part of CTDEEP's planning obligations, the agency continually evaluates the state's and the region's electric generation resource mix and the rate and nature of planned retirements. In order to ensure that sufficient new zero-carbon generation is available to replace retiring fossil generation, CTDEEP is studying in its Integrated Resources Plan (IRP) how to schedule	Thank you for your comment.

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	procurements of new renewable energy resources and particularly procurements of offshore wind. Connecticut, therefore, is directly and substantially affected by any action or actions that could delay the installation of contracted resources or adversely affect total potential offshore wind capacity in regional lease areas.	
13064-005	The proposed Project would deliver power to the New England energy grid to contribute to states' renewable energy requirements. BOEM's decision on Vineyard Wind's Construction and Operation Plan (COP) is needed to execute its duty to approve, approve with modifications, or disapprove the proposed Project in furtherance of the United States' policy to make Outer Continental Shelf (OCS) energy resources available for expeditious and orderly development subject to environmental safeguards (43 USC § 1332(3)), including consideration of natural resources and existing ocean uses.	Thank you for your comment.
13064-006	Alternative F, or the Vessel Transit Lane Alternative, includes a new vessel transit lane in response to the January 3, 2020, Responsible Offshore Development Association (RODA) layout proposal (Figure 2.2-1) (RODA 2020)... Although the proposal includes six total transit lanes, only one intersects the Vineyard Wind 1 Project Wind Development Area (WDA), the action for which this EIS is being prepared. The purpose of the proposed northwest/southeast transit corridor would be mainly to facilitate vessel transit from southern New England ports—primarily New Bedford—to fishing areas on Georges Bank. The wind turbine generators (WTGs) that would have been located within the transit lane proposed to intersect the Wind Development Area would not be eliminated from the Proposed Action; but instead, the displaced WTGs would be shifted south within the Vineyard Wind lease area. Connecticut recognizes that this Project, like other OSW projects will have impacts to the commercial fishing industry. Any evaluation of impacts from this and similar projects is a balancing act and it is always important to find the correct balance for the benefit of all parties.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13064-007	Vineyard Wind has opted to change from 12 to 14 MW turbines. These larger turbines permit the use of fewer monopoles potentially reducing impacts.	The development of the DEIS, SEIS, and FEIS has been based on Vineyard Wind's utilization of the PDE. The FEIS assesses the impacts of the reasonable range of Project designs that are described in the Vineyard Wind COP and presented in Appendix G by using the “maximum-case scenario” process.
13064-008	Even though Vineyard Wind I is a Massachusetts project, there are several potentially important impacts associated with Alternative F that are of direct concern to Connecticut, primarily because the new transit route will displace turbines from the corridor and relocate them much further to the south	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.

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	increasing cable distances and the associated seafloor disturbances. Simultaneously, the new transit corridor will potentially reduce the total leasehold area available for all projects, including projects under contract with Connecticut.	
13064-009	...BOEM found that if Alternative F is used, Offshore Export Cable Corridor (OECC) routes would be longer due to shifting project elements further into the southern portion of the lease area. Due to the WTGs being relocated further away, the amount and length of inter-array cabling would need to be increased in excess of the maximum design parameter in the Vineyard Wind COP PDE of 171 miles (275 kilometers). Under Alternative F, total length of inter-array cabling is now estimated to be between 221 and 234 miles (355 and 376 kilometers) depending on the width of the transit lane, number of WTGs utilized, and WTG arrangement within the WDA. This would result in up to a 37 percent increase of additional inter-array cabling. Finally, BOEM also found that total disturbed acreage from all causes could increase as high as 61 percent.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13064-010	Implementation of Alternative F would delay proposed Project construction if significant additional survey work is required. Additional site characterization surveys for Alternative F, if required, would be similar to those described in Section 3.1.3 of BOEM 2012a, with the attendant environmental impacts described in Section 4.2 of BOEM 2012a.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 2.1.5 of the SEIS outlined some of the technical and practical challenges that could result if Alternative F were implemented.
13064-011	Vineyard Wind's proposed 66-kilovolt inter-array cables would experience additional transmission loss if cables are lengthened to accommodate the transit lanes assumed under Alternative F. Such transmission losses are not considered as part of the Project design and could translate to technical difficulties and additional unanticipated costs.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13064-012	Cable lengthening [under Alternative F] would require factory joints, which are not currently technically possible by cable manufacturers. Joints could increase the risk of potential cable failure and repairing such failures could lead to increased environmental effects due to a variety of factors including bottom disturbance and vessel traffic.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13064-013	The space required for implementation of the [Alternative F] transit lane could reduce the area available for Vineyard Wind to construct future projects within the lease area.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13064-014	There are other consequences of using Alternative F which are of considerable concern to CTDEEP... Each of the above referenced impacts will have adverse impacts to important Connecticut energy policies. Delay itself would potentially delay future offshore wind procurements needed to meet the state's zero-carbon goals. And this problem would not be limited to	Section 2.1.5 of the FEIS has been updated to reflect the impact that delays could have on the proposed Project and states' clean energy goals. The SEIS and FEIS stated the potential consequences of Alternative F, including potential construction delays; therefore, no changes to the FEIS are warranted.

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	Connecticut, Massachusetts, New York, and Rhode Island area also looking to this lease area to meet important regional public policy goals. It is in this context that BOEM’s conclusion that “potential construction delays . . . could create more overlap with other future offshore wind projects’ construction schedules, potentially leading to increased cumulative impacts on resources that are sensitive to overlapping construction activities” is most alarming.	
13064-015	Beyond delay issues, additional line losses associated with longer alternating current (AC) cables [for Alternative F] will reduce the amount of zero-carbon energy needed to replace fossil energy and will simultaneously result in Connecticut ratepayers receiving less power for the same price from contracted resources. Increase cable array vulnerability threatens the entire project and loss of leasehold space will result in less available total capacity cutting down the amount of total potential zero-carbon offshore wind energy that is needed to meet state goals.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13064-016	BOEM found the following technical and practical challenges of Alternative F as they relate to the assessment of cumulative impacts: If all six transit lanes proposed by RODA were implemented, the technical capacity of offshore wind power generation assumed in Chapter 1 would not be met. The magnitude of the diminished technical capacity would depend on the width of transit lanes implemented, but ultimately, less clean energy in the region would be produced. BOEM assumes this to be true of any combination of alternatives that includes Alternative F. As explained in Section 3.14.2.4, BOEM assumes that the addition of all six of the 4-nautical mile transit lanes proposed by RODA would reduce the technical capacity of the Rhode Island and Massachusetts (RI and MA) Lease Areas by approximately 3,300 MW, which is 500 MW less than the current state demand for offshore wind in the area.	Thank you for your comment.
13064-017	The loss of 3.3 GW of zero-carbon energy [under Alternative F] poses a direct threat to important state public policy goals for Connecticut and the entire region. In this regard, it is not immediately apparent from the SEIS why Alternative F continues to be under consideration... Furthermore, the United States Coast Guard has fully endorsed the 1 x 1 nm layout without Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13064-018	In fact, according to the SEIS itself, Alternative F, which is much more impactful to state policy goals, has essentially the same impacts as Alternatives A-E. A review of table ES-2, a cross comparison of the various project alternatives, shows that the Proposed Action and Alternatives A through E and the new Alternative F, appear to have very similar impacts	Both the SEIS and the FEIS provide a detailed analysis of the potential effects that could result if Alternative F were implemented.

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	with the exception that Alternative F could materially impede state zero-carbon planning.	
13064-019	CTDEEP supports the efforts to incorporate reasonably foreseeable effects from an expanded cumulative activities scenario for offshore wind development. CTDEEP wants to acknowledge that there will always be some level of incomplete information in this type of cumulative analysis, however, the state wants to stress that BOEM should avoid slowing the process towards offshore wind approval. Instead, areas with incomplete information regarding impacts should be noted. As developments advance, data to better inform decisions should be collected through adaptive monitoring and management at the project level and through cooperation with regional level studies.	Appendix C of the SEIS included a discussion on incomplete or unavailable information, in accordance with Section 1502.22 of the CEQ regulations. Appendix H of the FEIS has been updated where appropriate on the incomplete or unavailable information, in accordance with Section 1502.22 of the CEQ regulations.
13064-020	Specific seasonal risks to migratory birds and bats have the potential to impact large congregations of animals. There is evidence that these risks are predictable. Connecticut feels more information and monitoring will help guide future decisions.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision. The monitoring that is being proposed for the Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures for future offshore wind development.
13064-021	CTDEEP has concern that there is the potential for significant negative impact to migratory bat populations from collision with operating wind turbines. The analysis specifies that that the 1nm (1.85km) spacing will allow bats to “avoid” collisions by flying around structures but does not present any observational data to support that avoidance behavior.	Section A.8.4.1 of the FEIS includes an updated discussion, and associated citations, relating to the lack of landscape features that would serve to funnel bats; thereby decreasing the potential exposure of migrating tree bats to operating WTGs.
13064-022	Although it is noted that “Use of the OCS by tree bats is expected to be very low and limited to spring and fall migration periods,” it is this pattern and predictability that may be beneficial for developing avoidance measures for collision. Migratory tree bats are regularly observed offshore with a consistent and predictable pattern. Migratory tree bats are among the most highly impacted by onshore wind turbines. The three most impacted by onshore wind installations are also currently state listed in Connecticut	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional

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	(RCSA Sec. 26-306), the hoary bat (<i>Lasiurus cinereus</i>), eastern red bat (<i>Lasiurus borealis</i>), and the silver-haired bat (<i>Lasionycteris noctivagans</i>).	mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13064-023	Although the period of exposure is short, it has the potential to impact many adult [migratory tree bats] during a sensitive portion of their life cycle, when populations are concentrated for migration. Connecticut disagrees that BOEM has enough information to assume that “very few individuals would be expected to encounter operating WTGs or other structures.” Insufficient knowledge is acknowledged in Section A. 8.4.	Section 8.4 of the FEIS uses the best available information, including Hatch et al. (2013), Pelletier et al. (2013), Stantec (2016), and Dowling et al. (2017); and thus complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action. Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13064-024	Connecticut also notes that there are no plans in the Vineyard Wind 1 COP (COP Section 6.3) to continue to monitor collisions for bats based on the conclusion that risk would be “negligible.” Insufficient knowledge is not a basis for dismissing any need for mitigation, but it is a justification for additional research and monitoring. The risk to bats onshore and the evidence that bats occur offshore support the conclusion that monitoring of the risk should continue as the project develops.	Section 8.4 of the FEIS uses the best available information, including Hatch et al. (2013), Pelletier et al. (2013), Stantec (2016), and Dowling et al. (2017); and thus complies with the procedural requirements of NEPA to predict potential impacts on bats from the Proposed Action. Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation that could be implemented to avoid, minimize, and mitigate adverse impacts on bats as well as monitoring measures, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision. The monitoring that is being proposed for the Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures for future offshore wind development.
13064-025	CTDEEP has similar concerns for migratory birds with respect to collision with structures. The assessment recognizes the risk for turbine collision...	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk to nocturnal passerine migrants. As shown in Robinson Willmott et al.

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	Connecticut disagrees that the Wind Development Area for Vineyard Wind has enough data at this time to conclude that there would be low use and negligible risk, especially with reference to migratory landbirds. For example, the Blackpoll warbler (<i>Setophaga striata</i>) has been observed to migrate offshore. This risk during the migratory period was determined to be “insignificant” in the COP (Section 6.2). In contrast, the IUCN has listed this species as Near Threatened, and understanding the potential threat from offshore wind development is highlighted as a conservation action to protect this species.	(2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014).
13064-026	CTDEEP recommends BOEM does not dismiss the risk of collision for migratory tree bats and migratory birds in the operations phase for Vineyard Wind 1. Connecticut recommends: Vineyard Wind continue to monitor and measure bird and bat fatality risk specific to migration during operations and share data to better quantify the impact from this project, as well as the cumulative impact from other sites.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation that would be implemented to avoid, minimize, and mitigate adverse impacts on bats as well as monitoring measures, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13064-027	CTDEEP recommends BOEM does not dismiss the risk of collision for migratory tree bats and migratory birds in the operations phase for Vineyard Wind 1. Connecticut recommends: ... Vineyard Wind engage with and contribute towards entities that are developing collision avoidance tools to minimize this risk.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13064-028	CTDEEP recommends BOEM does not dismiss the risk of collision for migratory tree bats and migratory birds in the operations phase for Vineyard Wind 1. Connecticut recommends: ... Vineyard Wind consider options for compensatory mitigation if substantial risk is quantified and cannot be avoided.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations

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		and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision as well.
13064-029	The collision risk for migratory birds and bats is limited to specific periodicity and weather conditions, and the mitigation efforts to avoid impact have the potential to be simple and have precision in application. This risk should not be dismissed without further evaluation.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13064-030	CTDEEP fully supports BOEM’s NEPA process and greatly appreciates the immense effort undertaken by the agency. CTDEEP does not believe that any impacts detailed in this analysis should halt the approval process.	Thank you for your comment.
13064-031	Connecticut, however, is concerned that Alternative F may have excessive impacts that will prevent Connecticut, and the region, from attaining important climate change policies and urges BOEM to consider that as it proceeds with its review.	Thank you for your comment.
13065-001	Our country must contribute to the global effort that is needed by decarbonizing our energy supply. The use of fossil fuels must be systematically phased out across all sectors of our economy and functioning society. We support the building of the Vineyard Wind offshore energy project. We strongly urge the BOEM to permit this project to go forward. The onshore region adjacent to the siting of Vineyard Wind is densely populated with high energy demands. The region also needs and would benefit from jobs in this green economy.	Thank you for your comment.
13065-002	Our committee is impressed with the environmental safeguards outlined in the SEIS that would protect the endangered North Atlantic right whale during project construction and operation. We applaud the collaboration between key environmental NGO’s like the National Wildlife Federation, the NRDC,	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures

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	and the Conservation Law Foundation to sign a landmark agreement to adopt measures that will avoid, minimize and mitigate underwater noise, ship strikes, and turbine collisions. These well-respected organizations developed this agreement based on marine ecology and the relevant science and technology that pertains to operating offshore wind in a marine environment.	include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13065-003	We strongly support this project for its economic benefits to the region. It is our understanding that approximately 3,600 jobs will be created for local residents and that Vineyard Wind 1 will save ratepayers more than \$1.4 B in energy-related costs over the 20-year contract with the Commonwealth of Massachusetts. This cost savings amounts to \$70M per year.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
13065-004	we support the 1x1 nautical mile turbine layout that was reached as a compromise proposed in response to commercial fisheries' concerns. We oppose adding additional transit lanes within wind farms because we have learned from a recent Coast Guard study that this has been deemed unnecessary.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13065-005	We obviously support this offshore wind energy project for its important contribution to climate change mitigation - in terms of producing clean, renewable energy to the grid that does not emit greenhouse gases. We are a coastal community worried about sea level rise, coastal flooding, and storm surges.	Thank you for your comment.
13066-001	I support the SEIS for Vineyard Wind! We need the energy for MA, since we'll need 6X the electrical power as we electrify heating, cooling, transportation and more.	Thank you for your comment.
13067-001	This Project Labor Agreement will ensure that our local skilled workers will construct the United States' first commercial scale offshore wind farm and set the precedent that future projects will utilize local union labor as well.	Although the Project Labor Agreement is not addressed in the FEIS, Section 3.6.2 provides projections of estimated direct job creation by the Vineyard Wind 1 Project in Massachusetts, and primarily in southeastern Massachusetts.
13067-002	Alternative F requiring needless transit lanes would further reduce their ability to develop by another 4,000 MW and over 300 turbine positions. This reduced capacity means fewer projects and fewer jobs for the hardworking men and women of the trades.	Section 3.6.4 of the FEIS has been updated to note that the transit corridor (Alternative F) could result in lower economic investment and employment due to the lower capacity for offshore wind development in the RI and MA Lease Areas that could result from this alternative.
13067-003	Massachusetts, New England, and the United States need the clean energy and the jobs that Vineyard Wind and other offshore wind projects will generate.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment

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		resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13067-004	Any further delays, reductions in scope or obstacles could jeopardize not only this project, but the industry itself.	Thank you for your comment.
13068-001	This wind farm alone will create 3,600 jobs for reside and save ratepayers more than 1.4 billion.	Section 3.6.2 of the FEIS provides economic and employment contributions of the Vineyard Wind 1 Project. These were also included in the DEIS. Estimated job creation by the Vineyard Wind 1 Project in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. Section 3.6.2.1 and Tables 3.6-3, 3.6-4 and 3.6-5 also list the grants that would be provided by Vineyard Wind and show economic value and first year tax revenues that would result from the Vineyard Wind 1 Project.
13070-001	I would like to emphasize the positive benefits of offshore wind and the building of this offshore wind farm. The production of wind power and other renewable energy sources is essential in the reduction of greenhouse gas emissions to limit the effects of climate change. Combatting climate change is absolutely essential, and renewable energy is an extremely important part of making this a reality.	Thank you for your comment.
13070-002	...the increase in job opportunities is encouraging, especially during such challenging economic times.	Section 3.6.2 of the FEIS provides estimated job growth from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13070-003	The fossil fuel industry has also led to many, many instances of environmental racism and injustice. It unacceptable how many dirty energy plants have been places around low-income communities and communities of color. Increasing the use of clean energy will decrease these instances of environmental justice issues.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13070-004	It has been argued that offshore wind will create visual disturbances, and while this is a valid concern, it actually would not be too large an issue. Due to the distance between the reasonably foreseeable wind development and the nearest cultural resources, in most instances exceeding 15 miles, WTGs within individual projects would appear relatively small on the horizon, and	The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations provided by Vineyard Wind that provide views of the 14 MW wind turbines as well as simulations of Vineyard Wind 1 combined with other offshore wind development. The

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	the visibility of individual structures would be further affected vegetation, clouds, fog, sea spray, haze, and wave action.	simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment .
13070-005	there is concern surrounding the impact of fisheries, however wind areas were chosen specifically because they aren't heavily fished areas, and thus there would be minimal impact.	Thank you for your comment.
13070-006	A third concern is the impact on tourism, however, a survey-based study found that for prospective offshore wind facilities (based on visual simulations) about 68 percent of respondents indicated that the visibility of turbines would neither improve nor worsen their experience.	The comment refers to one finding from the study "Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism" (Parsons et al. 2018); other results of the study are summarized in Section 3.10.1 of the SEIS. Overall the study supports the SEIS finding that while certain seaside locations on the southern coast of Nantucket and Martha's Vineyard could experience a small reduction in recreational and tourism activity, the visible presence of WTGs from limited shore locations would be unlikely to impact shore-based recreation and tourism in the geographic analysis area as a whole. Therefore, no change to the FEIS is warranted.
13071-003	In order to realize the many benefits - both economic and environmental - of Vineyard Wind 1 and future projects, the industry needs certainty that offshore wind can and will be permitted in the US. Without this certainty, the US will lose out on significant investment and economic benefits.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13071-004	The business sector needs confidence that demand in the US offshore wind market is real. This means that projects in the permitting and development timeline must be permitted in a timely and reasonable manner. This starts with Vineyard Wind 1. If we launch this industry now, the potential for additional jobs multiplies exponentially, with the potential for hundreds of thousands of jobs in different parts of the country.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13071-005	New England Wind Energy Areas (NE WEA) collaborated to propose a uniform, 1 x 1 nautical miles spacing between turbines, a layout that was recently endorsed by the United States Coast Guard (USCG). Despite this fact, the fishing industry has proposed additional transit lanes of at least 4 NMs (reflected in Alternative F of the SDEIS), a move that would severely constrain clean energy production and not meaningfully improve navigation or safety.	The FEIS addresses the USCG recommendations and findings in Sections 3.11.4 and 3.11.5.
13071-006	Alternative "F" slashes the generation capacity of the project and puts the entire region at risk of not meeting energy demand even as many of New England's fossil fuel and nuclear power plants are retiring. For these reasons, I oppose the additional transit lanes outlined in Alternate F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13072-001	Offshore wind is a critical component of our regional clean energy strategy, and this project will go a long way towards combatting climate change and promoting energy independence in New England.	Thank you for your comment.

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13072-002	Vineyard wind has the potential to create thousands of skilled labor jobs in our region, while cutting GHG emissions by approximately 1.7 million tons of CO ₂ per year. Further, Vineyard is estimated to save ratepayers more than \$1.4 billion in energy cost-savings over the life of the project. The economic benefits of offshore wind are well documented	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind.
13072-003	it is imperative that the construction of this wind farm is done in a manner that minimizes acoustic impacts to the greatest extent possible. Research shows that high frequency and high-decibel noises can confuse and severely injure these mammals' auditory systems.	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project.
13072-004	The Vineyard Wind developers have entered into an agreement with the State of Massachusetts to establish mitigation measures aimed at protecting marine mammals from harmful acoustic impacts. Unfortunately, it is unclear if these measures will be sufficient at providing adequate protections for echolocators that are commonly found in these waters.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project.

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13072-005	recent reports indicate that the true number of marine mammals travelling through Northern Atlantic waters at any given time has been grossly underestimated in recent years. Warming water temperatures have caused certain species to deviate unpredictably from normal migratory patterns, resulting in dangerous close calls and at times resulting in the death and injury of unfortunate marine mammals. It's possible that the 1-month delay in construction intended to protect the right whale may prove ineffective at preventing impacts to other aquatic mammals.	A detailed discussion of current marine mammal distribution and occurrence in and around the Vineyard Wind 1 WDA was provided in Appendix E of the SEIS. A discussion of current marine mammal distribution is also provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals is expected to occur as a result of the project. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13072-006	Since no safe levels have been established for acoustic impacts to marine mammals, a cautionary approach should be employed towards approving potentially damaging construction techniques.	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. Additional information regarding acoustic impacts and the potential consequences to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project.
13072-007	since it is impossible for monopiles to achieve safe ambient noise levels, other construction options should be explored that do not necessitate pile driving at all. Concrete gravity bases in particular offer a promising alternative, as they have been employed around the world and do not require	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid,

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	disruptive pile driving techniques that can adversely affect marine mammal populations. Further, concrete gravity bases do not leave behind steel refuse in the same way monopile structures do, once they have reached the end of their useful lifespan.	minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. Additional information regarding acoustic impacts and the potential consequences to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project.
13073-001	I support the SEIS for the Vineyard Wind Project and request you to approve this project. Off shore wind is one of the only viable option on the scale needed to begin to address our reliance on fossil fuel and to begin to slow the impacts of climate change. The Vineyard wind project has been reviewed in sufficient detail and taken precautions to limit its impacts. No project is without any impacts, but those impacts must be weighted against both the options if the project does not proceed (continue reliance on fossil fuels that are continue to weaken our personal and all wildlife habitats, continue climate change risks, and have a continued high cost) and the methods that the project has reduced its impacts if it does proceed (while avoiding the impacts of not proceeded and staying on fossil fuels, and making accommodations for fisherman with spacing and orientation of the array, bird migration, whale activity with reduced operations when whales are in the area, and determining the best place to land the power).	Thank you for your comment.
13073-002	There is no logic to delaying a positive development like this, while we continue to degrade our environment through the extraction and use of fossil fuels.	Thank you for your comment.
13074-001	Approval of the project is pivotal for states on the Atlantic Coast to realize their renewable energy development and carbon reduction legal requirements....The 800-megawatt Vineyard Wind I and the several other projects in adjacent lease areas that are now under contract will also provide significant economic development benefits for Atlantic Coast states.	Thank you for your comment.

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13074-002	At sites located on the Outer Continental Shelf, the Department of Energy estimates offshore wind’s technical potential at over 2,000 gigawatts (or double the amount of all existing installed U.S. electricity), 86 gigawatts of which could be developed by 2050. Atlantic Coast states, recognizing the economic and environmental opportunities afforded by the technology, have collectively issued procurement targets for 29 gigawatts of offshore wind. A recent economic development study from the American Wind Energy Association (AWEA) reported that offshore wind development off the Atlantic Coast could translate into \$57 billion in direct investment, add \$25 billion in annual economic output and create 83,000 well-paying jobs by 2030, all while stabilizing retail electricity rates and emitting no climate-altering greenhouse gases.	Thank you for your comment.
13074-003	One of the pivotal outstanding items being reviewed by BOEM is that of navigational lanes. RENEW supports the Alternative D2 uniform 1 x 1 nautical mile layout. The U.S. Coast Guard with its mission to ensure our nation's maritime safety, security, and stewardship determined the layout, which will provide more than 200 transit lanes in all directions, will "maximize safe navigation". It concluded in its final report, The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS), that the 1 x 1 layout, which was agreed to by all New England offshore wind leaseholders, will provide ample and uniform navigation channels and is significantly larger than routes provided in the more mature European offshore wind industry.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13074-004	The Alternative F proposal to insert unnecessary wider transit lanes would, according to the MARIPARS report, increase risks to navigation safety. That report found that the transit corridors in Alternative F would make “navigation more challenging, [as] most traffic would then be funneled into the corridors thereby increasing traffic density and risks for vessel interaction.” RENEW acknowledges the significantly more extensive comments concerning the transit lane issue in the SEIS submitted by AWEA and stands in agreement with AWEA’s analysis in support of Alternative D2 and in opposition to Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13075-001	In January 2020, Rhode Island Governor Gina Raimondo launched a nation-leading initiative to meet 100% of Rhode Island’s electricity demand with renewables by 2030 (E.O. 20-01). As such, the Rhode Island Department of Environmental Management (RIDEM) is supportive of offshore wind energy development to mitigate the impacts of climate change and reduce greenhouse gas emissions. RIDEM is committed to ensuring that the local and regional environmental and socioeconomic impacts of offshore wind development are minimized.	Thank you for your comment.

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13075-002	The new limits of the proposed project design envelope include a modified limit of 14-megawatt (MW) wind turbine generators (WTG) for the VW1 project (Table 2.2-1). However, the Bureau of Ocean Energy Management (BOEM) is using 12 MW WTGs during evaluation of potential impacts under reasonably foreseeable assumptions (1.2.1.1). While 12 MW is the largest turbine currently available, it is likely that larger options will be developed and available for use in future projects, especially considering 14 MW are being considered for the first commercial scale project to be developed in US federal waters. The impacts of complete buildout of Wind Development Areas (WDAs) may be different under a 14 MW scenario than the 12 MW scenario presented.	As noted in Section 1.7.1.1 of the SEIS, it is difficult to predict turbine capacity and spacing or other future engineering for planned but currently unscheduled offshore wind awards. Therefore, BOEM used reasonably foreseeable assumptions for the analysis and no change to the FEIS is warranted. The impact analysis prepared for the proposed Project implemented a maximum-case scenario for all resources so that BOEM's decision makers understand the most impactful scenario.
13075-003	New cable emplacement and maintenance are expected to have moderate short-term impacts in most areas, but impacts may be permanent if in hard bottom habitat or areas of submerged aquatic vegetation. These impacts are expected to be caused by direct disturbance during cable laying. However, there is limited discussion of potential impacts from cable armoring. Impacts caused by armoring will depend on the type of armoring utilized (e.g., concrete mattress, rocks) and may include some positive benefits after the initial disturbance phase. However, placement may also smother existing soft bottom habitat and benthic organisms.	Sections 3.1 and 3.2 of the FEIS discuss the potential impacts associated with the use of cable protection or "armoring" under the subheading of "Presence of structures." The FEIS has been updated to discuss additional mitigation measures regarding cable protection.
13075-004	It should also be noted that while some soft-bottom habitats may recover in the short term, other soft-bottom benthic communities may take 2-4 years to recover (van Dalfsen et al. 2000). Therefore, moderate effects may not necessarily be short-term.	Section 3.2 of the FEIS was updated to discuss the potential impacts associated with the proposed Project and the duration of effects.
13075-005	The presence of turbine structures may increase the likelihood of ghost fishing gear within wind farm arrays. If commercial boats get gear hung up within the array, they may feel less comfortable retrieving gear due to added safety concerns (i.e., drifting into wind turbine monopiles), which would result in additional gear loss and ultimately ghost gear within the WDAs.	Section 3.4.1 of the SEIS discussed the potential effects of ghost fishing; therefore, no change to the FEIS is warranted. Furthermore, Section 3.5 of the SEIS discussed the potential effects of ghost fishing gear on marine mammals. Additionally, Appendix D of the DEIS discussed mitigation relative to the monitoring and removal of ghost fishing gear in the WDA. The commenter did not provide any new information not already considered in the SEIS, and no change to the FEIS is warranted. Appendix D of the FEIS includes all the comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW.
13075-006	While the proposed project intends to utilize Alternating Current (AC) cables, future projects may utilize Direct Current (DC) cables for transmission of energy to specific landfalls, which produce larger Electromagnetic Fields (EMF). There are already DC cables operating in the Southern New England waters (e.g., the Cross-Sound Cable in Long Island	Section 3.3 of the FEIS has been updated to include the new Hutchison reference and the 2020 State of the Science Report. Researching non-lethal behavioral effects on marine fauna would not likely result in a change in impact rating and is not essential to a reasoned choice among alternatives.

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	Sound). A study on American lobster (<i>Homarus americanus</i>) and little skate (<i>Leucoraja erinacea</i>) behavior in close proximity to the Cross-Sound cables found that there was a strong increase in exploratory/foraging behavior in skates in response to EMF and a more subtle exploratory response in lobsters (Hutchison et al. 2020). It remains inconclusive whether behavioral changes could result in broader biological impacts (e.g., increased energy expenditure), but assuming that EMF produced by the full buildout of all proposed projects will have negligible to minor impacts may underestimate possible ecosystem effects. Bejder et al. (2009) stress that species perceived tolerance to anthropogenic stimuli should not be mistaken for absence of adverse impact. Additional research on EMF is necessary to determine the level of effect for a variety of key species, especially invertebrates where research is lacking (e.g., scallops, squid).	
13075-007	BOEM suggests that presence of structures and corresponding habitat conversion will be moderate beneficial. Certain structure-oriented species will likely benefit (e.g., black sea bass, tautog), while species with soft-bottom habitat preferences (e.g., flatfish, squid, scallops) may be negatively affected. Degraer et al. (2019) explain that artificial hard substrata differ significantly from naturally occurring hard substrata and should therefore not be considered a substitute. Given the value of hard-bottom habitat, it is often assumed that impacts will be lower if wind farms are sited in soft bottom due to their ability to recover more quickly from benthic disturbance (Grabowski et al., 2014), but the number of species and ecosystem functions affected may actually be greater (Henriques et al., 2014; Kritzer et al., 2016). As such, the introduction of hard bottom habitat may add benefits for some species, but negative impacts to soft-bottom preferring species of high ecosystem and economic importance. Further research is needed to elucidate these notions.	Section 3.4.1 of the SEIS discussed the potential effects of habitat conversion; therefore, no change to the FEIS is warranted.
13075-008	RIDEM agrees that noise associated with pile driving will have at least moderate, but potentially major, impacts during construction... For example, longfin inshore squid (<i>Doryteuthis pealeii</i>) is an important, high value species for the Rhode Island commercial fishery that has been documented as sensitive to pile driving noise. The species migrates seasonally, moving inshore in the spring and summer, often in large numbers directly north of the Vineyard Wind WDA. Longfin squid have been found to elicit alarm responses and eventually habituation to pile driving noise. There was also “a lack of long-term increased tolerance (in terms of alarm responses) after extended gaps in pile driving bouts”, suggesting that squid may exhibit alarm responses each time pile driving is initiated again (Jones et al. 2020). This research demonstrates that squid may adjust to the noise on a daily basis, but increased tolerance may still result in ecologically relevant effects (Bejder et	Section 3.4.1 of the SEIS discussed the potential effects of construction, including noise, on species and already considered the findings of Jones et al. (2020); therefore, no change to the FEIS is warranted.

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	al. 2009). The Woods Hole Oceanographic Institution study (Jones et al. 2020) was unable to assess potential avoidance behavior due to the small size of the experimental chamber; however, it is reasonable to assume the squid may avoid areas where the noise is at high-amplitude or intensity based on their startle responses, including jetting.	
13075-009	RIDEM agrees that noise associated with pile driving will have at least moderate, but potentially major, impacts during construction... Proposed construction timelines indicate that pile driving activity will occur during summer months, overlapping with the seasonal squid migration and spawning aggregation in the shallow waters south of Martha's Vineyard and Nantucket. Population-level effects may be possible if pile driving of several projects (over ten years, as described within the SEIS) causes disruptions to spawning aggregations for multiple years. Furthermore, effects of pile driving noise on squid eggs (mops) have not been studied.	Section 3.4.1 of the SEIS discussed the potential effects of construction, including noise, on species and already considered the findings of Jones et al. (2020); therefore, no change to the FEIS is warranted.
13075-010	Moderate impacts are possible due to the introduction of structure and potential for fish aggregation. It is not yet understood whether fish aggregation around wind turbines is the result of increased fish production resulting from the new structure or represents the same biomass now simply attracted to the structures. More study is necessary to reach a conclusion in this area.	Section 3.4.1 of the SEIS discussed how a wind farm could create an artificial reef effect; therefore, no change to the FEIS is warranted.
13075-011	The SEIS states that “pile-driving activities may affect marine mammals during foraging, orientation, migration, predator detection, social interactions, or other activities (Southall et al. 2007). Whales would be displaced up to 6 hours per day during jacket installation. Thus, foraging disruptions would be temporary and are not expected to last longer than a day.” ... “Noise from pile driving would occur during installation of foundations for offshore structures for 4 to 6 hours at a time over a 6- to 12-year period.” Given the poor stock size of the federally-endangered NARW (NARW) (approximately 411 individuals as of 2019 NOAA update) and the ongoing unusual mortality event (2017-2020), major negative impacts to NARWs specifically are possible, as there are significant concerns about additional anthropogenic and ecosystem changes adversely impacting this depleted population.	Section 3.51 and 3.52 of the SEIS provided a discussion of acoustic impacts on marine mammal species, including the NARW. Further details regarding acoustic effects to these species were provided in Appendix F of the SEIS and in the BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Cumulative impacts were further considered in the September 11, 2020 Biological Opinion issued by NMFS. The Biological Opinion concluded that the proposed action may adversely affect but is not likely to jeopardize the continued existence of threatened and endangered species. Future offshore wind projects will require separate ESA Section 7 consultation, and a cumulative effects analysis will be completed based on the best available information. Additionally, the Section 3.4.2 and Appendix D of the FEIS include comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, enhanced detection and mitigation measures for NARWs, use of sound attenuation technologies, use of Protected Species Observers (PSOs), Passive Acoustic Monitoring (PAM), soft start procedures, shut down procedures, and other measures. Such conditions can be considered further for their applicability to avoid or

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		minimize impacts to NARWs during the environmental review of future offshore wind projects.
13075-012	NARW... are listed as endangered under the Endangered Species Act and the population has been declining since 2010... The Southern New England WDAs occur within an area of year-round right whale presence in the northern half of Statistical Areas 537 and 526. The presence of NARWs south of Martha’s Vineyard and Nantucket has also been documented as increasing since at least 2016 (Roberts-Duke and Entre-IEC, 2019). The areas south of Martha’s Vineyard and Nantucket are particularly important for NARW growth, reproduction, and survival due to the occurrence of high concentrations of a lipid-rich copepod (<i>Calanus finmarchicus</i>), on which NARWs feed (Pendleton et al. 2012)... Thus, even temporary disruptions to foraging, migration, or social interactions could contribute to declining health and a single death of a NARW could have population level effects. RIDEM commends the implementation of soft start procedures and [marine mammal] PSOs, as required by National Oceanic and Atmospheric Administration (NOAA).	Section 3.4.2 of the FEIS discusses the potential impact of the proposed Project on marine mammals, including the NARW. A detailed analysis of impacts to ESA listed species, including the NARW is provided in the revised BA and September 11, 2020 Biological Opinion issued by NMFS. Additionally, the Section 3.4.2 and Appendix D of the FEIS include all the comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to, avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13075-014	Four sea turtle species (leatherback - <i>Dermochelys coriacea</i> , loggerhead - <i>Caretta caretta</i> , Kemp’s ridley - <i>Lepidochelys kempii</i> , and green - <i>Chelonia mydas</i>) occur within the Vineyard Wind WDA and coastal waters off Rhode Island and Massachusetts. All species of sea turtles are protected under the Endangered Species Act (ESA); green and loggerhead turtle distinct population segments are listed as threatened under the ESA and Kemp’s ridley and leatherback turtles are endangered. RIDEM staff agree that impacts to turtles from pile driving noise may be moderate due to the overlap in seasonal migrations and the proposed timing of wind farm construction. However, use of soft start procedures and protected species observers may help to mitigate these impacts.	A detailed analysis of impacts to ESA listed species was provided in the revised Biological Assessment that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ , as well as the Biological Opinion issued by NMFS on September 11, 2020. Section 3.5.2 and Appendix D of the FEIS have been updated to include modifications and/or additional mitigation and monitoring measures that could be implemented to avoid, minimize, and mitigate adverse impacts on sea turtles including the use of Protected Species Observers (PSOs), and soft start procedures, and other measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval.
13075-015	RIDEM strongly recommends that BOEM select Alternative D2 – East-West and One-Nautical Mile Wind Turbine Layout alternative for the following reasons: a. This recommendation stems from guidance from the Rhode Island Marine Fisheries Council (RIMFC) via a letter dated October 12, 2018. The RIMFC members “recommend to the Director of DEM and CRMC that all wind power leases off southern New England be required to have turbines set in an east-west pattern with 1 nm of spacing to minimize the negative impacts on historical fishing activities...”	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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13075-016	RIDEM strongly recommends that BOEM select Alternative D2 – East-West and One-Nautical Mile Wind Turbine Layout alternative for the following reasons... b. Alternative D2 is also supported by the United States Coast Guard, as described within the Final Report: The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS) (USCG-2019-0131). The Final MARIPARS recommends: i. “That the MA/RI WEA’s turbine layout be developed along a standard and uniform grid pattern with at least three lines of orientation and standard spacing to accommodate vessel transits, traditional fishing operations, and search and rescue (SAR) operations, throughout the MA/RI WEA. The adoption of a standard and uniform grid pattern through BOEM’s approval process will likely eliminate the need for the USCG to pursue formal or informal routing measures within the MA/RI WEA at this time.”	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13075-017	RIDEM strongly recommends that BOEM select Alternative D2 – East-West and One-Nautical Mile Wind Turbine Layout alternative for the following reasons... c. Selection of a uniform grid pattern that is contiguous among abutting lease areas (as committed to by the developers Equinor, Mayflower Wind, Ørsted/Eversource, and Vineyard Wind on a letter to the USCG dated November 1, 2019) will improve fishing access within the turbine array and may reduce risk of allision or collision due to more logical navigation patterns.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. The FEIS includes BOEM’s Preferred Alternative as well as an assessment of potential impacts and mitigation measures. Section 3.10.2.4 discusses impacts of the uniform grid pattern and increased spacing between WTGs for Alternative D2; therefore, no change to the FEIS is warranted.
13075-018	Fishing within the Vineyard Wind WDA has been demonstrated to occur primarily in an E-W pattern based on Vessel Monitoring System (VMS) data (SEIS Figure 3.11-1, appendix B.2). This pattern was described to Vineyard Wind on many occasions by the Rhode Island Fishermen’s Advisory Board (FAB) and the RIMFC prior to development of the Vineyard Wind Draft Environmental Impact Statement (DEIS) and has now been confirmed by NOAA through analysis of VMS data. Historically, mobile gear fishermen towed gear in a roughly E-W pattern (along loran-C lines), while avoiding fixed gear (e.g., lobster pots) set on the 0 and 5 loran-C lines; this is primarily driven by the Rhode Island Squid, Mackerel, Butterfish fishery (SEIS Figure 3.11-6). This informal agreement between commercial fishery sectors prevented conflicts between mobile and fixed gear fisheries while allowing both to operate fully within the area.	Section 3.11.2.4 of the SEIS includes a discussion about this informal agreement between the mobile and fixed gear fisheries; therefore, no change to the FEIS is warranted.
13075-019	A 1 nm E-W and N-S grid pattern should allow for some vessels to continue towing gear in an E-W fashion between turbine rows, while fixed gear could be set closer to the turbine foundations.	Section 3.11.2.4 of the SEIS addressed that wider spacing would improve maneuverability and the ability to deploy mobile and fixed gear given the east-west orientation (only Alternative D2) and increased spacing between the WTGs except for some commercial fisheries in the northern portion of the WDA.; therefore, no change to the FEIS is warranted.

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13075-020	RIDEM strongly recommends that BOEM select Alternative D2 – East-West and One-Nautical Mile Wind Turbine Layout alternative for the following reasons... d. This alternative could also be combined with Alternative F to incorporate a vessel transit lane, as recommended by the Responsible Offshore Development Alliance (RODA).	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13075-021	RIDEM agrees with the conclusion that the presence of structures (navigation hazard and allisions; entanglement, gear loss, gear damage; space use conflicts) has the potential to cause moderate to major impacts to commercial and recreational fisheries.	Thank you for your comment.
13075-022	Rhode Island is home to the most heavily-affected port: Little Compton, with 22% exposure to full buildout of all lease areas (SEIS Figure 3.11-4, appendix B.2). While this is a small portion of exposure relative to other port values, it demonstrates that impacts are not evenly distributed. Rhode Island also has the port with the second largest average annual revenue exposed: Port Judith, at \$2.4 million annually. This validates the need for comprehensive mitigation plans for all individual projects moving forward, in addition to the existing Vineyard Wind agreement with the FAB.	Thank you for your comment.
13075-023	The RIDEM understands why vessel trip reports (VTR) were used to assess economic exposure to the fishing industry of development in all lease areas. However, given that VTRs, and other fishery-dependent data sources, were not designed for the purpose of characterizing the location of fishing activity, multiple data sources should be considered... Vessel monitoring systems (VMS) provide much more accurate and frequent location information than self-reporting on VTRs. VMS can be linked to VTR and then to dealer reports to determine landings values from given areas. NOAA has the ability to link these datasets through the Data Matching and Imputation System (DMIS)... [, which] can link VTRs, VMS, Observer Data, NOAA Vessel Permit data, and other NOAA datasets. Other analyses using VMS already exist to estimate exposure (e.g., RIDEM 2017) and methods (detailed code) have been provided to allow for incorporation of new data.	Section 3.10.1 of the FEIS was updated to include a RIDEM analysis using VMS data to provide estimates of the fishing activity in the WLA.
13075-024	The analysis performed to analyze VTR data and understand fishery exposure only includes the areas to be directly developed. Exposure is calculated as the estimated loss if no fishing were to occur within the wind lease areas, which is unlikely; hence it is considered exposure, not loss. Nevertheless, this approach does not address potential losses associated with crowding in areas outside of WDAs or potential avoidance of development areas by target species during certain components of construction (e.g., pile driving).	Section 3.11.1.1 and 3.11.2 of the SEIS discusses qualitative impacts from increased vessel traffic, space use conflicts, and the availability of targeted fish species during construction; therefore, no change to the FEIS is warranted.

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13075-025	If squid avoid the construction zone... and nearby areas during pile driving, which could occur over ten years for full buildout of the WDAs, reduced catch for squid trawlers may occur.	The FEIS discusses qualitative and quantitative impacts to the squid fishery throughout Section 3.10 (Commercial Fisheries and For-hire Recreational Fishing), including potential impacts from construction and projected revenue exposure over 10 years during the build out of future offshore wind development. Section 3.10.2 and Appendix D of the FEIS have been updated to discuss potential additional mitigation including daily two-way communication during construction in order to reduce conflict with the commercial squid fishery in the spring and summer.
13075-026	RIDEM also agrees with the conclusion that there may be moderate impacts on commercial fisheries as management adjusts to new data and potential changes to fisheries operations; this is tied directly to probable major impacts to federal scientific surveys. RIDEM Division of Marine Fisheries (DMF) staff have concerns about adverse impacts to scientific surveys used to assess status of managed species (targeted and protected species alike).	The SEIS addresses these issues throughout Section 3.11.1.1 and 3.11.2 (Commercial Fisheries and For-hire Recreational Fishing), as well as Section 3.14 (Other Uses, Scientific Research and Surveys), and Section 3.14.2 addresses potential project-related and cumulative impacts to scientific research and surveys in detail. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted. BOEM is funding a process to begin to develop a strategy with NMFS to evaluate the scientific research and surveys that would be affected by offshore wind development: https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/AT%2020-x07.pdf
13075-027	The National Marine Fisheries Service (NMFS) Northeast Fisheries Science Center will lose survey grounds for their bottom trawl survey as projects are developed, and aerial surveys for marine mammals may also be unable to effectively spot and identify marine mammals within wind farm areas due to increased survey height. Loss of survey grounds may make determining stock status more difficult, by increasing uncertainty in assessments, potentially leading to more restrictive fishing regulations. Scientific surveys may need to be revised, restructured, or supplemented with additional surveys (e.g., industry supported surveying).	The FEIS addresses these issues throughout Section 3.12 and has been updated to include mitigation measures to address survey effects. Appendix D of the FEIS has been updated as well. BOEM is funding a process to begin to develop a strategy with NMFS to evaluate the scientific research and surveys that would be affected by offshore wind development: https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/AT%2020-x07.pdf .
13075-028	BOEM argues that impacts to birds from increased foraging opportunities (due to the reef aggregation effect) will be moderate negative or positive, but it is unclear whether they think moderate negative or moderate positive effects are more likely: “Recent studies have found increased biomass for benthic fish and invertebrates, and possibly for pelagic fish, marine mammals, and birds as well (Raoux et al. 2017; Pezy et al. 2018; Wang et al. 2019), indicating that offshore wind farms can generate beneficial permanent impacts on local ecosystems, translating to increased foraging opportunities for individuals of some marine bird species. BOEM anticipates that the presence of structures may result in permanent beneficial impacts.	Section A.8.3.1 of the FEIS provides an updated discussion of potential impacts arising from the presence of structures including the acknowledgement that there is a large amount uncertainty around bird response to offshore wind facilities due to the novelty of this type of development on the Atlantic OCS. Monitoring studies would be able to determine more precisely any changes in bird behavior.

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	Conversely, increased foraging opportunities could attract marine birds, potentially exposing those individuals to increased collision risk associated with operating WTGs.” If the uncertainty surrounding this assessment is large, it should be stated as such.	
13075-029	“For this analysis, based on the assumption that structures would be spaced 1 nautical mile apart, ample space between WTGs would allow birds that are not flying above WTGs to fly through individual lease areas without changing course or to make minor course corrections to avoid operating WTGs.” Can migratory birds and seabirds observe rotating turbine blades well enough to actively avoid the swept area? Martin (2011) contends that birds in flight may predict that the airspace ahead of them is not cluttered when they are in the presence of manmade artefacts like wind turbines. Even if they are looking forward, they may not be able to see obstacles because they cannot predict obstructions. If they cannot effectively observe moving turbine blades, avoidance becomes less likely.	The referenced study by Martin and Shaw (2010) discusses the potential for three species of birds to collide with terrestrial power lines. The authors show that these three species (Koi Bustard, blue crane, and white stork) may have difficulty recognizing obstacles in front of them when shifting their field of view to the ground while in flight. In contrast, Desholm and Kahlert (2005) show that common eiders and geese avoided the Nysted Wind Farm in the Baltic Sea offshore of Denmark. Each year, 200,000 common eiders and 10,000 geese pass through the study area each autumn (Desholm 2006). Radar tracks of migrating flocks showed a substantial avoidance response. While a larger proportion of flocks entered the wind facility at night, individuals appear to have counteracted the potential higher collision risk by remaining a greater distance from individual turbines (Desholm and Kahlert 2005). Overall, of all the individuals observed in the study area less than 1 percent close enough to the WTGs to be at risk for collision.
13075-030	The inclusion of up to 100 miles offshore for potential tree bat occurrence is logical, as multiple species have demonstrated the ability to fly considerable distances (up to 130 km) offshore during migration (Peterson et al. 2016). However, the assertion that impacts will be negligible because bats use of offshore habitat is limited is unsubstantiated within the SEIS.	As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Therefore, no change to the FEIS is warranted.
13075-031	Offshore [bat] habitat use may be limited to migrations, but mortality during migrations may be significant, as migratory bat species are disproportionately affected by wind turbines because they appear to be attracted to turbine structures (USGS 2014).	Section A.8.4.1.1 of the FEIS has been updated to include a discussion of bats being attracted to WTGs. As discussed, there appears to be some level of attraction to onshore WTGs, and several authors (e.g. Kunz et al. 2007, Cryan and Barclay 2009 and Cryan et al. 2014) have provided some hypothesis as to why this the case. However, to date, no definitive conclusion regarding this apparent attraction has been documented, despite extensive studies at onshore wind facilities. Further, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with

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		Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13075-032	Few studies have monitored bat activity far offshore and numbers of bats utilizing the WDAs during migration are not known.	An updated discussion of bat use of open water habitats, as described in Stantec (2016) is provided in Section A.8.4.1.1 of the FEIS. Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13075-033	Moreover, monitoring of mortalities associated with offshore wind farms is challenging, as injured or deceased bats fall into the water and may not be documented. The University of Rhode Island is conducting ongoing research funded by BOEM on bats at the Block Island Wind Farm (Using Nanotags to Measure Shorebird and Bat Responses to Offshore Wind Turbines (AT 17-01)), but results are not available at this time.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13076-048	Clean energy, fair wages, many jobs - just what our country needs right now!	Thank you for your comment.
13076-105	We need clean energy and the jobs this will bring.	Thank you for your comment.
13076-140	Offshore wind projects will create huge numbers of jobs, and also huge amounts of clean and non-polluting energy. Please approve the Vineyard Wind 1 project. Thank you for your consideration.	Thank you for your comment.
13076-300	We can not overlook Wind Power and the jobs it would create.	Thank you for your comment.
13076-379	What a wonderful thought - we can move away from fossil fuels, create jobs and grow the economy all with this plan.	Thank you for your comment.

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13076-486	The planet shouldn't have to wait for you to act. Act now! And if you do, more jobs in this industry will be created. I want an environment that is safe for my grandchildren, and future generations.	Thank you for your comment.
13076-516	I appreciate the thorough analysis done into the Vineyard Wind Project. If the analysis concludes that the environmental and other positive effects outweigh the adverse ones, please approve the project.	Thank you for your comment.
13076-523	We need jobs and we need clean energy. This is a win win.	Thank you for your comment.
13076-537	You are protecting right whales. Good. Now redesign the blades so they will be seen by the birds, thus preventing thousands of bird slaughters annually. The bird population is decreasing at alarming rates, birds of all kinds, and we cannot tolerate any more kills. This is so important and I ask you to take my remarks seriously. Thank you for your attention.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures.
13076-592	Protect the advantage that an offshore wind energy industry gives to our nation's economy by issuing a decision to proceed with Vineyard Wind 1.	Thank you for your comment.
13076-661	It is past time for the U.S. to step up to the plate to develop fossil-free, non-polluting energy sources. These offshore wind projects, if done right, will create jobs, protect wildlife, and begin to repair the damage done to low-income populations near fossil-fuel power plants. Please approve the Vineyard Wind project.	Thank you for your comment.
13076-740	This is the best thing, the Vineyard Wind Project, for our nation, for jobs, for the future!	Thank you for your comment.
13076-831	Jobs lost to Covid-19 can be mitigated by creating the many jobs needed to get wind energy set up now.	Thank you for your comment.
13076-884	It is my firm belief that green energy jobs not only stimulate economy but are also necessary to combat global warming.	Thank you for your comment.
13076-939	We need more wind power which will not contribute pollution to the air we breathe.	Thank you for your comment.
13076-951	This is a no brainer! A way to create jobs and to lessen pollution.	Thank you for your comment.
13076-986	Harnessing the natural forces on Earth like Wind Energy, is an inexpensive and positive way to create good paying jobs as well and enhancing the quality of life on Planet Earth for everyone.	Thank you for your comment.
13076-993	LET Vinyard Wind get on with it! The developers have made landmark commitments to 1) protect the North Atlantic Right Whale, and 2) create 200 one-mile-wide safe navigation lanes.	Thank you for your comment.
13076-1030	This needs to be done now. Consider making the routers a sparkly color to save birds from flying into them too!!	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not

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		limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures.
13076-1107	In the coming years for infrastructure, the only way the constituents of the US will continue into the next century is if we invest heavily in jobs centered around giving people clean water and free renewable energy.	Thank you for your comment.
13076-1134	With the Corona Virus, we know people with asthma, and breathing issues are more susceptible to a severe impact, and we know air pollution is a major contributor to asthma. It is past time to move our country to clean, renewable energy.	Thank you for your comment.
13076-1138	I'm a conservative business owner and strongly feel we should aggressively pursue wind energy development both on and off shore and would be happy to have some in 'my back-yard.' Accordingly, we Must insure that these projects are environmentally conscious with their development and implementation.	Thank you for your comment.
13076-1184	It is time to switch to wind and solar. Temperatures globally indicate that we have little time before our climate tips to runaway warming. We need wind in the right locations and Vineyard Wind is in one of these good locations.	Thank you for your comment.
13076-1185	It is only through the implementation of projects like this that we will be able to reduce the extent of impending impacts of the current/on-going climate crisis and at the same time create much needed green energy jobs and reduce the impacts of the pollution afforded to the low income communities typical of people of color and indigenous people. The time to act to approve this project is well overdue. Please approve this project now.	Thank you for your comment.
13076-1206	Please support the launch of a new offshore wind industry that can create jobs and a thriving clean energy economy.	Thank you for your comment.
13076-1210	Please approve the wind project...it's the right choice for our planet and will provide much needed jobs. Thank you Wendy McGovern	Thank you for your comment.
13076-1224	Let's create jobs and clean energy together to move into the future with a positive step and bring positivity back into our great nation! Trump has FAILED this country by 'rolling back' and deregulating. We need to overcome this failure together.	Thank you for your comment.
13076-1235	Please support the Vineyard Wind 1 as an environmental as a solution energy, job growth, climate change and pollution. Thank you	Thank you for your comment.
13076-1237	With so many unemployed, please do all you can to create and promote healthy jobs that keep our planet healthy.	Thank you for your comment.
13076-1259	We need clean energy now and the jobs that go along with it! It will help our health and economy at the same time.	Thank you for your comment.

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13076-1292	Think about creating thousands of clean energy jobs as well as the economic impact in doing the right thing.	Thank you for your comment.
13076-1295	Let's continue the clean up of Mother Earth that started as a wonderful side effect of the CoVid - 19 shutdown. Wind power is as unobtrusive as it comes - clean, quiet, productive and not bad looking. It will provide jobs and the power we need, in a safe clean way.	Thank you for your comment.
13076-1305	Any source of power has its pluses and minuses and wind energy has more positives than fossil based fuels.	Thank you for your comment.
13076-1323	Not only is it economically positive, but also it's healthier for us and does not damage wildlife. I have wind energy and have had it for almost 10 years. It's been a positive experience.	Thank you for your comment.
13076-1407	We should put as much energy as possible into initiatives like this that can improve not only our environment, but our economy too.	Thank you for your comment.
13076-1445	What better way to provide clean energy than to harness A natural resource - wind power. It's so much better for the environment than burning fossil fuels.	Thank you for your comment.
13076-1453	This is exactly the right moment to encourage renewable energy projects with the smart jobs and healthier environment they bring! Good for the economy, good for the world!	Thank you for your comment.
13076-1488	What a great way to stimulate the sagging economy. Jump start a new long term industry that also helps the entire area to reduce greenhouse gasses and access energy for all its needs..	Thank you for your comment.
13076-1491	If the vineyard wind project is approve then we will have diminished climate change on the east coast by a great margin. Also the project will provide jobs for people in need. This is a win win situation if you please approve the vineyard wind project.	Thank you for your comment.
13076-1517	Respect my choice to have clean air. I lost a brother to lung cancer and he never smoked.	Thank you for your comment.
13076-1522	Thanks to changes in environmental laws, the skies are now brighter and cleaner. To ensure continuing in this direction, please jumpstart the offshore wind energy.	Thank you for your comment.
13076-1550	Offshore wind generation is a great idea. The wind is free, no cost to taxpayers!	Thank you for your comment.
13076-1552	If we build solutions that provide renewable resources like energy, we can become independent of outside interference in our economy. Just do it.	Thank you for your comment.
13076-1588	We have been learning more and more that we must think outside of the so-called box in order to create new jobs and creative, intelligent and innovative projects such as Vineyard Wind will serve to not only provide jobs but to help hugely in our efforts to be environmentally responsible!	Thank you for your comment.

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13076-1592	Creating jobs, protecting fisheries, not endangering recreational and other "shore jobs" which could negatively be impacted by offshore drilling for petro chemicals, and improve air quality by eliminating emissions from fossil fueled energy plants.	Thank you for your comment.
13076-1646	Just what America needs more wind farms for power without pollution.	Thank you for your comment.
13076-1648	To promote American jobs and energy security, and to mitigate the effects of climate change, we must increase American production of energy from non-fossil sources.	Thank you for your comment.
13076-1696	Offshore wind development will also tap into the skills of workers in existing U.S. oil and gas companies, which have decades of experience developing ocean energy infrastructure. A study by the Workforce Development Institute found that 74 different occupations(Opens in a new window) are needed during the various stages of planning, development and operation of offshore wind farms. And as offshore wind continues to grow, costs will continue to fall, saving money for families and businesses alike. ‘There is enormous opportunity, especially off the East Coast, for wind. I am very bullish,’ said former Interior Secretary Ryan Zinke(Opens in a new window). ‘Market excitement is moving towards offshore wind. I haven’t seen this kind of enthusiasm from industry since the Bakken shale boom.’	Thank you for your comment.
13076-1714	It is imperative that we make the switch over to clean energy sooner rather than later. The United States of America should be the one setting the example for other countries to follow. Wind energy is an excellent resource to be investing in now, as it would save is money and lives later on that may be lost due to the consequential environmental damage of fossil fuels and the jobs lost in a dying industry.	Thank you for your comment.
13076-1737	Good new jobs! And clean energy. What's not to like. I vote for approval.	Thank you for your comment.
13076-1780	Create new job, make use of a totally renewable resource, bring "justice for all" and eliminate pollution. What more could you want’	Thank you for your comment.
13076-1812	This will be a great boon to the economy, create thousands of well paying jobs and move us forward toward carbon neutrality, all of which we urgently need.	Thank you for your comment.
13076-1880	We need the jobs and the clean energy that this project will create while boosting the wind energy throughout the country.	Thank you for your comment.
13076-1915	Jobs! Energy! Come on, get this industry going!	Thank you for your comment.
13076-1949	It is so important to our future that we work now to build up sustainable energy sources and invest in creating new energy jobs. This project will not only generate clean energy, and reduce our reliance on foreign fuel, it will also create new jobs for thousands of people. It’s good for the earth, good for our health, and good for hard-working Americans.	Thank you for your comment.

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13076-1951	Clean energy jobs will help the economy while helping our environmental.	Thank you for your comment.
13076-1961	Its time for the US to move to clean energy to mitigate climate change, create jobs and to provide ALL our citizens with clean air and water.	Thank you for your comment.
13076-1970	Please approve the Vineyard Wind Project. We urgently need clean energy, clean air....	Thank you for your comment.
13076-2001	Clean energy that is also promoting social, economic, and environmental justice is exactly what our country and the world need. Please make it a reality as soon as possible.	Thank you for your comment.
13076-2042	We need to create new sources for electricity so that we can reduce the levels of atmospheric carbon dioxide so that our planet does not overheat!	Thank you for your comment.
13076-2080	The economic boost from the offshore wind industry could not come at a better time. Please approve the Vineyard Wind project and help kickstart an economic revival that is forward looking and creates jobs!	Thank you for your comment.
13076-2084	We need o give up fossil fuels now for a cleaner environment for future generations. This plan for wind power will bring us closer to cleaning our air while creating new jobs. Please Vote in the affirmative for this.	Thank you for your comment.
13076-2104	Wind energy is a free resource, practically. It has very few of the polluting downsides of coal, oil, gas and nuclear energy supplies. It is very shortsighted of us not to use this resource and slow the rise of atmospheric heat around the globe.	Thank you for your comment.
13076-2118	We own a property in a New Jersey and feel that this project is important, locally, nationally and globally. Windmills are effective and beautiful.	Thank you for your comment.
13076-2122	I'm asking you to approve the Vineyard Wind 1 and jumpstart the offshore wind industry, because I'm interested in the development of a clean energy economy as well as investing in the progress of communities underserved by economic opportunities.	Thank you for your comment.
13076-2135	Renewable energy is the future, and can create more jobs and less emissions for the United States	Thank you for your comment.
13076-2163	The technology is already present and would do wonders to the ecology of the planet. I plan to be a bit longer and value clean air.	Thank you for your comment.
13076-2168	Please!! We need new industry in this country, and we need clean, renewable energy. Put the pieces together and make this happen!!	Thank you for your comment.
13076-2175	As we have seen with COVID-19, our world can change in the blink of an eye. Alarming new developments are in the news every day about the progression of global climate change. There is no time to wait! When we pass the climate change tipping point it will be too late. We must act now with renewable energy projects'and many other programs to reduce carbon in the atmosphere.	Thank you for your comment.

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13076-2183	The Vineyard Wind project is a win for everyone. This is an opportunity to take advantage of strong, reliable winds to generate clean power while at the same time, minimizing the negative impacts on offshore ecosystems. This is exactly the type of project the US needs to lift us beyond the long lasting economic stranglehold COVID 19 places on the US economy. I cant see this project in conflict with the environment or any other industries. At last, we can support a major US industry we can all feel good about!	Thank you for your comment.
13076-2189	We should be make an all-out effort to decrease our CO2 emissions to reduce climate change. A major part of that should be switching as fast as possible to renewable energy sources and away from fossil fuels. Our country should become a leader in renewable energy technology that is creating many more jobs than there are in the fossil fuel industry. Our country should invest in this and become a leader in renewable energy technology that is creating many more jobs than there are in the fossil fuel industry. Renewable energy sources instead of the fossil fuel industry are the ones we should be supporting.	Thank you for your comment.
13076-2201	For the health of us and our descendants please support this project.	Thank you for your comment.
13076-2203	Please start protecting the environment and wildlife, including adding jobs to help with this rather than supporting polluting and destructive corporations and big businesses.	Thank you for your comment.
13076-2236	just do it to styart cleaning the air just a wee bit	Thank you for your comment.
13076-2248	We need jobs and we need clean energy. It's a no brainier. Do the right thing.	Thank you for your comment.
13076-2311	Clean energy that is safe for everyone and good and creates good job and will help economy tremendously!	Thank you for your comment.
13076-2321	Due to the economic impact of the COVID-19 pandemic, now more than ever, we need to encourage and support new industries with economic potential. Not only will this project provide much needed jobs to help people get back on their feet it will also cut energy costs for people who are struggling financially as a result of this pandemic. Please do the right thing for hard- working Americans and approve this project.	Thank you for your comment.
13076-2323	It's simple - put people to work doing things that create sustainable solutions.	Thank you for your comment.
13076-2325	This is a fantastic way to create jobs and reduce carbon footprint.	Thank you for your comment.
13076-2330	We need to invest in clean energy projects. Not only to offset climate change, but also so people can benefit from the cleaner air we have enjoyed while the world took a pause during the pandemic.	Thank you for your comment.
13076-2407	Without environments there is no life; without good environments there is no quality of life. The Vineyard Wind project contributes to our quality of life in many ways. Please support this effort.	Thank you for your comment.

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13076-2414	Thank you for your kind consideration. I believe this is an important part of our energy security.	Thank you for your comment.
13076-2443	This a great project and should be approved. The blades will not be in the way of most birds.	Thank you for your comment.
13076-2445	please approve the project to help all of our communities on land and in the sea. slashing climate and health-damaging pollution. We need you to make it happen.	Thank you for your comment.
13076-2446	Mr. Bernhardt, Our country and our planet are suffering through a crisis of climate and we must do our parts to ensure that our country and planet survive. Developing the offshore wind Industry will lower pollution, protect wildlife, create tens of thousands of jobs, add billions in economic growth into coastal communities and safeguard navigation. Please approve the Vineyard Wind project and help to improve the climate crisis, help to protect the North Atlantic Right Whale, and help to save the planet.	Thank you for your comment.
13076-2487	A new offshore wind industry will create jobs and a clean energy economy. Just what we need today.	Thank you for your comment.
13076-2490	It's time to give up fossil fuels and create jobs in renewables. The sooner the better. You're all wasting time and time is what we haven't got.	Thank you for your comment.
13076-2501	New jobs, get it. Green energy, get it. Launching America into the future and making us a leader of the energy industry, Get It!	Thank you for your comment.
13076-2513	This would be a win-win situation for the economy and environment.	Thank you for your comment.
13076-2545	As a physician, I find this important because of the impact clean air has on our health and longevity. In this time of Covidvirus, everything possible has to be done to improve our air quality and reduce the risk of future lung, heart, kidney problems. I highly encourage you to approve the Vineyard Wind project!	Thank you for your comment.
13076-2566	Thank you for considering this important issue that will create thousands of clean energy jobs and launch a prosperous, responsible offshore wind industry for future generations.	Thank you for your comment.
13076-2610	Clean energy will save our planet...and create good jobs, it is a win win so please approve and support this smart step toward a better future!	Thank you for your comment.
13076-2613	Unlike oil drilling, wind power does not represent an environmental disaster in the event of a mishap on the rig in the ocean. It's time to abandon bug oil and move our country and the world into better energy solutions!	Thank you for your comment.
13076-2617	Life during COVID-19 has revealed two things to me: firstly, I've become aware of how vulnerable and subject to change our job market is. Secondly, the empty highways and visibly clearer city air has demonstrated our country's potential to reduce its pollution. Implementing offshore wind	Thank you for your comment.

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	infrastructure will add new employment opportunities, for a good cause. Such a grand development would be a precedent for future efforts.	
13076-2623	Please act promptly and help save our East Coast Communities financial future, help save our air, water and land from pollution, help save lives from disease caused by such pollution, produce jobs and renewal on the East Coast. Please help the Trump administration do something good for a change!	Thank you for your comment.
13076-2626	This could be a win-win: jobs & clean energy.	Thank you for your comment.
13076-2631	Every oceanic windmill means cleaner air for communities of color, less childhood asthma, fewer hospitalizations for acute respiratory attacks, and healing for our overheating planet.	Thank you for your comment.
13076-2644	It's a no-brainer: New jobs AND clean lower-cost energy. What could be easier'	Thank you for your comment.
13076-2650	If we fail to develop offshore wind, we waste a resource that could provide energy and jobs for Americans. Let's not waste it.	Thank you for your comment.
13076-2655	During these times when race and Covid-19 are on the fore front of everyone's minds, it is important to address our air. Black people are 1.5x more likely to live in an area with polluted air and that is not fair. Every person, regardless of race, deserves to live with clean air. Help us make a country we are proud to be a part of that has clean air. We have to uphold our title of America the beautiful.	Thank you for your comment.
13076-2666	Wind and solar energy are cheap reliable sources of energy, the production of which can employ huge numbers of people. Did I mention that they also do not pollute our air and water'	Thank you for your comment.
13076-2683	We want clean air and water. Support wind power now!	Thank you for your comment.
13076-2690	Aside from it just being the right thing to do, reducing the use of fossil fuels. The future of the fisheries from Fall River, MA to Downeast Maine are certainly in question. Especially the lobstermen. I have been a NH surfer for close to 40 years and I can say without a doubt the water is getting warmer. It use to be a novelty to wear surf trunks in the summer, maybe getting away with it once or twice in a summer. Now the question is do I wear a wetsuit or just top cover and trunks. My point is lobsters are moving north to colder waters and there will be a lot of people who know how to run a boat looking for jobs.	Thank you for your comment.
13076-2705	The Vineyard project will produce jobs. Jobs that will be lost are fossil fuel backed jobs which pollute the air we breathe and contribute to global warming. This country is breaking high temperature records nearly every day and this year has broken records for the earliest named tropical storms. Converting to wind farms will help slow down global warming.	Thank you for your comment.

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13076-2707	The Vineyard Wind project's developers also made significant commitments towards equity, justice, and labor -- most notably agreeing to pay fair wages to workers and investing in economic growth and development in communities that have been overburdened by pollution and underserved by economic opportunities.	Thank you for your comment.
13076-2734	This project will improve air quality and pollution, provide good jobs and protect our wildlife. It is truly a win , win , win!! Please support it.	Thank you for your comment.
13076-2744	I care about this wind project both for its help in reducing the climate crisis but also for reducing the inequity that the fossil fuel industry has played a huge role in creating.	Thank you for your comment.
13076-2761	We need more wind energy to power a clean economy and restore a healthy environment and clean air.	Thank you for your comment.
13076-2796	I grew up on an Eastern US coastal island and understand dearly the impact of standard power generation methods on the environment there, as well as the micro-economies that evolve in coastal communities. Given the importance of our coasts, both in terms of environmental resources, beauty, and as population centers for our nation's citizens, I beseech you to continue pushing for EIA finalization. Our country would benefit most heavily in this critical moment from large scale investment into proven green energy infrastructure projects that both provide valuable jobs for the future and help reduce our negative impacts on the environment.	Thank you for your comment.
13076-2810	We need to replace fossil fuels with renewable energy! Please include siting with birds in mind when the plans are made.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures.
13076-2830	It is imperative that we create jobs in clean energy to both provide needed income and to assist the planet in healing itself for future generations.	Thank you for your comment.
13076-2851	I remember driving into Palm Springs in 1999 and seeing all the windmills. Putting them in the ocean along the east coast 21 years later would be great. JOBS CAN BE CREATED and the whole country and world will benefit from cleaner air. Please approve this project so we can really say the 21st century actions helped save our resources.	Thank you for your comment.
13076-2884	To protect our wildlife, to provide good jobs and to save our planet, please approve the Vineyard Wind Project.	Thank you for your comment.

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13076-2969	This could provide up to 14,000 of all types of jobs in Virginia and up to 83,000 total. Do the right thing to launch important offshore wind industry on the east coast. Thank you!	Thank you for your comment.
13076-2971	We need a good strong offshore wind industry, and this company is doing it right. Please approve the Vineyard Wind project. Thank you.	Thank you for your comment.
13076-2977	Great for jobs, great for the environment, let's get these built!	Thank you for your comment.
13076-2980	We are facing unprecedented unemployment and a climate emergency. This project is positioned to make a positive impact on both fronts!	Thank you for your comment.
13076-2990	Please approve this project for the health of our economy, country, children, and the future.	Thank you for your comment.
13076-3027	Oil industry former employees need the offshore wind jobs that the Vineyard Wind project will create. The Texas economy downturn will be significantly improved with its passage.	Thank you for your comment.
13076-3053	The Vineyard Wind project will have positive environmental and economic influence where I live on the West Coast, too! It will be a big win for everyone!	Thank you for your comment.
13076-3055	Responsible development of wind energy is critical to this country's economic future. The US needs to be a leader in green energy, not mired in an industrial and economic system dependent on fossil fuels. I strongly urge you to approve this project.	Thank you for your comment.
13076-3056	Fossil fuels are outdated. Please take leadership and move us into the renewable energy world of the 21st century - clean air, clean water, no greenhouse gases, good jobs. It's a win-win situation!	Thank you for your comment.
13076-3070	Thank you for taking the time to read this message, and I hope you grasp the importance of building up our countries green infrastructure at this critical moment in history.	Thank you for your comment.
13076-3080	The approval of Vineyard project can help lead the world and our nation toward a better future with a sustainable energy source that will not pollute the clean air we all need to breath.	Thank you for your comment.
13076-3101	Please approve the Vineyard Wind Project, which will create jobs as well as add to alternative power necessary for the health of our planet.	Thank you for your comment.
13076-3125	It is time to rebuild our economy by investing in clean energy infrastructure instead of propping up the antiquated energy industry.	Thank you for your comment.
13076-3127	THIS IS A WONDERFUL PROJECT. SO GLAD TO HEAR POWER FROM WIND IS GOING TO BE UTILIZED. DON'T KILL THE BIRDS THOUGH!	Thank you for your comment.
13076-3132	I think it's important to strengthen the economy along with preserving the planet that everyone lives on, im signing this petition to not only benefit myself but the others that I care about.	Thank you for your comment.

Index Number	Comment Text	Response
13076-3145	Jobs, cleaner planet... Why not' Why not try defending our children and our planet' Create good paying jobs' I thought you were suppose to Make America Great Again, nothing you've done so far is going to do that.	Thank you for your comment.
13076-3168	I fully support this effort, because it will provide a clean energy source while at the same time leading to the creation of a large number of excellent jobs.	Thank you for your comment.
13076-3169	We all need to breathe clean air and not have crazy weather that is getting worse each year!!! Please do this as long as the windmills can be recycled otherwise we are helping one problem but causing another. Please recycle!!! Thanks, Regina Stephano	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.
13076-3192	Our economy can continue to grow through projects like these.	Thank you for your comment.
13076-3194	Keep fossil fuels in the ground and jump start jobs in the renewable energy sector.	Thank you for your comment.
13076-3214	We need more work and clean energy is an investment that is futurebound and can create work for many people. Why are we not investing in this'	Thank you for your comment.
13076-3229	We need renewable energy to help our planet and create new jobs in the process!	Thank you for your comment.
13076-3245	We are getting the offshore wind industry going here in Virginia, so more worthwhile projects like Vineyard Wind will further grow this sustainable and worthwhile industry.	Thank you for your comment.
13076-3248	Do not delay in supporting renewable, clean energy for our nation. Approve the Vineyard Wind project to keep our air clean.	Thank you for your comment.
13076-3273	We need to develop all options that replace fossil fuels and that protect our environment. This is where we live and if the air becomes polluted, we die.	Thank you for your comment.
13076-3304	We must invest in clean energy because it is best for the planet AND growing industries. Other countries are developing these technologies and we are missing out on jobs and technological developments that will put us farther behind in economic development.	Thank you for your comment.
13076-3317	We are now in the last moment to finally take large action to halt climate change, and the transition to truly renewable energy is a critical part of that. This project needs to be approved, for all of us and more, for the whole planet. It is great that it also investing in communities that have been overburdened by pollution and economic neglect. At the same time, I also think it is important that you make sure that it does not harm the ecosystems local to it -- while it is great that it has built in travel corridors for North	Chapter 3 of the FEIS evaluates the proposed Project's impacts on ecosystems, sensitive species, and other resources.

Index Number	Comment Text	Response
	Atlantic Right Whales, it is important that you also look at its effects on other species, below and above water. And most importantly, that if it effects them negatively, change the project to improve it, rather than write it off completely. Thank you! This project will be very effective, for once in the right direction.	
13076-3320	Green energy is the only thing that's going to address the climate crisis AND covid 19 crisis by creating new jobs! Act now.	Thank you for your comment.
13076-3323	Vineyard Wind 1 will create 83,000 green jobs and, of course, generate a lot of clean energy. Lets please proceed with this project and get 83,000 people working! We need these jobs and we need clean energy.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies
13076-3327	Offshore wind development is absolutely vital to our ability as a country to meet our energy needs in the present and future. The environmental impacts of continuing to heavily rely on fossil fuel resources far outweigh the impacts of even a poorly sited wind farm, but of course, responsible development of energy resources is important, and the Vineyard Wind 1 project is just that - responsible and thoroughly studied. Please support a critical step in our transition to clean, safe, and equitably produced energy by approving Vineyard Wind 1! Thank you!	Thank you for your comment.
13076-3329	Clean energy sources like wind will help with climate change and provide new jobs!	Thank you for your comment.
13076-3340	I need clean air. We must get away from fossil fuels and this project will create jobs and help our economy and air quality	Thank you for your comment.
13076-3344	The Vineyard Wind project promises environmental, economic and social benefits to communities all along the east coast. It's a no-brainer!	Thank you for your comment.
13076-3352	We must make the advances to wind power for our planet. Vineyard Wind and other developments will be an economic boom	Thank you for your comment.
13076-3363	Clean energy using wind and solar are extremely important for our future on this planet which is suffering from CO2, as you know. Off shore wind is indeed an important wave of the future. Please support this technology. Thanks.	Thank you for your comment.
13076-3378	Move forward on offshore wind projects for the east coast, for good jobs, improved economy and what's best for climate, to lower pollution. The time is NOW.	Thank you for your comment.
13076-3383	Please make this happen! We need renewable energy & clean air for our children's future!"	Thank you for your comment.
13076-3395	Take this step in the right direction for our environment. Abandon a myopic view and vote with our children's children and wild flora and fauna in mind. Please.	Thank you for your comment.
13076-3455	Approve wind power. It's clean and doesn't pollute the atmosphere.	Thank you for your comment.

Index Number	Comment Text	Response
13076-3479	Please support this and create desperately needed jobs during these times. This will also help lower pollution in the long run, which we need to support for our grandchildren.	Thank you for your comment.
13076-3494	The Earth needs less CO2 with fossil fuels & more renewable energy as in wind power.	Thank you for your comment.
13076-3501	It's clear to me that massive investment in renewable energy will help to solve two of our biggest problems at the same time, economy and environment. This is a winner and the sooner the better. I do trust the Sierra Club to carefully address the potential problems of marine animal and environmental safety.	Thank you for your comment.
13076-3507	Mother Earth has given us many signs that we need to do a much better job of protecting the environment. Wind power is a way to curtail air pollution .	Thank you for your comment.
13076-3547	You can make a difference. Create jobs for Americans and lead us to a cleaner future!	Thank you for your comment.
13076-3553	One decision could create 83,000 quality clean energy jobs and \$25 billion in economic output by 2030 while slashing climate and health-damaging pollution. We need you to make it happen.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies
13076-3582	This will help create jobs and will help the environment. Please support.	Thank you for your comment.
13076-3631	This will also help cleanup the air which increases the risk from Covid	Thank you for your comment.
13076-3643	New Jersey and Rhode Island are already stepping up to the wind energy market, so it's bound to become an important sector to the Northeast. Start making people feel motivated to train for jobs in this sector by endorsing this large employment opportunity.	Thank you for your comment.
13076-3686	We need to create these jobs now and move into the clean energy future.	Thank you for your comment.
13076-3700	We must protect the wells [WHALES] we have left once they are gone they are gone for good they are magnificent mammals and we must stop pollution to preserve this earth	Thank you for your comment.
13076-3706	Windmills are anything but an eyesore! Not only are they an integral part of the energy solution, the design, manufacture, installation and maintenance of them provide jobs. Windmills are smart, iconic and even idyllic. They symbolize technological advancement, modernist thinking and responsible consumption.	Thank you for your comment.
13076-3717	Wind turbine environments at sea will also enhance fish populations not unlike what we see with offshore oil rigs. Another economic incentive for commercial and sport fisheries.	Section 3.4 of the SEIS discussed the reef effect on finfish, and Sections 3.10 and 3.11 discussed that recreational fishing may improve near structures offshore. Therefore, no change to the FEIS is warranted.
13076-3720	Some say offshore wind would be unsightly, but I ask, When will we realize we are going to have to make sacrifices if we want to keep using electricity without killing Mother Earth' PLEASE, make this happen . . . in a just and equitable way.	Thank you for your comment.

Index Number	Comment Text	Response
13076-3723	Good jobs are needed to restore our economy as well as directed to saving our environment ““	Thank you for your comment.
13076-3728	Now is the time, for new job creation, and environmentally healthy, change. Please look into science data, economy data, to make the best possible decisions for the future of the health of the environment, and ultimately the people. Thank You!	Thank you for your comment.
13076-3734	Offshore wind will create jobs and bring in billions of dollars, both things out economy desperately needs right now.	Thank you for your comment.
13076-3779	This is a well planned project that makes economic sense. Please consider the benefits of making this happen.	Thank you for your comment.
13076-3783	I grew up on Long Island waters & beaches, so, I know how much coastal areas would benefit from clean energy (stopping oil, tar & air pollution), as well as, slowing the rate of coastline submerses, as ocean rises & expansion with & without storms.	Thank you for your comment.
13076-3810	Green jobs are the way of the future. Let the USA lead the way, right now we are far behind other nations.	Thank you for your comment.
13076-3813	We truly need the the jobs from the Vineyard Wind Project. Please help us get them!	Thank you for your comment.
13076-3814	Is the perfect time to create new, renewable energy jobs and infrastructure. So much is in flux in our world use this time! Don't waste your chance!	Thank you for your comment.
13076-3864	This is a win win for the economy, job development and the environment. Please help this industry grow.	Thank you for your comment.
13076-3865	Please move towards skilled American jobs and a cleaner future for our country and the world. Let's invest in green technology and surpass the likes of China.	Thank you for your comment.
13076-3887	Offshore wind energy projects such as Vineyard Wind creates job opportunities and makes clean energy production. It's a win win for the East coast. Please support offshore wind energy initiatives.	Thank you for your comment.
13076-3903	If this will help the economy and create jobs while protecting wildlife as well, then this is a no brainer!	Thank you for your comment.
13076-3904	I hope you create safety measures so birds don't get obliterated by the turbines blades turning. Maybe some sort of caging around the entire structure would be called for.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures.

Index Number	Comment Text	Response
13076-3917	If wind energy helps avoid pollution, provides well paid jobs, helps the underserved, and is promising for the future of human, animal, all earth care , then please move ahead. It's. A win- win choice.	Thank you for your comment.
13076-3998	Clean renewable energy is much better than continuing to use fossil fuels! But please be sure to not interfere with marine life or Birds.	Thank you for your comment.
13076-4054	fuel the economy and jobs and protect mother ear thank youth win win sir	Thank you for your comment.
13076-4055	This is a critically important project proposed by a company that has shown real responsibility and will be creating 10s of thousands of jobs. Our planet is threatened by our reliance on fossil fuels: we need more of these kinds of endeavors to succeed. Please, approve it for the benefit of your own children and grandchildren. Doug Crouse	Thank you for your comment.
13076-4076	I am glad the company is making the commitments to equity and marine life that satisfy The Sierra Club. As long as those are kept, this project should begin as soon as possible. We MUST reduce our dependence on fossil fuels!!	Thank you for your comment.
13076-4081	Create quality clean energy jobs to help our economy and our environment.	Thank you for your comment.
13076-4084	Wind farms will not ‘ spoil the view’ nearly as much as an oil refinery.	Thank you for your comment.
13076-4103	I put my money where my mouth is. I support clean energy. Currently my clean energy costs a little more, but with your help, by supporting the Vineyard Wind Project, it will cost less, will create tens of thousands of jobs, and Our Country will Prosper.	Thank you for your comment.
13076-4128	We need clean green methods of energy production to assure all future people our children, grandchildren etc. have fresh clean air to breathe.	Thank you for your comment.
13076-4133	Creating clean energy jobs is the future of America. Supporting our economy through offshore wind farming is a great solution to current economic stagnation during covid and will help get Americans back to work!	Thank you for your comment.
13076-4135	Please improve on creating clean energy jobs.	Thank you for your comment.
13076-4138	The Vineyard Wind project is a win-win; it helps the environment while stimulating the economy and providing new jobs- all things that are desperately needed right now.	Thank you for your comment.
13076-4147	coal is dirty. i want clean sustainable energy. i want to be able to breathe. I have asthma. Doctor says its from pollution!	Thank you for your comment.
13076-4153	We need clean energy jobs now!	Thank you for your comment.
13076-4167	Let's jumpstart the economy. Clean energy jobs will put Americans back to work.	Thank you for your comment.
13076-4169	This issue matters to me because they have already helped in helping out the endangered North Atlantic right whale and I feel that a responsible and prosperous offshore wind industry would help out in bringing a new form of renewable energy.	Thank you for your comment.

Index Number	Comment Text	Response
13076-4175	One decision could create 83,000 quality clean energy jobs and \$25 billion in economic output by 2030 while slashing climate and health-damaging pollution.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies
13076-4185	Let's be creative, address alternative energy, and create jobs	Thank you for your comment.
13076-4242	We need to create jobs and help the environment at the same time. I am a Veteran and I vote.	Thank you for your comment.
13076-4421	I support offshore wind energy not only because it's clean but it's also safe in terms of the realities of oil spills and how prevalent oil spills are, even small ones. Even the smallest oil spill could be catastrophic to our fishing industry in addition to our tourism down here in Charleston South Carolina.	Section A.8.2.2 of the SEIS addressed the potential for accidental releases and discharges associated with the proposed Project. The SEIS stated modeling conducted by BOEM indicated a catastrophic, or maximum-case scenario, release of 128,000 gallons (484,533 liters) of oil mixture has a "Very Low" probability of occurring, meaning it could occur one time in 1,000 or more years. The modeling effort also revealed the most likely type of spill (i.e., non-routine event) to occur is from the WTGs at a volume of 90 to 440 gallons (341 to 1,666 liters), at a rate of one time in 1 to 5 years, or a diesel fuel spill of up to 2,000 gallons (7,571 liters) at a rate of one time in 20 years. Therefore, no change to the FEIS is warranted.
13076-4548	Please, Please, clean, sustainable energy that is safe for ocean life and birds.	Thank you for your comment.
13076-4598	It's about time this administration started supporting jobs by approving this project. It will certainly have Biden's approval.	Thank you for your comment.
13076-4636	I have a particular interest in the North Atlantic Right Whales. There used to be thousands. We need to stop this extinction.	Thank you for your comment.
13076-4675	Please approve employment in this fast growing industry and get people back to work	Thank you for your comment.
13076-4678	We need our government to create enviornmently friendly jobs . We do not want more drilling. Let's move towards a cleaner & better future for all.	Thank you for your comment.
13076-4695	These renewable energy sources also creat renewable jobs and energy independence, without jeopardizing our tourism industry. Please help us!	Thank you for your comment.
13076-4739	Clean air, water and land is extremely important for our future and for generations to come. Please do the right thing and protect our resources.	Thank you for your comment.
13076-4743	Please consider green jobs will be this generation's new deal - building new infrastructure and massive opportunity	Thank you for your comment.
13076-4763	As a young adult, I really care about investing in clean energy. It will benefit everyone, in a variety of ways, for years to come!!	Thank you for your comment.
13076-4765	Please approve the Vineyard Wind project. I believe the project will provide many benefits including jobs and a positive environmental impact. What an excellent idea!	Thank you for your comment.
13076-4775	We need more sustainable jobs like these. It's time to make clean energy a phenomenon of the present. Our grandchildren will thank us for it!	Thank you for your comment.

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13076-4804	My granddaughter has completed her training in electrical turbine maintenance and repair and is ready to go to work. Please make it happen!	Thank you for your comment.
13076-4808	I'm passionate about this issue and we need your help! As a community health nurse I've seen the impact of poor environmental health impacts on lives of everyday folks. Please help! This can generate and reduce those health impacts on Americans. Thank you!	Thank you for your comment.
13076-4810	Pls approve clean air using the Vineyard Wind project. Our future depends upon your wise decision. Mainly, for the future generations! Enough land, water and air is not clean now so the future decision about our planet depends upon you and b the President. Please make the right decision!	Thank you for your comment.
13076-4840	We need more wind energy! Stop depleting our fossil fuels & vote for clean air!	Thank you for your comment.
13076-4851	An awful lot of us need those clean energy jobs and offshore wind farms	Thank you for your comment.
13076-4871	We won't lose jobs while conserving or creating environmental jobs. We will create jobs. The world competition is strong. Let's be the leaders.	Thank you for your comment.
13076-4874	Wind energy is the future, so much cleaner than oil wells! Please help us protect our water & air with wind energy for our children and theirs!	Thank you for your comment.
13076-4881	Alternative renewable energy is the base of the economic future of our nation. Let's harness the power of the wind.	Thank you for your comment.
13076-4937	We need more clean energy jobs and sooner the better.	Thank you for your comment.
13076-4949	Approve the Vineyard Wind project. This is one way to help reduce greenhouse gases	Thank you for your comment.
13076-4956	We need this. For our economy and to protect this planet from oil spills due to our dependence on oil and gas.	Thank you for your comment.
13076-4977	This can help reduce polluting fossil fuels and help improve air quality.	Thank you for your comment.
13076-4988	This issue matters to me because I grew up close to the Atlantic and relatives earned part of their livelihood by fishing. Growing up I enjoyed fishing outings with my parents who loved the ocean and being in nature. My father died of illness that he acquired working in the coke industry. I became disabled from petrochemical exposures. As a country we need to care about climate change and the harm it has down to our planet and health. We have much to gain by switching to cleaner energy for ourselves, the environment and for good jobs that don't make people sick. It is time!	Thank you for your comment.
13076-4999	Our country needs these jobs, our planet needs these non fossil fuels solutions!	Thank you for your comment.
13076-5000	We need to create jobs and start combatting energy pollutants yesterday. This is a great renewable choice. Help save our air and climate.	Thank you for your comment.
13076-5002	We need good-paying clean energy jobs and we need more clean energy. This is a win-win.	Thank you for your comment.

Index Number	Comment Text	Response
13076-5019	This is an amazing opportunity at a time when the nation needs a real economic boost and serious investment in the future. Please approve offshore wind!	Thank you for your comment.
13076-5032	Important to the environment and economy Approve the Vineyard Wind project and launch a prosperous, responsible offshore wind industry	Thank you for your comment.
13076-5042	We want clean, efficient methods in order to secure our water and air...	Thank you for your comment.
13076-5142	This technology has beautiful potential for increasing health and quality of life for all humanity - we all share the same air. We need to move forward away from old gas and combustion based energy forms.	Thank you for your comment.
13076-5155	This is vitally important to our economy and our Earth!	Thank you for your comment.
13076-5169	Today more than ever we must partner with nature ! Must take the gift ‘ and create more GREEN jobs at the same time . As a result of past ‘ rat race strategy we are out of balance . Please let’s fallow nature laws promoting harmony in this spinning planet ‘	Thank you for your comment.
13076-5234	During this crisis, it's still important to focus on the environment and make sure that wind farms become a reality. This will create jobs of the future that our economy so desperately needs in this crucial time in history. I truly believe this will be one of America's most important projects of the twenty-first century.	Thank you for your comment.
13076-5236	Renewable energy is important to me not just because of environmental protection, but because it is the industry of the future.	Thank you for your comment.
13076-5240	It’s [p]ast time for America to invest in our future by embracing and expanding clean energy. The fossil fuel industry is dirty and workers are being replaced with machines. Clean energy has millions of high paying jobs that will help save the world from climate change. In the entire world only the Republican Party denies climate change. Trump’s Party is destroying our environment and denying climate change so the oil industry gets richer and the Earth grows poorer and hotter. Republicans need to get onboard with climate change and stop supporting an industry that is killing our planet.	Thank you for your comment.
13076-5242	It is important to protect our environment with clean solutions.	Thank you for your comment.
13076-5282	Not a good idea! The amount of concrete and devastation to our coastal area is not worth it. Nuclear is a better safer choice with the right safety features installed and Bill Gates system for utilizing the nuclear waste.	Thank you for your comment.
13076-5298	We need these jobs and get serious about alternative energy sources. This is a win-win situation.Please help.	Thank you for your comment.
13076-5320	I count on you to promote sustainable growth so that our and future generations have and will have opportunities to live in a healthy environment.	Thank you for your comment.

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13076-5346	It's so important that every chance we have to promote jobs in the new clean energy Sector we must take that chance. For our futures. For our grand babies...	Thank you for your comment.
13076-5362	Jobs, jobs, jobs. That's what this can mean Mr. Trump. Do something good for the environment	Thank you for your comment.
13076-5363	We need more jobs and less pollution. Please approve this.	Thank you for your comment.
13076-5368	It's not worth having a job if it means creating greenhouse gases!! The jobs we need are more clean energy jobs!	Thank you for your comment.
13076-5515	Approve the Vineyard Wind project & launch a prosperous, responsible offshore wind industry!	Thank you for your comment.
13076-5530	This will be a positive economic development opportunity for a recovering economy.	Thank you for your comment.
13076-5534	Creating over 80,000 jobs and slashing pollution is a win-win. Now that you've analyzed the project, make it a reality!	Thank you for your comment.
13076-5553	Offshore wind is so great for oceanic wildlife (and fishermen!) and is really not a nuisance...plus it's so much cleaner for our local air and global environmental footprint. Let's do it!!	Thank you for your comment.
13076-5560	The future of energy is clean resources...wind, solar, and water. Let's move America forward with other countries looking to improve the environment and our air and water quality.	Thank you for your comment.
13076-5592	It is time to stop putting carbon dioxide into the atmosphere.	Thank you for your comment.
13076-5603	Approve the Vineyard Wind project and launch a prosperous, responsible offshore wind industry	Thank you for your comment.
13076-5616	Let's get clean air jobs which will benefit our environment with the impact of the Vineyard Wind. Tom	Thank you for your comment.
13076-5618	Off-shore wind projects are a win-win-win for reducing greenhouse gases, providing good jobs for local economies, and reducing dependence on imported energy products.	Thank you for your comment.
13076-5623	I live in aa rural town that could benefit from the Vineyard Wind project because clean energy initiatives like these will preserve the natural beauty of communities like ours. This, in turn, enhances tourism and the quality of life in towns like ours.	Thank you for your comment.
13076-5673	We need this project to help generate many new jobs while helping to generate clean new energy.	Thank you for your comment.
13076-5780	The wind is free to us - and if harnessing it's power will help rid the air of carbon emissions, does it not seem ridiculous NOT to harness that source of carbon- free power'	Thank you for your comment.

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13076-5788	This would make a difference in so many ways - creating jobs, putting Billings [billions] into the economy, as well as environmental conservation. Win-win!	Thank you for your comment.
13076-5794	Wind and solar power are the future jobs in America.	Thank you for your comment.
13076-5798	There is so much potential for good jobs and clean energy that will supplement solar. We need offshore wind here in Georgia, but leaders appear to be waiting for proven projects here in the U.S. Let's get started on this transition to offshore wind!	Thank you for your comment.
13076-5817	As you know, the United States' chief economic sector is services. With appropriate support, renewable energy will be a major part of our country's essential infrastructure and one that produces passive ROI.	Thank you for your comment.
13076-5823	It will s terribly important at this time that this country turns its attention to clean energy economies. It's an opportunity to invest in these jobs for the present and	Thank you for your comment.
13076-5909	Create jobs for stimulus instead of just sending out money. We need green jobs and infrastructure. Saving coal is like saving blacksmiths - their time for mainstream is over.	Thank you for your comment.
13076-5961	This is so important for the future of our country and environment, and will provide good jobs at a time when we really need them!	Thank you for your comment.
13076-6010	I urge you to approve Vineyard Wind 1 for a prosperous and responsible offshore wind industry.	Thank you for your comment.
13076-6070	You have the opportunity to create jobs for the people out of work by authorizing this wind energy project while also helping out the global warming and clean air situation at the same time. You might even win the votes of Americans who otherwise would not vote for you by putting going forward with this. Thanks for listening.	Thank you for your comment.
13076-6086	This is a win for the economy and the environment. Please show the American citizens that you care about both and approve of the Vineyard Wind Project. It's time for America to show the world we are intelligent once again	Thank you for your comment.
13076-6104	This decision is of great importance to me! I will be following this issue & your actions to see if you truly care about the fate of our planet, economic opportunities & helping communities that have been over-burdened with pollution!	Thank you for your comment.
13076-6120	I am an epidemiologist who clearly sees the dire path our public health is on due not only to covid19 but also due to increased levels of carbon in our atmosphere. We can't wait - we must act now to switch to alternative energy for the health of our population.	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.

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13076-6126	It appears that Vineyard Wind has done a good job of protecting the environment while developing decent paying jobs and keeping shipping lines safe. It is time to approve the project.	Thank you for your comment.
13076-6131	PLEASE PRIORITIZE VINEYARD WIND 1 PROJECT and help get the jobs we need and the inexpensive WIND POWER THAT VINEYARD WIND 1 WOULD BRING TO THE EASTCOAST.	Thank you for your comment.
13076-6153	It is so essential for ourselves and our children that we take the environment into account in creating jobs that will help us on the road to a sustainable future!	Thank you for your comment.
13076-6184	This will help reduce our dependence on fossil fuel and support members of my family who work in the alternative energy industry!	Thank you for your comment.
13076-6185	We need more jobs in the renewable energy industry!!!	Thank you for your comment.
13076-6189	Please note the word ‘Prosperous’. This is not a losing proposition. Done properly, it should be a win- win proposition for industry AND the citizens who will ultimately pay for the blooming thing.	Thank you for your comment.
13076-6206	This is important because it not only provides jobs but also can ensure we all can enjoy the ocean safely.	Thank you for your comment.
13076-6208	We need fair wage jobs and a future that offers safe renewable energy in a way that minimizes people and wildlife impact. This is a great place to start.	Thank you for your comment.
13076-6214	We need your help Secretary Burnhardt to start the offshore offshore wind industry it's could create 73, 000 clean jobs could potentially power the east coast from Maine to Georgia. Would you consider to please approve the Vineyard wind 1 initiative.	Thank you for your comment.
13076-6223	Please approve the Vineyard Wind Project and help American job market. It will open several thousand jobs. Clean energy and environmentally safe. No contamination like nuclear. Go for it!’’’	Thank you for your comment.
13076-6227	Let's make the world better and cleaner not worse and dirtier. Do the right thing for our mutual planet.	Thank you for your comment.
13076-6274	Global warming is killing the planet! Every step we take to reduce CO2 levels will reduce the destruction.	Thank you for your comment.
13076-6330	One decision could create 83,000 quality clean energy jobs and \$25 billion in economic output by 2030 while slashing climate and health-damaging pollution. We need you to make it happen.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies
13076-6366	The economics are clear, fossil fuels are an albatross on the US economy. Create economic growth with off shore wind turbines that would provide job growth at the same time.	Thank you for your comment.
13076-6381	We all deserve green energy and breathing with clean air	Thank you for your comment.

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13076-6399	This is a great opportunity with so many benefits. It is a win win situation. The Vinyard Wind project will create many jobs, help save the environment, and the turbines will be offshore rather than on land.	Thank you for your comment.
13076-6401	Not only would approval of this clean energy solution be great for our environment & future of our planet but it'd supply well paying jobs to help our economy at a time We desperately need it.	Thank you for your comment.
13076-6419	There is no denying that 2020 has not been an easy year in our country's history. Covid-19 has devastated our workforce as climate change becomes ever more pressing - we need large scale clean energy jobs now more than ever. I strongly urge you to take action in securing our climate and economy by supporting the Vineyard Wind Project.	Thank you for your comment.
13076-6432	With green energy this will help our Earth and my patients in pediatrics and public health	Thank you for your comment.
13076-6434	The air quality is very important to me. I have allergies and mild COPD	Thank you for your comment.
13076-6442	Clean energy is necessary to reduce CO2 emissions that cause climate change. We need it now .	Thank you for your comment.
13076-6445	Please approve Vineyard Wind 1. It is a responsible & beneficial offshore wind development project.	Thank you for your comment.
13076-6452	This project will create jobs and help the environment!	Thank you for your comment.
13076-6474	Time is running out for humans to make the necessary changes to our carbon emissions and to get carbon free energy systems up and running! These wind projects need to go forward now!	Thank you for your comment.
13076-6484	We've lost so many jobs as a result of the Coronavirus, these projects will help to refuel the economy and reduce use of fossil fuels.	Thank you for your comment.
13076-6494	This information is so exciting for us in America. Being able to create energy by using Vineyard Wind. There is hope that we not only will create jobs, this has the ability to protect our health from toxic impurities that come the bi-products of the oil industry that we are currently suffering from. You can help change the direction by approving the Vineyard Wind project from main to Georgia. Thank you.	Thank you for your comment.
13076-6497	This project will clean air pollution, increase employment, while protecting wild life.	Thank you for your comment.
13076-6508	This project would creat much needed jobs and help the environment. I have three beautiful, young grandkids and I want to do everything I can to leave them a livable planet.	Thank you for your comment.
13076-6530	The greatest growth in our economy will come from climate mitigation and resilience! Invest in America, invest in our planet.	Thank you for your comment.

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13076-6539	Make America great by make the world better Create jobs put Americans back on the leaderboards by bringing us into protecting life better stronger and faster than any other country	Thank you for your comment.
13076-6546	It's time to clean up our air and water. We need jobs in industries that don't pollute.	Thank you for your comment.
13076-6554	I live near the off shore wind turbines around Block Island, Rhode Island & have heard how the community has benefited from new jobs and lower electric rates since. Yes some fishermen were worried their livelihoods were at risk, it turns out the turbine bases had created fishing habitat. So I'm all in favor of harnessing the winds that blow off our shorelines!	Thank you for your comment.
13076-6556	Do those are concerned I am for this industry going forward as long as it does not harm the Earth and any means shape form or fashion. Including this industry in industry we as a United States of America or moving forward and showing our good stewardship for the land I believe. We speak and believe that we are the leader in all areas in the world . So therefore we must be innovative , responsible , and dreamers. This new industry will also employ hundreds of thousands of people as it is deployed throughout our nation. Do the right thing. Thank you for your time and consideration.	Thank you for your comment.
13076-6568	This sounds like a win-win situation gives people jobs, protects the environment, and ensures safety	Thank you for your comment.
13076-6586	Act now please & thank u ! We must stop pollution and protect our wildlife plus the added jobs benefit''	Thank you for your comment.
13076-6617	please approve this project. You can make a difference by giving people jobs and a cleaner, healthier world.	Thank you for your comment.
13076-6659	This is a great opportunity to start improving the economy while making the necessary change to renewable energy: a REAL WIN-WIN!!	Thank you for your comment.
13076-6663	It's time for our president to cut ties with big oil and gas producers and support clean energy. It is sustainable and carbon neutral--two elements that can vastly reduce greenhouse gases. Our future human viability is at stake!	Thank you for your comment.
13076-6670	Please approve Vineyard Wind One. Not only will it help to move us forward in reducing carbon emissions, it will produce much needed jobs and an economic boost to the local economy.	Thank you for your comment.
13076-6715	I'm concerned about what these blades would do to our flocks of fowl that might be destroyed by them, I'd suggest Bladeless Turbines.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures.

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13076-6738	We need jobs to jump start our economy and clean energy to protect our environment and health.	Thank you for your comment.
13076-6740	Green jobs will help the economy and the environment! Let's go with some healthy proactive work not just roll backs!	Thank you for your comment.
13076-6757	With assistance from The Audubon Society as to popular flyways, damage to birds and other waterfowl can be minimized. Denmark and Norway lessons learned should be used for guidance. It is foolish not to use wind and solar energy.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures.
13076-6759	While it is painful to close dirty power kinds of industries, wind farms will bring new jobs and hopes to workers.	Thank you for your comment.
13076-6789	More jobs and environmental stewardship. I dont think Mr President would give you any grief over this project!	Thank you for your comment.
13076-6794	We want clean energy jobs. I want end energy development. Thanks for caring! C Wynn	Thank you for your comment.
13076-6805	Begin a legacy of ocean energy that doesn't risk damage to our oceans and fish but provides energy for our needs.	Thank you for your comment.
13076-6824	We need more jobs on the East coast, and this is a way to provide them and benefit the community with clean energy at the same time. People losing jobs at the huge incinerators and coal mines need an industry to step into.	Thank you for your comment.
13076-6846	As a Registered Nurse and mother I implore you to help the world economy and ecology by supporting this big wind power project! Fossil fuel- fouled air has caused millions of people's respiratory problems. Generate clean energy from natural wind to improve air quality while employing many.	Thank you for your comment.
13076-6857	We need government to make policy for clean energy jobs.	Thank you for your comment.
13076-6859	it makes more sense economically to invest in long term solutions such as renewable energy, rather than the short term harming fossil fuels.	Thank you for your comment.
13076-6863	I want to breathe in CLEAN AIR & become a clean planet for generations to come.	Thank you for your comment.
13076-6864	We desperately need to lower carbon emissions. Going to wind energy would bring more good jobs to South Carolina and other coastal states.	Thank you for your comment.
13076-6867	This is a forward looking plan that's not only good for the environment and climate but also for job creation. A win-win for our planet.	Thank you for your comment.
13076-6881	We have to work as quickly as possible to stop polluting the air we breathe. If not, the green house affect will continue to cause weather damage coastal flooding	Thank you for your comment.

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13076-6885	I believe in a healthy environment where industry is clean and supports many equitable, jobs. That is why I'm asking you to finalize the environmental impact analysis and approve the Vineyard Wind project. The Vineyard Wind project would support over 80 thousand good, well-paying jobs, is committed to protecting endangered North Atlantic right whales and other species, while allowing for 1-mile transit lanes for shipping, a recommendation supported by the US Coast Guard. This proposal is win, win, all around: it's good for American workers and coastal communities, right whales and other species, and shipping, while it would create clean energy as we work to reduce emissions. Thank you	Thank you for your comment.
13076-6891	I live on the east coast and my community will benefit from added jobs and our health will be better with cleaner air.	Thank you for your comment.
13076-6893	Offshore wind sounds like a safer & more energy efficient source away from the slaughtering of birds that happens from wind turbines on shore	Thank you for your comment.
13076-6901	This is an opportunity to give people jobs much needed in this economy. Also save the environment and oceans wildlife. You have the power to make change please use it wisely and for our future world.	Thank you for your comment.
13076-6937	Let's get the American economy back on track and start producing major environmentally friendly infrastructure Projects. We need good American jobs that look to innovation and environmental conservation.	Thank you for your comment.
13076-6942	This creates jobs working outside (advantage due to COVID), reduces our costs of energy and lessens our dependence on foreign oil. This is a no brainer.	Thank you for your comment.
13076-6945	Let's do all we can to create jobs and provide clean energy pronto!	Thank you for your comment.
13076-7099	Clean energy is so important for our country's economic future and preserving Earth as a livable planet.	Thank you for your comment.
13076-7101	I approve the Vineyard Wind project and our East Coast needs an offshore wind industry.	Thank you for your comment.
13076-7105	Please approve the Vineyard Wind project and launch a new offshore wind industry that can create jobs and provide a thriving clean energy economy.	Thank you for your comment.
13078-001	We are not opposed to developing alternative energy sources here in the U.S., with U.S. capital and within the same legal structure that we are required to adhere to, including vessel-construction projects supporting U.S. jobs. However, BOEM's offshore wind energy program has failed to include the region's fishing industry as a full partner in ensuring that offshore wind energy development in the Atlantic can coexist with our centuries-old seafood industry. This needs to occur long before a Construction and Operations Plan (COP) has nearly been completed.	Thank you for your comment.

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13078-002	We are asking the Federal Government to instruct BOEM to establish a 5-year moratorium on offshore wind development in the U.S. Exclusive Economic Zone. Areas that have already been leased should be moved unless the concerns of the commercial fishing industry are addressed. During the moratorium, the BOEM process should be changed to allow existing users of the ocean equal or greater influence in the process than the European developers committed to playing by their own rules.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13078-003	The maritime wind industry should not be treated differently than the fishing industry, under the Jones Act	The proposed action does not include any changes to the Jones Act.
13078-004	Accurate and complete fishing effort and economic data must be used when considering the long-term impacts of displacing mobile gear fisheries within offshore wind projects, from the Gulf of Maine to Florida. This is not the case today.	Section 3.10 of the FEIS explains the methods used to estimate fishing revenue exposure and the methods used to set the value of the voluntary compensation funds. SEIS Table 3.11-3 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Therefore, no change to the FEIS is warranted.
13078-005	Even ‘Clean Energy’ environmental impacts need to be fully investigated and evaluated well before the approval of a COP. Research is essential prior to build-out occurring and is incomplete to date.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13078-006	We need a more complete, regional process for planning the location and monitoring of transmission lines, including requiring sufficient burial depths of a minimum of 3 meters or 10 feet in all areas.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.

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13078-007	We are not considering it possible to fish our vessels within proposed wind arrays due to spatial operational considerations and safety; BOEM has indicated fishing would be permitted, although there has been no evaluation of the maritime insurance industry's willingness to cover operational losses within these extensive areas.	BOEM's proposed action would not include any regulatory prohibition against fishing within the WDA or anywhere else. Thus, BOEM's proposed action itself would not result in changes to areas that may or may not be insured. Insurance companies are private companies that may adjust rates based on many factors that are not able to be predicted with any certainty. The proposed voluntary gear loss and revenue compensation plan in place for the proposed action is also a consideration in understanding how insurance may, or may not be used, for claims associated with the proposed action. BOEM has used the best available information to inform the impact rating from the proposed action to commercial fishing.
13078-008	Safe, 2-way dedicated transit corridors, through each area proposed to be developed, are essential. Today, however, the design process is chaotic with industry meeting individually with several independent developers all proposing different solutions or simply, eliminating those proposed by the fishing industry. The VW1 SEIS, considering just 84 turbines, sets up a conflict with the fishing industry on this critical issue while BOEM tells us to prepare for 2000 turbines in the future. Transit is about coexistence for us, not about opposition to wind development.	Section 3.11.2 and 3.13.2 of the SEIS evaluates impacts from alternatives with different spacing of turbines and transit corridors (Alternatives D1, D2, and F) on commercial fisheries and navigation. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. The FEIS addresses this comment in Section 3.10.1.1 and 3.11.2 and was updated to include the Final MARIPARS (USCG 2020), which states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additional rationale is provided in the Final MARIPARS (USCG 2020).
13078-009	A compensatory mitigation plan, considering direct and indirect economic impacts to fishermen and fishing companies from permanent displacement from wind farms, needs to become a condition of permitting and should not discriminate between states.	Section 3.10.2 and Appendix D of the FEIS has been updated to discuss the voluntary revenue compensation funds established by Vineyard Wind, which includes an Other States Compensation Fund where Vineyard Wind has voluntarily set aside \$3.3 million and establish a fund for claims of direct compensation from other affected states vessels and fishing interests. BOEM is open to working with state partners and the commercial and recreational fishing industries to investigate alternative strategies to negotiate compensatory mitigation agreements.
13078-010	Consistent with our concerns outlined above, we support Alternative G, the No Action Alternative....	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13078-011	Evaluation of the Totality of Impact Across the Mid-Atlantic Region “This issue is exemplified by the absence at the Mid-Atlantic scale of an evaluation of the basic siting plan for wind turbine field development. One does not know if the present profile is optimal in the sense of minimizing ecological and economic damage relative to cost and energy production potential. As a consequence, evaluation of the present plan must	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of

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	be conducted in a vacuum, when alternatives would provide important comparability.”	Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13078-012	Physical Oceanographic Processes, Particularly the Influence of Flow Around/Through Turbine Fields and Evaluation of the Potential Impact on the Cold Pool “Too much attention cannot be given to the cold pool. It is critical to recognize that this body of water permits the extension of boreal species to latitudes well south of those routinely seem worldwide. The cross-shelf temperature gradient, exemplified by the cold pool, is important to many species in the region. The weakening of the cold pool supports the potential of generating the most catastrophic ecological event on the continental shelf the world has ever seen. Great care should be taken to show at high probability that the chance of an impact is vanishingly small.”	Section 3.4 of the SEIS discussed the cold pool and potential effects of offshore wind development. Therefore, no change to the FEIS is warranted. Potential impacts on the cold pool are dominated by factors other than the Proposed Action; nevertheless, the FEIS considers impacts of reasonably foreseeable environmental trends and planned actions, including the Proposed Action.
13078-013	Climate Change “The SEIS mentions climate change a number of times without coming to grips with the seriousness of the problem. The Mid-Atlantic-Northeast continental shelf is increasing in temperature faster than any other area on earth...the acceleration of temperature rise over recent decades insert an urgency in the need to utilize all available information to characterize the rapid and multifarious shifts in range for marine species and particularly the biomass dominant species which often also are keystone and/or foundation species.”	Section 3.4.1 of the SEIS discussed range shifts as a result of climate change but did not assess particular species. Species-specific analyses are beyond the scope of this EIS. Therefore, no change to the FEIS is warranted.
13078-014	Adequacy of the Database on Finfish and Benthic Invertebrates....“In addressing impacts on finfish, the DEIS and SEIS respond to concerns about listed IPFs (impact-producing factors) using information synthesized from peer-reviewed and grey literature, including the recent literature and reports. These data are not uniformly sufficient to evaluate impact.”	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13078-015	Adequacy of the Database on Finfish and Benthic Invertebrates....“The SEIS discusses impacts to the benthos from wind energy installations. In their evaluation of what the changes and impacts to the benthic community might	Section 3.2 of the FEIS has been updated to include the sources of Lefaible et al. 2019 and Hemery 2020, to discuss potential impacts of the presence of structures on sediment near foundations, and to distinguish epifauna from

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	be from wind farms, the SEIS references only 2 studies that focus on the epibenthic community, not true benthic fauna, or are from ecosystems very different than the U.S. continental shelf.”	infauna. This is a Project-specific EIS, not a Programmatic EIS or assessment.
13078-016	Adequacy of the Database on Finfish and Benthic Invertebrates....“In addition to the seriously limited information on the community composition in the areas in question, the referenced simulations are all European. The European continental shelf is utterly different from the U.S. shelf, particularly in the relative abundance of very long-lived biomass dominants. A cold pool does not exist there. Such simulations are uninformative.”	Section 3.4.2 of the SEIS discussed the likely effects on finfish, invertebrates, and EFH. A stock-specific analysis is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives. The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13078-017	Adequacy of the Database on Finfish and Benthic Invertebrates....“Given that the SEIS bases its conclusions about potential impacts of wind energy installations on larval dispersal on one single report from a study that was not designed to evaluate larval dispersal impacts, the conclusions reached in the SEIS in this respect must be tentative at best. The issue is the degree of influence of these structures and flows on larval transport and settling potential, which would ultimately result in a proportional increase or decrease of community component species, leading to unknown consequences beyond the turbine arrays.”	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments, including larval transport modelling at a regional scale (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13078-018	Long-lived Biota The SEIS provides little evaluation concerning the potential permanence, in normal human life span scales of time, of the impact of wind energy development. Centuries long impacts may be anticipated in some regions. Long-lived sedentary or sessile biota are not biomass dominants everywhere and a thorough review of benthic inhabitants in the Mid-Atlantic would be illuminating. Given these permanent impacts, every effort should be made to develop areas that do not now and are not expected in the future to support biomass dominants with vicennial or greater life spans. Such siting evaluations are not available.”	These data are the best available sources for assessing impacts. The FEIS also was updated to discuss the large mollusks that are not represented well in grab samples. Sections 3.3 and 3.10 of the FEIS were updated to discuss additional information and analysis of commercially important species, including scallop, ocean quahog, and surfclam, using additional data sources, including fishing effort. The locations of outer continental shelf Wind Lease Areas were determined in 2010-2016, and the overlap of these areas with the areas of highest fishing activity was minimized during that process. This is a Project-specific EIS, not a Programmatic EIS or assessment.
13078-019	Fishing, Surveys and Stock Assessments “In summary, the SEIS discusses impacts of wind energy areas to managed fisheries and notes these impacts will be among the greatest impacts of the project. The SEIS correctly indicates that impacts owing to inability of federal fisheries management agencies to conduct annual stock surveys with the wind area footprint will be major. However, the SEIS does not address the scale and scope of these impacts. Given the size and location of these wind leases, which overlap with important portions of many economically and culturally important stocks, the effect on scientific advice to inform management resulting from an inability	The SEIS addresses these issues throughout Section 3.14 (Other Uses, Scientific Research and Surveys), and Section 3.14.2 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted. BOEM is actively working with NMFS on a process to adapt survey methodologies to the

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	to survey may be one of the biggest anticipated impacts of the wind project – but the scale of the consequences is not known.”	presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).
13078-020	Marine Mammals “To summarize, the uniqueness of the proposed wind energy development, unprecedented in terms of the large spatio-temporal footprint and the exceptionally large number of protected MM stocks affected (~ 15), requires further evaluation of impacts on individual MM stocks, especially regarding individual fitness and population-level impacts, to establish whether a delay in recovery or a decline to levels that would warrant a downgrade in stock statues in probable for any of the stocks.”	NMFS is a cooperating agency for the development of the FEIS and as a cooperating agency, NMFS is making determinations relative to the MMPA and ESA based upon this information contained in this FEIS. As discussed in the Section 3.4.2 of the FEIS and in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, as discussed in the Biological Opinion, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals is expected to occur as a result of the project. Future offshore wind projects will require separate ESA Section 7 consultation, and a cumulative effects analysis will be completed based on the best available information and will include a discussion of all IPFs that could result in impacts to marine mammals.
13078-021	Economics “Commercial fisheries rely on a variety of shore-based supporting and value-added industries. Fishing ports are home to ancillary services such as vessel and gear maintenance as well as seafood product processing, sales, and distribution. In Massachusetts and Rhode Island, total economic impacts arising from direct, indirect, and induced impacts associated with over \$600M in commercial fishery landings are ~\$2.6B, including ~\$1.3B in value-added impacts. Including all states considered as potentially affected by future offshore wind activities (Maine to North Carolina), total economic impacts associated with the nearly \$2B in commercial landings during 2016 were estimated at ~\$7.9B, with ~\$3.9B in value added impacts (NMFS 2018; estimates do not include impacts associated with imports).”	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
13079-001	The SEIS has been thorough and forward thinking in looking at the impacts of the pipeline of projects BOEM has already leased. Thank you for the opportunity to provide these comments.	Thank you for your comment.
13079-002	We urge approvals be as expeditious as possible to unlock tens of thousands of good paying jobs in a time where we are in dire need of economic stimulus and investment in large infrastructure projects that are environmentally sustainable such as offshore wind.	Thank you for your comment.
13079-003	The decisions you make here set the tone for and have serious consequences for offshore wind power plants up and down the East Coast. BOEM’s actions have a direct impact on investment and other decision-making of the industry, as well as those that support the industry, such as the educators and training providers.	Thank you for your comment.

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13079-006	As the SEIS points out there are 22 GWs of projects in the pipeline. Without clear actions and the adherence to predictable timetables it becomes difficult to prepare the U.S. workforce for the industry and obtain the full economic benefits of OSW. Those who work in workforce development know all too well that one of the worst things we can do is train people for jobs that do not exist. In terms of preparing for the offshore wind industry, we know that these jobs exist, however the timing for the jobs is unpredictable because there is a lack of regulatory certainty.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13079-007	The SEIS understates the economic benefits of offshore wind in stating that development will result only in minor net economic benefits to the region. With the study's recognition of significant new investment in ports and harbors, manufacturing and other supply chain activities, and workforce development it is hard to understand how those benefits were deemed minor. The SEIS should reflect a more favorable rating of offshore wind as a domestic economic development engine consistent with ongoing and planned investments.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13079-008	UMass Dartmouth's Public Policy Center conducted a study examining the contribution to employment and economic development to be made by the 800-MW Vineyard Wind project.	Section 3.6.2 of the FEIS uses the UMass Dartmouth's projections for the Vineyard Wind 1 Project in estimating job creation, economic output, and first year tax revenues within Massachusetts. These data were also used in the DEIS.
13079-009	The SEIS fails to fully recognize the environmental benefits of this and other projects. The SEIS states on page 3-98: "Overall, it is anticipated that there will be no impact on climate change as a result of offshore wind projects alone, though they may beneficially contribute to a broader combination of actions to reduce future impacts from climate change." The SEIS considers approximately 22 GWs of U.S. Atlantic OSW capacity to be reasonably foreseeable. These OSW GWs will be injected into the onshore electricity systems operated by ISO New England, NYISO, and PJM. Based on the annual CO2 emissions and net generation for these three grid operators, the interconnection of 22 GWs of OSW would result in an estimated 8% reduction in carbon emissions in those regions. On a planetary scale, the total emissions reductions from these projects might be considered small, but the reduction is quite significant in terms of decarbonizing the electricity supply of the Eastern Seaboard. Offshore wind is an important component of East Coast states' plans to reduce greenhouse gases and to reduce air pollution. Approving the Vineyard Wind project sends the right signal: America is open for business and ready to take a leadership role in this global clean energy industry.	Additional health benefits of the proposed Project have been added to Section A.8.1 of the FEIS.

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13079-010	BOEM should reject Alternative F and approve D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13079-012	Given the uniform 1x1 NM Joint Developer Agreement Layout, the US Coast Guard has made a final determination that transit lanes are unnecessary. In fact, the inclusion of transit lanes will directly constrain the U.S. OSW industry's ability to mitigate climate change.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13079-013	The SEIS considers approximately 22 GWs of U.S. Atlantic OSW capacity as reasonably foreseeable. A recent study by the American Wind Energy Association ("AWEA") states U.S. OSW will support up to 83,000 jobs and \$25 billion per year in economic output by 2030, while also delivering investment in critical coastal infrastructure. This pipeline of projects is considered sufficient to trigger large manufacturing investments; however, reducing the area with transit lanes will reduce the overall economic benefit that can be realized.	Section 3.6.4 of the FEIS has been updated to note that the transit corridor (Alternative F) could result in lower economic investment and employment due to the lower capacity for offshore wind development in the RI and MA Lease Areas that could result from this alternative.
13079-014	A reduction in the wind energy area (WEA) jeopardizes the project's economic potential and undermines public sector investment. BOEM has entered long-term lease contracts with developers and received lease payments in return for material use of the defined areas in the ocean. Reducing the WEA in a substantial manner results in unstable public policy and creates market uncertainty. A substantial material change in the WEA could lead to re-evaluation of the private sector infrastructure investments. This could ultimately affect the United States or any State's (with an offshore wind policy commitment) ability to secure the supply chain and facilities required to create jobs and develop the offshore wind industry.	Section 3.6.4 of the FEIS has been updated to note that the transit corridor (Alternative F) could result in lower economic investment and employment due to the lower capacity for offshore wind development in the RI and MA Lease Areas that could result from this alternative.
13081-001	The Commission has reviewed the action alternatives and does not have any recommendations regarding a preferred alternative, because each of those alternatives would have similar potential impacts on marine mammals. Potential impacts on marine mammals are discussed in Chapter 3.5 of the supplement and include accidental releases of fuel, fluids, hazardous materials, and/or trash and debris; changes in the geomagnetic field caused by power cable electromagnetic fields; elevated turbidity from cable-laying activities; sound emitted during geophysical surveys, cable laying, and construction-associated pile driving; increased vessel traffic and associated disturbance; the presence of wind energy structures in marine mammal habitat. BOEM indicated that it considered impacts from climate change in more depth in the supplement than in the DEIS.	Thank you for your comment.
13081-002	Impacts resulting from the construction or operations of wind energy facilities could pose a potential risk to the NARW population, especially combined with impacts of fishery-related entanglements and vessel strikes.	Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. A detailed analysis of impacts to ESA listed species is provided in the revised BA and further

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	The population of NARWs is declining at an alarming rate and faces an increasing risk of extinction. As such, the Commission continues to be very concerned about the status of right whales, particularly in light of recent deaths and low recruitment to the population. The population has fallen from approximately 500 to 400 whales in less than a decade and fewer than 100 reproductive-age females remain (Pace et al. 2017, Pettis et al. 2020). Recent studies have shown that right whale distribution patterns have been in flux over the last decade, with increasing evidence of year-round presence in migratory corridors along the mid-Atlantic and southern New England, including Vineyard Wind’s proposed project area (Davis et al. 2017).	considered in the final BO issued by NMFS on September 11, 2020. Additionally, Section 3.4.2 and Appendix D of the FEIS include comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to, avoidance of peak NARW presence. At other times of the year, enhanced NARW conditions and other mitigation and monitoring measures that would be required include increased detection and avoidance measures during the Month or May and any other time of year a DMA or Slow Down Zone is designated, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shutdown procedures, and other measures specifically developed to avoid and minimize any potential impacts to NARWs.
13081-003	BOEM’s projections for the construction of more than 2,000 wind energy turbines in the right whale migratory corridor in the next 6 – 12 years could significantly increase disturbance of right whales. Although BOEM has attempted to conduct a thorough cumulative impacts analysis in its supplement to the DEIS, a quantitative assessment of the long-term impacts on right whales and other marine mammals is challenging and currently may not be possible. Regardless, BOEM will need to consider how a changing climate will impact marine mammal populations as well as potential unforeseen consequences of construction and operations of wind energy projects and the unintended consequences of efforts to mitigate adverse impacts to other ocean ecosystem services.	Section 3.5.1 of the SEIS discussed the potential impacts that could result from the full offshore wind buildout using the best available data. Additionally, Section 3.4.2 and Appendix D of the FEIS include comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to, avoidance of peak NARW presence, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13081-004	BOEM has funded a number of studies to assess the abundance and distribution of right whales, including the Atlantic Marine Assessment Program for Protected Species and passive acoustic monitoring studies... BOEM’s Office of Renewable Energy Programs has proposed a pilot program to conduct aerial surveys, passive acoustic monitoring, and prey sampling in the various wind energy project sites. The Commission commends BOEM for supporting these and other projects to better understand the short- and long-term impacts of wind energy development and other human activities on right whales and other marine mammals.	Thank you for your comment.
13081-005	In light of recent deaths and low recruitment to the population, all potential impacts on right whales are of concern, and adaptive strategies for reducing or preventing long-term, cumulative impacts must be explored.	Section 3.4.2 and Appendix D of the FEIS include comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to, avoidance of peak NARW presence,

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		use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. A real-time adaptive approach, as specified in the September 11, 2020 BO, requires enhanced detection and mitigation measures when DMAs or NARW Slow Zone is designated in the lease area. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process. Additionally, PSO data collected during pile driving and post-construction monitoring could result in new information that can be used to assess impacts and improve mitigation and monitoring requirements that may be required in the future.
13081-006	The Commission recommends that BOEM continue to work with Vineyard Wind, other wind energy developers, states, and stakeholder groups to support collaborative research focused on long-term, area-wide studies to determine the cumulative impacts of wind energy development on marine mammals—especially right whales—and their habitat. In the event that wind energy development is shown to have significant adverse impacts on marine mammal populations, it is unclear from the supplement or other BOEM documents what actions would be necessary to mitigate those impacts. To address those concerns, the Commission recommends that BOEM specify in the final environmental impact statement for Vineyard Wind what actions would be necessary to minimize impacts to right whales and other marine mammals in the event that studies indicate adverse impacts to marine mammal populations as a result of wind energy development.	Section 3.4.2 and Appendix D of the FEIS include comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals from the Vineyard Wind 1 Project. These measures include, but are not limited to, avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. A real-time adaptive approach, as specified in the September 11, 2020 BO, requires enhanced detection and mitigation measures when DMAs or NARW Slow Zone is designated in the lease area. Should adverse impact to NARW, or other marine mammals, be identified in the future, there are regulatory mechanisms, such as re-initiation of interagency consultation under Section 7 of the ESA, that could be used to develop additional mitigation and monitoring requirements. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13081-007	The supplement includes general mitigation measures that would be used by Vineyard Wind to reduce potential impacts on individual marine mammals. Some are stipulated in lease agreements with BOEM, while others would be required through Marine Mammal Protection Act (MMPA) incidental take authorizations to ensure that determinations can be made under section 101(a)(5) of the MMPA regarding negligible impact, small numbers, and least practicable adverse impact. As noted in section 3.5.2.1 of the	Section 3.5.1.1 and 3.5.2.1 of the SEIS provided a discussion of acoustic impacts on marine mammal species, including the NARW. Further details regarding acoustic effects to these species are provided in Appendix F of the DEIS, the BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ and in the final BO issued by NMFS on September 11, 2020. Additionally, Section 3.4.2 and Appendix D of the FEIS include comprehensive mitigation and

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	supplement and other studies (Best and Halpin 2019), one of the primary concerns [to marine mammals] during construction and operations of Vineyard Wind’s proposed wind energy project would be the potential for auditory injury and adverse behavioral responses to sound generated during pile-driving.	monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met.
13081-008	Vineyard Wind’s proposed pile-driving activities would... not occur between January and early May during the peak season of NARW occurrence in the project area. Vineyard Wind stated in its COP that it would develop mitigation measures to minimize and avoid impacts on marine mammals from pile-driving sound, in accordance with the Best Management Practices identified by BOEM in its Information Guidelines for a Renewable Energy Construction and Operations Plan. Vineyard Wind stated, for example, in Table 4.2-2 of its COP, that current best practice sound attenuation methods, such as bubble curtains, will be considered. It also plans to evaluate new and currently available monitoring technologies as part of the permitting process.	Section 3.4.2 and Appendix D of the FEIS discuss updated comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, that includes enhanced measures during the entire month of May, sound reduction methods, and field measurements of the underwater sound levels during pile driving. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met Sound measurements are required at the beginning of pile driving to ensure the impact distances are in agreement with the minimum 6 dB reduction in sound levels required.
13081-009	The Commission is concerned that BOEM’s analysis of impacts [to marine mammals] in the supplement, which is based on modeling discussed in Vineyard Wind’s COP, assumes an optimistic and unverified, 12-dB sound reduction in sound levels. The COP indicates that the 12-dB sound reduction would be achieved using various “proven” technologies (identified as Hydro-sound Damper, AdBm “encapsulated bubble sleeves” (i.e., resonators) and/or bubble curtains) deployed both near the pile and farther from the source. The effectiveness of sound attenuation devices varies greatly, depending on pile diameter, water depth, sediment type, hammer energy, and how effectively the sound attenuation equipment is deployed.	Section 3.3.7.3 of the DEIS and Section 3.5.2 of the SEIS discussed the potential acoustic impacts to marine mammals during pile driving activities and has already addressed this issue by acknowledging variable levels of effectiveness may occur depending on the system and circumstances in the field. Thus, BOEM assumed only a lower level of 6 dB sound reduction in its assessment. Greater reduction sound may be achieved, but underwater sound levels would be required to verify the actual sound levels produced during construction. As such, a conservative approach to identifying impacts and mitigation and monitoring measures has been taken by assuming only a 6 dB sound reduction even though 12 dB or higher sound reduction levels may be achieved. Further details regarding acoustic effects and potential consequences to these species are provided in Appendix F of the DEIS, SEIS, and FEIS, in the BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ , and in the final Opinion issued by NMFS on September 11, 2020. Section 3.4.2 and Appendix D of the FEIS include comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on marine mammals and includes monitoring the effectiveness of sound attenuation methods and would require

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		secondary measures if the required sound levels upon which the assessment has been complete are not met.
13081-010	The Commission is concerned that BOEM’s analysis of impacts [to marine mammals] in the supplement, which is based on modeling discussed in Vineyard Wind’s COP, assumes an optimistic and unverified, 12-dB sound reduction in sound levels... Some of the sound generated by impact pile driving radiates through the ground and emerges in the water column at some distance from the pile, unattenuated by bubble curtains or other sound attenuation devices that rely on near-source, pile-surrounding barriers (Dahl and Reinhall 2013). Recent guidelines emphasize the importance of deploying both a primary and secondary sound mitigation measure during pile driving (Koschinski and Lüdemann 2020). Studies of the effectiveness of various sound attenuation devices are summarized in Koschinski and Lüdemann (2020) and discussed in more detail in numerous other reports and papers (Weyres-Offshore 2013, Bellman 2014, Elmer and Savery 2014, Reinhall et al. 2015 and 2016, Andersson et al. 2016, Wochner et al. 2016, Dahne et al. 2017, and Verfuss et al. 2019).	Section 3.3.7.3 of the DEIS discussed the potential acoustic impacts to marine mammals during pile driving activities and assumed only a 6 dB sound reduction. Further details regarding acoustic effects to these species are provided in Appendix F of the DEIS, in the BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ , and in the final BO issued by NMFS on September 11, 2020. Section 3.5.1 of the SEIS provided an updated discussion of potential acoustic impacts on marine mammals as a result of pile driving. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met.
13081-011	The Commission reviewed the National Marine Fisheries Service’s (NMFS) proposed incidental harassment authorization (IHA) for Vineyard Wind’s construction activities (84 Fed. Reg. 18346) and submitted comments and recommendations in its 3 June 2019 letter to NMFS. In that letter, the Commission recommended that NMFS require Vineyard Wind to conduct and report sound source and sound propagation measurements during all pile-driving activities (impact and vibratory), assess impacts during vibratory pile driving, and reassess and revise the take estimates associated with Level A and B harassment of marine mammals.	Section 3.4.2 and Appendix D of the FEIS include all required mitigation and monitoring required for compliance with the Project-specific NMFS IHA. These measures include, but are not limited to, avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met.
13081-012	The Commission noted that NMFS would require Vineyard Wind to achieve at least a 6-dB reduction in sound levels during pile-driving activities from the use of one or more of the sound attenuation devices noted previously. The Commission raised concerns about the assumptions used by NMFS regarding the efficacy of bubble curtains in achieving a 6-dB sound reduction during pile driving. The Commission noted in one of its previous letters to NMFS that performance testing conducted by the California Department of Transportation (CalTrans 2015) indicated that bubble curtains provide the greatest reduction in sound pressure levels (SPLs) in the near field (within 100 m); however, SPLs at distances of 400–500 m were reduced by only 1 to 2 dB. Based on uncertainties associated with Vineyard Wind’s proposed sound attenuation devices, the Commission recommended that NMFS require	Section 3.4.2 of the FEIS discusses the potential acoustic impacts to marine mammals during pile driving activities and assumes only a 6 dB sound reduction. Vineyard Wind would be required to measure sound levels at different distances from the first piles installed. If monitored sound levels are greater than the levels predicted by modeling, an additional sound reduction system would be deployed in addition to the first. BOEM recently measured sound levels with and without a bubble curtain at the Commercial Virginia Offshore Wind Demonstration Project. The results suggest at least a 6 dB reduction in sound can be achieved at all distances. The type of pile driving, hammer energies, and hard substrate type offshore California may not provide a comparable scenario to offshore wind development in the Atlantic and are not consistent with BOEM measurements of the effectiveness of

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	Vineyard Wind to assess the efficacy of its proposed sound attenuation devices during installation of the first monopile and monitor sound levels associated with pile driving at least monthly to ensure that the sound attenuation device continues to provide at least a 6-dB reduction in sound levels.	sound reduction systems on the Atlantic OCS. Additionally, a thorough review of other sound reduction systems has been provided in the COP, BOEM's BA for ESA consultation, and the application for the Incidental Harassment of marine mammals submitted to NMFS by Vineyard Wind. This review of sound reduction effectiveness has also been accepted by NMFS and a minimum 6 dB reduction has been assumed in the FEIS, the proposed IHA, and the September 11, 2020 Opinion. BOEM continues to apply the best available information and work with NMFS to apply that information in its assessments. Details regarding acoustic effects to these species are provided in Appendix F of the FEIS, in the revised BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ and in the final Opinion issued by NMFS on September 11, 2020. Additionally, Section 3.4.2 and Appendix D of the FEIS include comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on marine mammals and includes monitoring the effectiveness of sound attenuation methods and would require secondary measures if the required sound reduction is not met.
13081-013	There are a wide variety of sound attenuation devices available and a limited number of studies have been conducted in U.S. waters to measure sound propagation of the large monopiles proposed for installation by Vineyard Wind and other wind energy developers. Testing to verify sound attenuation effectiveness for these large monopiles will be key. The Commission commends BOEM for its ongoing efforts to measure sound generated by wind energy construction projects through its Real-time Opportunity for Development Environmental Observations (RODEO) program and other environmental studies noted herein. Such studies are providing a better understanding of the effects of wind energy development in U.S. waters, where wind energy development is still in its early stages. They are especially critical for evaluating potential effects on right whales and other low-frequency cetaceans that are sensitive to the sound generated by pile driving (Finneran 2016). The Commission recommends that BOEM continue to work with NMFS to evaluate sound levels associated with pile driving, including measurements with and without sound attenuation devices, to determine the effectiveness of such devices at reducing marine mammal exposure to harmful sound levels.	Section 3.4.2 and Appendix D of the FEIS discuss comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on marine mammals, and includes monitoring the underwater sound levels for the each pile type when the first piles are driven. Should sound levels be measured to be above the predicted levels predicted by modeling, an additional sound reduction system would be deployed in addition to the first. BOEM recently measured sound levels with and without a bubble curtain at the Commercial Virginia Offshore Wind Demonstration Project through its Real-time Opportunity for Development Environmental Observations (RODEO) program and other environmental studies. Although the final report is not yet available, the initial results show at least a 6 dB reduction in sound can reasonably be achieved at all distances. Additionally, a thorough review of other sound reduction systems has been provided in the COP, BOEM's Biological Assessment, and the application for the Incidental Harassment of marine mammals submitted to NMFS by Vineyard Wind. This review of sound reduction effectiveness has also been accepted by NMFS and a minimum 6 dB reduction has been assumed in the FEIS, the proposed IHA, and the September 11, 2020 Biological Opinion. BOEM continues to apply the best available information and work with NMFS to apply that information in its assessments. Details regarding acoustic effects to these species are provided in Appendix F of the FEIS, in the revised BA submitted to NOAA, which can be found at the following link:

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		https://www.boem.gov/Vineyard-Wind-Consultation-Documents/, and the final Biological Opinion issued by NMFS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on marine mammals and includes monitoring the effectiveness of sound attenuation methods and would require secondary measures if the required sound reduction is not met. Measurements will be taken to verify the mitigation measures based on a minimum 6 dB in sound reduction is achieved. Since NARWs may be present when the first piles are driven, optional measurements of a pile without sound attenuation may occur, but are not required, at times of year NARWs are least likely to occur and not detected in the area. As such, target noise levels and the determination if additional sound attenuation levels may be required will be determined on the measured sound levels with the sound attenuation system compared to the modeled levels. If necessary, the mitigation and monitoring distances could also be increased. The September 11, 2020 Biological Opinion issued by NMFS has determined that with implementation of these and other conditions, the proposed Vineyard Wind 1 Project may adversely affect but is not likely to jeopardize the continued existence of NARWs.
13081-014	Even with effective sound attenuation devices deployed, the sound generated by pile driving is estimated to exceed the threshold for Level A harassment of NARWs and other low-frequency cetaceans at significant distances. For Vineyard Wind, assuming a 6-dB sound reduction would be achieved through the use of effective sound attenuation devices, the Level A harassment zone for low-frequency cetaceans is estimated to be 3.2 km for monopile installations and 7.2 km for jacket pile installations.	Section 3.4.2 and Appendix D of the FEIS discuss comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on marine mammals and includes monitoring the underwater sound levels for the each pile type when the first piles are driven. Measurements will be taken to verify the mitigation measures are effective that were based on a minimum 6 dB in sound reduction are achieved. Secondary sound reduction methods would be required if the measured distances are greater than predicted. The target sound levels and the determination if additional sound attenuation levels may be required will be determined on the measured sound levels with the sound attenuation system compared to the modeled levels. If necessary, the mitigation and monitoring distances could also be increased. The September 11, 2020 Opinion issued by NMFS has determined that with implementation of these and other conditions, the proposed Vineyard Wind 1 Project may adversely affect but is not likely to jeopardize the continued existence of NARWs.
13081-015	NMFS typically requires monitoring of the Level A and B harassment zones to implement mitigation measures to minimize impacts on marine mammals (such as clearance of an area before pile driving can begin, or shutdown of operations if a marine mammal is detected approaching or entering the zone). The Level A harassment zones expected to result from Vineyard Wind's pile-driving activities are clearly too large for monitoring by visual means alone.	Section 3.4.2 and Appendix D of the FEIS discuss comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. The use of PAM

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	Vineyard Wind has proposed to conduct passive acoustic monitoring during spring and fall to supplement visual observations. However, passive acoustic monitoring was not proposed to be conducted from 15 May to 31 October. NARWs have been detected year-round by passive acoustic monitoring throughout the species' range (including the Vineyard Wind project site; Davis et al. 2017). The use of passive acoustic monitoring during all proposed pile-driving activities would enhance the detection of right whales at distances that cannot be effectively monitored visually, provided that the animals are vocalizing.	technologies will allow Vineyard Wind to monitor the large Level A and B harassment zones. During the entire month of May, and when a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31, implementation of enhanced monitoring/mitigation measures for NARW would be required.
13081-016	Vineyard Wind has proposed to continue limited pile driving during nighttime hours. Passive acoustic monitoring is also the most effective way to ensure detection of right whales and other marine mammals during nighttime operations. For these reasons, the Commission recommends that BOEM include, as part of its Best Management Practices, the requirement that passive acoustic monitoring be conducted at all times that pile-driving activities occur to enhance the detection of right whales and other marine mammals and implement appropriate mitigation measures.	Section 3.4.2 and Appendix D of the FEIS discuss comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, including an updated time-of-day visibility restriction during pile driving activities. Passive acoustic monitoring is proposed to be used as a marine mammal detection method throughout construction, however nighttime pile driving will be very limited, if it occurs at all. As indicated in the RPMs and implementing Terms and Conditions of the September 11, 2020 BO, and updated in FEIS, Vineyard Wind intends to carry out all pile driving (hammering) during daylight hours. In order to maintain the required exclusion zones it is important that the required pre-clearance periods occur only in good visibility conditions. The proposed action includes measures designed to meet this requirement including a requirement that pile driving shall not be initiated at night or when the clearance zone cannot be visually monitored, as determined by the lead PSO on duty. Pile driving may continue after dark only if the action began during the day and must proceed for human safety or installation feasibility reasons. Sun glare can impair visibility around sunset and sunrise; therefore, we are requiring measures that ensure that the pre-clearance period for pile driving activities does not occur when sun glare would impair visibility. This will minimize take of whales and sea turtles by minimizing the potential for insufficient clearance of the exclusion zones due to poor visibility. Further, it limits the extent of pile driving that could occur after sunset when the ability to visually monitor for marine mammals is limited. Once installation of a pile begins it may be operationally unsafe to stop that installation; as such, given that conditions can rapidly change in the marine environment (i.e., fog or low clouds could unexpectedly arise) and that conditions could unexpectedly arise that impair visibility, we are requiring the development of an alternative monitoring plan to be implemented when visibility is unexpectedly reduced and pile driving cannot be safely stopped. Therefore, no change to the FEIS is warranted.

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13081-017	To assist in evaluating the effectiveness of mitigation and monitoring measures in reducing impacts on marine mammals, and to improve the usefulness of information being collected by protected species observers (PSOs), the Commission has advocated in various fora for a comprehensive analysis of the data collected by PSOs, including the circumstances under which mitigation measures were implemented. As part of its Fiscal Year 2020 call for proposals, the Commission is funding a study to evaluate the utility of PSO data to address cetacean management and conservation... The objectives are to summarize the PSO data available for the Massachusetts and Rhode Island wind energy areas and to compare those data to aerial survey data collected by the New England Aquarium... The final report will be available in mid-2021 on the Commission's website (www.mmc.gov).	Thank you for your comment.
13082-001	As chair of the Lowell Sustainability Council, I know first hand how important wind power is and how difficult it is to develop. I urge the swift passage of required regulations and that all permits, etc. be approved as soon as possible for this vital and necessary project.	Thank you for your comment.
13083-001	Mass Audubon supports the rapid, responsible development of offshore wind, including the Vineyard Wind project. Offshore wind resources along the Eastern Seaboard provide an enormous, untapped potential to supply energy to densely populated areas. This project will provide 800 MW of clean, renewable wind power capacity, playing an important role toward meeting the Massachusetts and regional goals for transitioning away from fossil fuels.	Thank you for your comment.
13083-002	As the first commercial-scale offshore wind project in the U.S., the project will set important precedents in several respects – both in terms of getting this important new industry off the ground, and in regard to the approach to environmental impact assessment, monitoring and mitigation.	Chapter 1 of the FEIS has been updated to specify that approval of the first commercial-scale offshore wind facility in the US could lead to increased developer confidence and a mature supply stream, which would translate to additional economic and employment opportunities in the region.
13083-003	Mass Audubon's strong support for the project is predicated on BOEM, the U.S. Fish and Wildlife Service, other permitting agencies, and the proponent agreeing to a robust and transparent environmental monitoring and mitigation program, along with a commitment to adjustments as may be necessary based on monitoring results and actual impacts.	Thank you for your comment.
13083-004	The industry and BOEM need to establish a monitoring and mitigation program that is scalable, with data across projects gathered in a manner that ensures cumulative impacts can be assessed and addressed, applying adaptive management principles. We note that there are significant gaps in baseline data on avian and bat use of the project site and the other lease areas, as well as serious weaknesses in the cumulative avian analysis in the Supplemental Environmental Impact Statement (SEIS). The monitoring and mitigation plans for avian and bat life need to be significantly expanded.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation that would be implemented to avoid, minimize, and mitigate adverse impacts on bats as well as monitoring measures, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional

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		mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision. The monitoring that is being proposed for the Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures for future offshore wind development.
13083-005	Offshore wind energy will play an important role in helping Massachusetts achieve its goal of Net Zero by 2050 in the Roadmap to Decarbonization developed pursuant to the Massachusetts Global Warming Solutions Act (Chapter 298 of the Acts of 2008). The Vineyard Wind project is proposed pursuant to An Act to Promote Energy Diversity (Chapter 188 of the Acts of 2016), which included a mandate for electric distribution companies to solicit offshore wind generation capacity of 1,600 MW. This project would feed into the grid on Cape Cod, supplying energy to a region where increased capacity is needed. It would help reduce the need for gas- and oil-fired generation during the winter season.	Thank you for your comment.
13083-006	Mass Audubon's review of offshore wind energy projects is conducted within the context of the threat of rapid climate warming, oil spills, strip mining, air pollution, and the push for nuclear power as a clean energy source. There is scientific consensus that the burning of fossil fuels, such as natural gas and oil, releases heat-trapping gases like carbon dioxide and methane that rapidly heat the earth.	Thank you for your comment.
13083-007	Burning of fossil fuels also results in the release of mercury that bioaccumulates in the environment, causing health problems for humans, especially pregnant women and children.	Thank you for your comment.
13083-008	The impacts of climate change on natural systems, people and wildlife are numerous and far reaching. Already climate change is not only altering temperature and precipitation patterns but also causing shifts in habitat conditions across myriad ecosystems; shifts in populations of plants and animals in both terrestrial and marine environments; ocean acidification and alteration of fisheries and other marine life; and threats to people, property, infrastructure, and economies across the globe. These impacts are accelerating and the window of opportunity available to address them is rapidly closing.	Thank you for your comment.
13083-009	To reduce the worst effects of climate change, Mass Audubon supports increased energy conservation and efficiency as a first priority. Production of electricity from clean energy sources also needs to grow quickly. However, the growth of renewable energy must be done responsibly to minimize	Thank you for your comment.

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	adverse environmental impacts. Of the renewable energy technologies available today, wind energy is the most cost-effective and reliable.	
13083-010	As the first of many planned offshore wind projects along the Eastern Seaboard, the environmental review and permitting for the Vineyard Wind project sets the stage for many other future projects that will cumulatively provide approximately 22GW of capacity. The SEIS was prepared by BOEM to evaluate the cumulative effects of all of these planned leases	Thank you for your comment.
13083-011	Climate change presents threats to both people and wildlife. Mass Audubon's comments in this letter focus on birds and bats.	Thank you for your comment.
13083-012	The greatest threat to birds today is climate change. Of Massachusetts' 143 breeding bird species evaluated by Mass Audubon, 43 percent are "highly vulnerable" to its effects. Climate change produces warmer temperatures that alter the length of seasons, interrupting traditional migration patterns.	Climate change was addressed in the SEIS as an Impact Producing Factor and potential impacts to bird species was discussed in Sections A.8.3.1 and A.8.3.2. As such no change to the FEIS is warranted.
13083-013	It [climate change] also causes accelerated sea level rise and stronger ocean storms which wreak havoc on coastal bird habitats, drowning out the nesting and foraging areas for species such as the federally-protected roseate tern and piping plover and the state-listed saltmarsh sparrow.	Climate change was addressed in the SEIS as an Impact Producing Factor and potential impacts to bird species was discussed in Sections A.8.3.1 and A.8.3.2. As such no change to the FEIS is warranted.
13083-014	Both coastal and inland birds are also impacted by changes in temperature, precipitation, and availability of food, including desynchronization of timing of food availability in relation to critical breeding times.	Climate change was addressed in the SEIS as an Impact Producing Factor and potential impacts to bird species was discussed in Sections A.8.3.1 and A.8.3.2. As such no change to the FEIS is warranted.
13083-015	Vineyard Wind aims to build America's first industrial-scale wind farm 35 miles south of Cape Cod. Its 800MW capacity is enough to power 400,000 homes, removing 2 million tons per year of heat-trapping carbon dioxide, in addition to thousands of tons of poisonous nitrogen and sulfur oxides. We view that as good for people, birds, and wildlife.	Thank you for your comment.
13083-016	For Vineyard Wind and offshore wind in general to be viable, however, there needs to be adequate monitoring and mitigation to ensure that it will not pose a significant threat to the marine life and environment in and around the project area. Any development of any type of energy resource will entail some level of impact. However, offshore wind must be designed and operated to avoid significant environmental damages that exceed the benefits, and anticipated impacts need to be minimized and mitigated.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13083-017	And while Mass Audubon supports the deployment of clean renewable wind energy projects off our shores, that commitment cannot and will not be at any cost. With appropriate design, siting, and mitigation, the industry can grow and prosper as the Commonwealth does its part to combat the devastating impacts of global climate change.	Thank you for your comment.

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13083-018	Mass Audubon supports the current proposal for an 800MW wind farm at lease OCS-A501, known as Vineyard Wind 1.	Thank you for your comment.
13083-019	We support the turbine layout scheme of a 1 nautical mile grid.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13083-020	We oppose Alternative F, which would create much larger transit lanes than the U.S. Coast Guard determined are neither necessary nor optimal. This alternative also threatens the ability of this and other offshore wind projects to be viable and to meet the state and regional goals for transitioning to clean, renewable power.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13083-021	We support the project moving forward with an assessment that includes all migratory and resident birds, in keeping with the Migratory Bird Treaty Act's original interpretation of incidental take. And it is imperative that a robust and transparent wildlife impact monitoring and mitigation program be established for this project and the entire industry.	Section A.8.3.1 includes and updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13083-022	While offshore wind has been an important contributor to the energy portfolio in Europe, it is important to note that there has not been adequate post-construction monitoring at European offshore wind farms to inform US regulators, wildlife managers, and the industry about the risks to birds and bats.	Thank you for your comment.
13083-023	Nor is sufficient data available to estimate collision risk for a robust suite of bird species that will occur in the leased area of the Atlantic.	Section A.8.3.1 includes and updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS

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		generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures that can refine our understanding of impacts arising from the presence of WTGs on the Atlantic OCS. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13083-024	BOEM's SEIS for Vineyard Wind only includes collision risk models for 10 species (page A-70), while BOEM's estimate of the number of species to potentially have conflicts with the turbines is 177 species. That gap exists because the data are not available to populate the models, and therefore risk cannot be calculated.	Section A.8.3.1 includes an updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. As discussed, 177 species of birds may be present on the OCS from the Gulf of Maine to Florida. However, not all of these species would be expected to encounter operating WTGs. As discussed, there are only 55 species of birds that are expected to be exposed to WTGs. Further, as shown by Viet et al. (2016) only 25 species have been identified in the MA WDAs during the course of surveys conducted during all seasons between November 2011 and January 2015. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated

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		mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13083-025	Major gaps also exist in understanding of the use of the lease areas by bats, and risks to bats from collision or displacement.	While there is little current literature regarding bat use of the OCS, the best available information, including Hatch et al. (2013), Pelletier et al. (2013), Stantec (2016), and Dowling et al. (2017) was used in the analysis. Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision. The monitoring that is being proposed for the Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures for future offshore wind development.
13083-026	Technology is not presently available to monitor actual collisions or to validate the collision risk models after the turbines are deployed. Due to these major data gaps, it is not possible at this time to estimate the effect of this project, or the cumulative effects of all of the planned projects, on birds or bats. Also unknown are how those effects may change over time, or by species and season. Rough estimates informed by collision risk modeling are available for a few bird species, but the overall assessment is weak.	Section A.8.3.1 includes an updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the

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		use of collision risk modeling. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures that can refine our understanding of impacts arising from the presence of WTGs on the Atlantic OCS. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development. Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13083-027	Effective collision monitoring, while under development, is only in the testing phase, and is not commercially available or fully vetted.	Thank you for your comment.
13083-028	Additionally, displacement or barrier effects on individuals or populations are also unknown. BOEM asserts in the SEIS that: “The addition of WTGs to the offshore environment may result in increased functional loss of habitat for those species with higher displacement sensitivity. However, as described in the Draft EIS, substantial foraging habitat for resident birds would remain available outside of the proposed offshore lease areas, and no individual fitness or population-level impacts would be expected to occur” (pg. A-71) This is an unsupported qualitative statement that repeats mistakes made in the	Section A.8.3.2 was updated with additional clarification that there is little overlap with the proposed Vineyard Wind 1 Project area and those species of birds with high displacement sensitivity. As depicted in Figure A.8.3-2 in the SEIS, total avian abundance for species with high displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. As such, displacement impacts are expected to be low. Therefore, no change to the FEIS is warranted.

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	European market. Displacement and barrier effects are of critical concern across the cumulative analysis, and must be rigorously investigated.	
13083-029	Collision risk modeling, collision monitoring, and understanding the effects of displacement and barrier effects are the three key areas of research that must be addressed with a real commitment from the federal government and from industry to meet the goal of responsibly developing offshore wind. This can only be met with rigorous post-construction monitoring and research.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13083-030	Data from collision modeling and monitoring projects in Europe is collected on turbines that are typically much smaller than those that will be deployed in the US, and that have substantially different hub heights and rotor swept zone area. This reduces the value of data in attempts to crosswalk data from Europe to the US. Further, in the European market, much post-construction monitoring data are not made public, and if they are, are often in report form, not raw data.	As pointed out by the commenter, there are differences in WTG characteristics between operating WTGs in Europe and those contemplated for use by the Vineyard Wind 1 Project and the anticipated development of offshore wind on the Atlantic OCS in the United States. However, this data represents the best available science to use in the FEIS analysis and its inclusion is appropriate as there no data relative to interactions with North American birds and offshore wind development. Additionally, Section A.8.3.1 of the FEIS provides an updated discussion of the potential for collision mortality. The modeled estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures that can refine our understanding of impacts arising from the presence of WTGs on the Atlantic OCS. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to

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		the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. BOEM intends to make the results of the post-construction monitoring available to the public, either by posting monitoring reports on Project-specific websites or making them available upon request.
13083-031	These data gaps are significant, and add uncertainty as we prepare for an industry that may add 2,000+ 10-14MW turbines along the eastern seaboard. It is irresponsible to not acknowledge those data gaps, and to not include plans to close them. It is irresponsible to repeat the mistakes that were made when the European offshore wind projects were constructed.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures that can refine our understanding of impacts arising from the presence of WTGs on the Atlantic OCS. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. Separate from the Vineyard Wind 1 Project, BOEM funds scientific studies and partners with USFWS to better understand how migratory birds use the Atlantic OCS and to refine the understanding of the risks from development to migratory species (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). BOEM uses information from these studies, coordination with USFWS, and the scientific literature to avoid leasing areas with high concentrations of migratory birds that are most vulnerable to offshore wind development.
13083-032	Real collision monitoring, a functional understanding of the effects of displacement and barrier effects, and thorough monitoring and compensatory mitigation planning must accompany the growth of this industry.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with

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		Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13083-033	In the absence of an outcomes-based monitoring and research program, projects will be built without adequate monitoring, adaptive management, or compensatory mitigation.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13083-034	We support the project moving forward with an assessment that includes all migratory and resident birds, in keeping with the Migratory Bird Treaty Act's original interpretation of incidental take.	Section A.8.3.1 of the FEIS has been updated with a discussion of the MBTA and includes discussions of measures and Standard Operating Conditions that will be used to ensure that impacts to migratory birds are minimized. Section A.8.3.1 includes and updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically.
13083-035	We reject BOEM's analysis of collision risk modeling, and refer you to our joint letter with other groups as an alternative estimation of the potential risk to birds.	Section A.8.3.1 includes and updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling.
13083-036	We reject's BOEM's interpretation of Winship's predicted distribution of seabirds offshore, and refer you to the discussion in our joint letter for clarification.	As described by the author, Winship et al. (2018) provides "broad-scale spatial information" that can be used to inform marine spatial planning on the Atlantic OCS, and represents spatial distributions of birds averaged over time. Further, the project was specifically not designed to predict the actual

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		number of a particular species in a specific location and time, but rather a relative abundance. The DEIS and SEIS used the Winship data as such. Table A.8.3-7 is provided to illustrate that the expected overall low percentage of a particular species that have been historically observed, or would be expected to occur in the Vineyard Wind 1 WDA. BOEM used this data to help avoid areas where there are large numbers of birds. Further, BOEM did not fully rely on Winship models, but also used survey data of the MA WDAs. As shown by Viet et al. (2016) only 25 species have been identified in the MA WDAs during the course of surveys conducted during all seasons between November 2011 and January 2015. Additionally, the mean densities of the 15 most commonly observed species were relatively low (Veit et al. 2016).
13083-037	This landmark project should move forward with a robust post-construction monitoring plan that includes: A collision and displacement monitoring plan that must be designed, implemented, and improved over time so we can close critical data gaps in our understanding of the effects of large-scale WTG fields.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13083-038	This landmark project should move forward with a robust post-construction monitoring plan that includes: Industry frequently decries projects that are data rich and information poor. We agree that should be avoided.	Thank you for your comment.
13083-039	However, the lack of collision monitoring technologies from the European industry is a cautionary note. In the absence of actual data, analysis is dependent upon models that estimate collisions. There is no commercially available way to detect and evaluate collisions or the models. This is an unacceptable outcome for the US market, and is the most significant technologic gap that must be closed.	Section A.8.3.1 includes and updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be

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		developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures, including thermal imaging or similar technologies to monitor collisions, may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development.
13083-040	The monitoring plan must also address the scale of displacement by species and season, as well as the individual and population effects of barrier effects or displacement	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures to refine our understanding of bird use of the OCS as well as our understanding actual displacement or barrier effects. As shown in Figure A.8.3-3, very few birds with displacement sensitivity would be expected to encounter operating WTGs not the Atlantic OCS. Vineyard Wind has drafted a framework for their Bird Monitoring Plan which is included in Appendix F of the FEIS. Population level effects and barrier effects due to displacement are extremely difficult to measure (if at all) for most species especially if they are large and widely distributed. For example, long-tailed ducks are a single very large population that has a circumpolar distribution; gannets and most loons breed in Canada.
13083-041	This landmark project should move forward with a robust post-construction monitoring plan that includes: Monitoring the occurrence, exposure to the rotor swept zone, collision risk, and actual collisions of all bird and bat species, through the life of the project, at an appropriate scale to close information gaps, and inform adaptive management plans, as well as compensatory mitigation plans, and future cumulative effects in EIS reports	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures that can refine our understanding of impacts arising from the presence of WTGs on the Atlantic OCS. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. At this time, the full suite of mitigation and monitoring measures that will be required as part of the proposed Project are not finalized. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered

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		by decision makers and may be incorporated into the Record of Decision. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process. Additionally, cumulative impact analyses will be completed for each future development project, and updated information will be used. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development.
13083-042	This monitoring plan must be designed to detect wildlife displacement over the life of the turbines, and the individual and population level consequences of displacement and barrier effects.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13083-043	The monitoring plan should be designed in consultation with industry, state, and e-NGO experts, and academics to ensure that the data are able to be used to inform future development of this important industry.	As described in Section A.8.3.2 and Appendix D of the FEIS, post-construction monitoring will be developed in coordination with applicable stakeholders, including BOEM and the USFWS. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. BOEM intends to make the results of the post-construction monitoring available to the public, either by posting monitoring reports on Project-specific websites or making them available upon request.
13083-044	All monitoring data should be publicly available and have a regular annual reporting schedule.	As described in the BA, Section A.8.3.2 and Appendix D of the FEIS, Vineyard Wind will provide quarterly progress reports and annual reports relative to avian monitoring. BOEM intends to make the results of the post-construction monitoring available to the public, either by posting monitoring reports on Project-specific websites or making them available upon request.

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13083-045	A monitoring plan should include, but not be limited to, technologies such as: ▪ acoustic monitoring for bats and birds, ▪ radar, or other technologies, deployed to quantify time of year, weather covariates, species composition, area exposure, and effects of lighting. This information is needed to inform collision modeling and monitoring, adaptive management and compensatory mitigation for nocturnal migrant landbirds, passage of waterbirds, and other species not included in high definition aerial surveys, ▪ high definition aerial surveys of sufficient frequency to detect seasonal and yearly changes, including refined species identification and QA/QC procedures to ensure correct species identification, ▪ MOTUS monitoring (or an acceptable alternative) of species with a high collision risk or state, federal, or other watch list species of concern, ▪ collision monitoring technologies must be tested and improved to bring an acceptable product to commercial development. This was not a contingency in Europe, and consequently there is no adequate system for monitoring collisions with wind turbines in the offshore space. This deficiency must be corrected.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13083-046	A monitoring plan must include monitoring land-based local populations of roseate tern, piping plover, and other at-risk species, to ensure stable or increasing populations until there is adequate data from a collision monitoring system that will inform the actual take levels of those species.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures, including the deployment thermal imaging cameras or similar technology to monitor bird collisions, may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. There are currently ongoing, extensive monitoring program for ESA-listed species that will continue outside of the construction of the Vineyard Wind 1 project.
13083-047	There will be a level of take that will be permitted by USFWS, yet there will be no way to monitor that take in the turbine field. Monitoring land-based populations can be a surrogate for those critical data until collision monitoring is improved.	A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in

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		the Project Area and no take of these species is anticipated. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. There are currently ongoing, extensive monitoring program for ESA-listed species that will continue outside of the construction of the Vineyard Wind 1 project.
13083-048	Populations of terns and plovers are dynamic, and monitoring this resource is critical to understanding the sustainability of our breeding populations. Federal, state and e-NGO partners have worked for decades and spent millions of dollars to recover these species, and their continued recovery must be documented as we add this new stressor in the offshore space.	There are currently ongoing, extensive monitoring program for ESA-listed species that will continue outside of the construction of the Vineyard Wind 1 Project.
13083-049	Of particular importance is the fact that a new nesting colony of roseate, common, and least terns has developed on Muskeget Island, Nantucket, within approximately 15 miles of the Vineyard Wind lease. This is likely to change the biological assessment, and increase use of the focal area by this federally endangered species, and demonstrates the importance of land-based monitoring.	A revised discussion of the new roseate tern colony on Muskeget Island is provided in the updated BA that was submitted to the USFWS in September 2020. As discussed in the BA, Muskeget Island is in area frequented by foraging and staging roseate terns (for the first time in many decades, 40-50 pairs of roseate terns nested on Muskeget Island. However, those nests failed to produce chicks due to egg predation (S. vonOettingen, Pers. Comm., July 23, 2020). Although roseate terns may attempt to nest on the island in the coming years, “the duration of occupation for ‘small’ and ‘medium’ size colonies is short in the majority of cases (the median and mode are 10 and 4 years respectively)” (García-Quismondo et al., 2018). BOEM is currently coordinating with USFWS to monitor the colony site during the 2021 breeding season.
13083-050	Over the life of this project and the other leases, changes can be expected in the location of colonies, foraging areas, and foraging and migration flights. This will require land-based monitoring of colonies, composition of colonies, interactions with the wind developments, and estimates of productivity for the life of the projects.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction

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		monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. There are currently ongoing, extensive monitoring program for ESA-listed species that will continue outside of the construction of the Vineyard Wind 1 project.
13083-051	The dynamic nature of seabird colonies will lead to changes in the use of offshore areas over time. The formation of the Muskeget colony is a living example of that phenomenon, and points to the importance of onshore monitoring of species at risk, as well as continuing and improving aerial surveys through the life of the project.	A revised discussion of the new roseate tern colony on Muskeget Island is provided in the updated BA that was submitted to the USFWS in September 2020. As discussed in the BA, Muskeget Island is in area frequented by foraging and staging roseate terns and for the first time in many decades, 40-50 pairs of roseate terns nested on Muskeget Island. However, those nests failed to produce chicks due to egg predation (S. vonOettingen, Pers. Comm., July 23, 2020). Although roseate terns may attempt to nest on the island in the coming years, “the duration of occupation for ‘small’ and ‘medium’ size colonies is short in the majority of cases (the median and mode are 10 and 4 years respectively)” (García-Quismondo et al., 2018). BOEM is currently coordinating with USFWS to monitor the colony site during the 2021 breeding season.
13083-052	In summary, industry, BOEM, USFWS, e-NGOs, academics, and state governments need to work collaboratively together to develop robust and adaptive management and compensatory mitigation plans that will protect bird and bat populations along the Eastern Seaboard.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. There are currently ongoing, extensive monitoring program for ESA-listed species that will continue outside of the construction of the Vineyard Wind 1 project.
13083-053	This is not limited to the Vineyard Wind project, but it is the responsibility of this new industry to protect the natural resources we have spent decades and millions of dollars to restore.	Thank you for your comment.

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13083-054	In the meantime, permits for this project need to recognize the existing gaps in data and monitoring technology, and provide for adaptive management approaches to project operations and mitigation as the monitoring program is developed and produces information.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. There are currently ongoing, extensive monitoring program for ESA-listed species that will continue outside of the construction of the Vineyard Wind 1 project.
13083-055	The gravity and urgency of the climate crisis and its impacts on both people and wildlife make the rapid advancement of offshore wind a priority. This in no way diminishes the need to address the wildlife impact assessment, monitoring, and mitigation gaps. Both must proceed quickly and in parallel.	Thank you for your comment.
13086-001	As a current college student in Massachusetts who will be living in Boston post-grad, I support the Vineyard Wind project because it will help limit the effects of climate change. This project will help protect current and future generations from the economic, environmental, and health impacts of climate change (which often disproportionately affect low-income areas and people of color). Not only does the project make me hopeful for a safer future, it will also create over 3,000 local jobs in Massachusetts.	Thank you for your comment.
13087-001	Previously in the DEIS, BOEM had included a cumulative analysis scope which analyzed a potential for 902 megawatts (MW) of additional wind energy beyond the proposed Vineyard Wind I project. In the SEIS, the geographic and temporal scope of the cumulative analysis was expanded to encompass 22 GW of assumed 12-MW turbines over a 10-year time period from Massachusetts to North Carolina, for a total of 2,066 structures on the Outer Continental Shelf. CZM believes that this is an appropriate geographical and temporal scope that provides a comprehensive framework to assess potential cumulative impacts associated with reasonably foreseeable offshore wind energy activities along the Atlantic Coast.	Since the same approach of the characterizing effects in the SEIS was used in the FEIS, not changes to the FEIS are warranted.
13087-002	The additional fisheries data, especially Tables 3.11-2 through 3.11-4, enumerate the value of the fisheries industry within the project area, its	Thank you for your comment.

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	importance to various ports in the northeast, and the ports' exposure to offshore wind energy development. These data were important in helping to establish mitigation funds for Rhode Island and Massachusetts vessels (\$4.2 million and \$19.2 million, respectively) to compensate for claims of direct or indirect impacts of vessels in the Vineyard Wind I Project area. These data also supported the creation of the Rhode Island Fisherman's Future Viability Trust (\$12.5 million) and the Massachusetts Fisheries Innovation Fund (\$1.75 million) to support compatibility of offshore wind and commercial fishing interests and to ensure the sustainable coexistence of safe and profitable fishing.	
13087-003	A preferred project alternative should avoid or minimize disruption to 1) existing and future water dependent industry including commercial and recreational fishing; 2) traditional navigation routes; and 3) natural processes, resources, and biological activities. As described in the SEIS, there is no single alternative that meets these goals. An alternative that meets Vineyard Wind's goal of developing an 800 MW offshore wind project and meets the Commonwealth's goals of avoiding and minimizing impacts to coastal and ocean resources and uses would: minimize the project footprint, by using the largest available wind turbine generators (WTGs), as in Alternative E (as few as 57 14-MW WTGs); use Covell's Beach in Barnstable as a landing point for the offshore export cables, as in Alternative B; and preserve existing transit corridors and fishing practices using a 1 nautical mile (nm) by 1 nm spacing in an east-west direction thereby reducing potential conflicts with existing water-dependent uses, as in Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13087-004	The SEIS presents a new alternative, Alternative F, with a transit lane of either two nautical miles or four nautical miles oriented northwest/southeast through the proposed wind farm in which there would be no surface occupancy (wind turbines or service platforms). As proposed, the alternative could theoretically facilitate the transit of vessels from southern New England ports to Georges Bank. The wind turbine locations displaced in this alternative would be shifted south into the Vineyard Wind lease area. The SEIS reports that this alternative would result in: longer offshore export cable routes, an increase in acreage of the project area by up to 61%, an increase in inter-array cable length of 37%, additional survey work, additional transmission loss, and the requirement of factory joints which would increase the risk of failure and may not be technically possible. For these reasons, CZM does not support Alternative F and supports the conclusions of the U.S. Coast Guard MARIPARS study that a 1 nm by 1 nm spacing of wind turbines (as reflected in Alternative D2) is adequate and appropriate to ensure	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. The FEIS includes BOEM's Preferred Alternative as well as an assessment of potential impacts and mitigation measures.

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	safe navigation through, and search and rescue efforts within, the future Vineyard Wind - Wind Development Area (WDA).	
13087-005	To further the commitment to navigational safety by Vineyard Wind, the Final Environmental Impact Statement (FEIS) should describe the use of sound signals, AIS transponders, a uniform numbering and lighting plan, coordination with other wind farm developers, and/or other design improvements to aid in navigation.	Sections 3.11.2 and 3.11.2.1 of the FEIS includes a discussion of measures to be used for the proposed Project.
13087-006	Field data including sediment grabs and cores, seafloor photos and videos, and biological samples were not presented in the DEIS or SEIS. However, this information is necessary to evaluate alternatives and inform the permitting process. These data should be presented in the FEIS in a way that allows agencies to ensure the avoidance, minimization, and mitigation for impacts to biogenic and/or hard/complex habitats in the siting and subsequent construction of the various elements of the Vineyard Wind project.	The raw data, while not publically available, were used to develop the habitat classifications that are publicly available. The raw data were available to BOEM and Cooperating Agencies for their review.
13087-007	Discussions with the Massachusetts Division of Marine Fisheries to find an appropriate marine construction window to avoid impacts to various resources and water dependent uses (including the squid, whelk, and flounder fisheries) have identified the July/August timeframe as a preferred time for marine cable installation. Vineyard Wind has stated that it may be possible to begin laying the energy export cables in the nearshore in one year, bury the partial cable segments, and then splice and continue laying the remaining cable lengths in the offshore portion of the project in the following year. To this end, Vineyard Wind states that it has been working with cable vendors for delivery earlier than originally proposed and is re-evaluating weather modeling to evaluate weather-related risk and begin dredging and cable installation earlier in the spring. The FEIS should clearly describe how the proposed construction activities will be timed, staged, and sequenced to minimize impacts to the Commonwealth's coastal resources and uses.	Appendix D of the FEIS has been updated to include time-of-year restrictions Vineyard Wind has voluntarily committed to as well as additional measures by BOEM. Sections 3.3 and 3.10 discusses the cable installation timing in order to minimize impacts to fishing activities and spawning and egg laying.
13087-008	Table 3.3.5-2 in the DEIS described the potential hard cover necessary to protect the project's assets. The total is 303 acres... CZM recommends that before considering hard cover, Vineyard Wind assess other options including: performing a second pass or using mechanical jetting to ensure appropriate depth of cover, using a combination of sand bags and gravel to cover exposed cable sections, minimizing the extent of hard cover placed around wind turbine foundations, and/or using foundations that do not require scour protection. CZM's recommendations to utilize sandbags and gravel diverge from the currently proposed cable protection methods that suggested using concrete mattresses or rock placement. Through careful inspection of	Section 3.2 of the FEIS has been updated to discuss minimization of cable protection, and Section 3.2 and Appendix D of the FEIS have been updated to discuss mitigation in the form of nature inclusive designs for cable protection, and minimizing scour protection, among others.

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	field data by technical engineers, anticipated hard cover may be reduced as was the case for anticipated cable protection within state waters.	
13087-009	The FEIS should describe efforts to minimize anticipated hard cover through detailed site analysis or installation techniques. Additionally, any proposed hard cover anticipated in the project should be quantified, mapped, and presented in the FEIS.	Section 3.2 of the FEIS was updated to discuss the potential impacts to hard-bottom habitats and efforts to minimize impacts, as well as the potential impacts of cable protection measures.
13087-010	According to 30 CFR Part 385 and other BOEM requirements, Vineyard Wind must remove all installations and clear the seabed of all obstructions created by the project within two years of termination of its lease. Chapter 3 of the DEIS mentioned that decommissioning would include leaving onshore facilities in place, while removing the offshore export cable, scour protection and hard protection atop cables (pp. 3-54, 55). In addition, WTG and ESP structures would be removed to 15 feet below the mudline and shipped to ports for disposal (p. 3-185). The FEIS should more fully describe this process and Vineyard Wind's financial commitment to decommissioning and appropriate landside disposal.	Decommissioning plans and timelines were discussed in Section 2.1.1.3 of the DEIS. The decommissioning approach and timeline are unchanged from the DEIS; therefore, no changes to the FEIS are warranted. Further, additional NEPA analysis will be conducted prior to making a determination on the decommissioning application that needs to be submitted for purposes of authorizing decommissioning activities, including the methods to be used.
13087-011	CZM reiterates its support for the regional monitoring program proposed in the DEIS that will be performed by the University of Massachusetts Dartmouth School of Marine Science and Technology (SMAST) with input from various state and federal agencies. This program will evaluate the potential long-term effects of the WDA on fisheries and may prove useful in the review and permitting of future offshore wind projects.	Appendix D of the FEIS has also been updated to account for the SMAST information.
13087-012	The FEIS should describe a framework for benthic monitoring to verify modeling predictions associated with the full project: during construction, post-construction, and over the long term. The monitoring framework should be sufficient to describe changes in bathymetry, sediment grain size, and biota (e.g. cod and black sea bass) within the full project footprint associated with dredging, cable installation, foundation installation, and installation of any necessary cable/foundation protection. Monitoring of the cable route to ensure sufficient cable burial will be critical over the life of the project. The FEIS should describe cable monitoring plans including frequency of monitoring and protocols for responding to conditions where cables become uncovered.	The current benthic monitoring plan (COP Volume III, Appendix D; Epsilon 2020c) is posted on BOEM's website. BOEM is considering requiring additional mitigation and monitoring related to cable burial, as discussed in Appendix D of the FEIS.
13087-013	Over the last few years BOEM, in conjunction with the U.S. Fish and Wildlife Service and research institutions, has supported studies to help better define the foraging and migration behavior of various coastal birds in and adjacent to offshore wind lease areas... It is important for bird migration studies to continue, to assist in the careful siting of WTGs to minimize overlap with migration routes and to provide data for adaptive management	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a

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	in the operations and maintenance of WTGs throughout the region. The FEIS should describe Vineyard Wind’s plans to mitigate unavoidable impacts to avifauna, including monitoring efforts and habitat enhancement.	post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. There are currently ongoing, extensive monitoring program for ESA-listed species that will continue outside of the construction of the Vineyard Wind 1 project.
13088-001	To that end, the Department strongly encourages BOEM to continue its use of site-specific evaluations for determining the layout of projects and vessel transits for areas outside the Northeast OCS.....The Department concurs; a state- or region-focused approach is preferred over the application of standards for offshore energy project spacing and vessel transit lanes developed for the Northeast.	As noted in Section 1.7.1.1 of the SEIS, it is difficult to predict turbine capacity and spacing or other future engineering for planned but currently unscheduled offshore wind awards. Therefore, BOEM used reasonably foreseeable assumptions for the analysis and no change to the FEIS is warranted.
13090-001	SCeMFIS has access to experts in all fields of oceanography, fisheries and marine ecology which were drawn upon to review the Supplement to the Draft Environmental Impact Statement for Vineyard Wind LLC’s Proposed Wind Energy Facility Offshore Massachusetts (SEIS). The result of that review titled Review of “Vineyard Wind 1 Offshore Wind Energy Project Supplement to the Draft Environmental Impact Statement” can be found at https://scemfis.org/wp-content/uploads/2020/07/wind_report_final-1.pdf and this expert review provides much of the rational for my comments.	Thank you for your comment.
13090-002	The Bureau of Ocean Energy Management (BOEM) has chosen lease areas in the mid- Atlantic bight by considering the geographic sensitivity of demand in the mid-Atlantic/New England regions, the wind energy resource and the fewest apparent environmental and use conflicts. This process has deconflicted most all other ocean uses while the impacts of the areas chosen for wind energy leases falls heavily on the fishing industry and fisheries resources. This has been a multi-year exercise and BOEM must now consider the adverse environmental impacts and use conflicts to decide if the benefits of the project justify the cumulative adverse impacts. For the reasons I will detail herein, BOEM must review the environmental impacts data, the potential consequences of the action and now disapprove of the Vineyard Wind 1 Project Construction and Operations Plan (COP) for construction, operation, and eventual decommissioning of the proposed Project within Lease Area OCS-A 0501.	Thank you for your comment.

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13090-003	The weakening of the cold pool supports the potential of generating the most catastrophic ecological event on the continental shelf the world has ever seen. Given the gravity of a catastrophic shift in cold pool dynamics, great care should be taken to show at high probability that the chance of an impact is vanishingly small. Adequate science leading to that evaluation is not presented in the SEIS and is probably not yet available. This science need is critical. Without definitive science showing the probability of a catastrophic ecological event on the continental shelf as a direct result of wind energy extraction is extremely low, BOEM must disapprove of the Vineyard Wind 1 Project. As the Review of "Vineyard Wind 1 Offshore Wind Energy Project Supplement to the Draft Environmental Impact Statement" demonstrates, the analysis in the SEIS has not shown turbines can be placed in the water and wind extracted from the atmospheric layer above the ocean, at scale, without causing a catastrophic ecological event on the continental shelf.	Cold pool dynamics and potential impacts are addressed in Section 3.3.1 of the FEIS. This information was also presented in the SEIS.
13090-004	The harvesting of ocean wind energy has the potential to become a huge new industry in the United States very quickly. A lesson learned by the fishing industry is that the resources of the ocean are not limitless...The cold pool is so unique to this planet and so important to the ecosystem of the mid-Atlantic bight we simply cannot proceed without the thorough evaluation of the adverse impacts of the removal of wind energy from the ecosystem over the cold pool. The field surveys, empirical studies, and ecosystem modeling has not been conducted as is needed to address these concerns.	Cold pool dynamics and potential impacts are addressed in Section 3.3.1 of the FEIS. This information was also presented in the SEIS.
13090-005	In order to provide an example of use conflict, an analysis was performed by Azavea, a Philadelphia PA firm specializing in geospatial analysis and visualization for environmental impact. The report of the resulting analysis looked at the spatial operational needs of Atlantic surfclam vessels; The report is attached and is to be considered as part of this submission. Azavea was given access to the vessel monitoring system (VMS) data of the five Atlantic surfclam vessels of LaMonica Fine Foods and Azavea performed a conflict analysis for NJ Lease OCS-A 0499, one of the lease areas considered for cumulative impacts of the SEIS. The analysis of the VMS data determined that the median size of a polygon representative of fishing trips was 10.6 sq. nm. Half of the trips were smaller than 10 sq. nm and 47 trips or 32.6% were smaller than 5 sq. nm. The minimum operability thresholds for the operation of a surfclam vessel is much greater than that which is provided by a 1 nm x 1 nm grid turbine spacing with interarray cabling.	Section 3.10.2 of the FEIS was updated to include the analysis by Azavea. Section 3.10.1.1 of the FEIS states that Clam industry representatives state that their operations require a minimum distance greater than one nautical mile between WTGs, in alignment with the bottom contours, for safe operations and this reference was cited.
13090-006	Fishing isn't allowed within any European wind energy areas outside of England because of the dangers of catching an interarray cable carrying 66,000 volts. Although these interarray cables will be buried between 5 – 8' deep, surfclam and ocean quahog vessels that fluidize the high energy sand of	BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature

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	the OCS to harvest clams will not be able to fish where these cables are buried due to the extremely high risk to life and property if a cable is exposed and caught. The underwater turbine linkage maps show a poorly constructed plan if facilitation of fishing vessel operations is desired. Figure ES-1 (DEIS) is an example. Mobile gear fishermen in Europe report that the frequency of cable exposure makes the cables even more restrictive to fishing than turbines. Between the turbine spacing and the interarray cables, wind energy areas will essentially become no fishing zones once construction starts for the life of the wind farm and potentially forever.	System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details.
13090-007	The lack of information and requirements in the SEIS about decommissioning means this action will likely cause a permanent alteration of the marine environment and permanent zones that some fisheries find too risky to harvest within. Even if there is no regulatory restrictions from keeping a surfclam or ocean quahog vessel from fishing within a wind array the minimum operability thresholds for these vessel, along with the risk of catching a high voltage cable will prevent harvests within the arrays.	Decommissioning plans and timelines were discussed in Section 2.1.1.3 of the DEIS. The decommissioning approach and timeline are unchanged from the DEIS; therefore, no changes to the FEIS are warranted. Further, additional NEPA analysis will be conducted prior to making a determination on the decommissioning application that needs to be submitted for purposes of authorizing decommissioning activities, including the methods to be used.
13090-008	"The feedback of turbine emplacement on stock assessments potentially is the most important economic impact. An important issue is the degree to which adverse impacts would accrue to the science conducted by NMFS and the various states. This would include fisheries independent surveys, but also other science activities conducted by NMFS, such as endangered species monitoring and other physical and biological assessments including essential fish habitat assessments in the region. The SEIS broadly lists what these effects are likely to be and categorizes them as major. The logic used in the SEIS for major impact is that surveys will be impaired, uncertainty will increase, and quotas will be lowered (or eliminated). The SEIS notes that surveys within the turbine field are unlikely and that this will increase uncertainty in assessments, but without any estimates of effect. For some species, the actual impact would begin with a contraction of the total stock. Simply put, the only recourse in the assessment would be to assume that no stock exists in unsurveyed areas. The example of the region east of Nantucket and the clam survey is a good example. Here, the fishery has caught clams for many years, yet the region is not surveyed and those clams are not, therefore, included in the stock estimate. The wind turbine field would also be debited from the stock footprint. Consequently, estimated stock carrying capacity would be reduced. As the target and threshold reference points are directly related to carrying capacity, these also would be reduced. This would reduce the Overfishing Limit (OFL) and ultimately the Allowable Biological Catch (ABC). Consequently, the possibility of an overfished state or that	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail, including the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed through collaboration with NMFS and BOEM will continue to collaborate on survey protocols. It has been acknowledged that additional studies are needed and discussions are ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07

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	overfishing occurred would increase. Quota reductions would be a likely result.	
13090-009	It is important to realize that any unknown generates additional uncertainty that ultimately favors a quota reduction. It is important to realize that this impact is perpetual. That is, the economic damage is realized each year that the turbine field exists and restricts survey completeness. Thus a single year compensation package cannot mitigate the adverse economic impact.	The SEIS discusses these issues throughout Section 3.14 (Other Uses, Scientific Research and Surveys), and Section 3.14.2.5 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07). Existing voluntary compensation packages details are in Appendix D, including voluntary compensation packages that Vineyard Wind proposes for the life of the project. Therefore, no change to the FEIS is warranted.
13090-010	It is important to realize that long-term recovery after decommissioning might result in decadal and longer impacts on fishing of long-lived species, a timeline and effect level not contemplated in the current SEIS. Importantly, the SEIS does not show any estimates of effect of reductions in spatial footprint of monitoring on uncertainty in governance (quota calculations considering risk policy), even though simulations using Management Strategy Evaluation (MSE) technology are readily possible with today's software that would enable one to quantify the potential damage. As yet, then, we do not know how assessment models may respond to changing survey (and landings) inputs relative to defined reference points. It is important to note that under the MAFMC risk policy, increases in uncertainty in estimates of stock status and factors affecting population and ecosystem dynamics result in more precautionary advice when deriving ABCs.	Section 3.14 (Other Uses, Scientific Research and Surveys) and Section 3.14.2 of the SEIS discusses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no changes to the FEIS are warranted. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).
13090-011	In summary, the SEIS discusses impacts of wind energy areas to managed fisheries and notes these impacts will be among the greatest impacts of the project. The SEIS correctly indicates that impacts owing to inability of federal fisheries management agencies to conduct annual stock surveys within the wind area footprint will be major. However, the SEIS does not address the scale and scope of these impacts. Given the size and location of these wind leases, which overlap with important portions of many economically and culturally important stocks, the effect on scientific advice to inform management resulting from an inability to survey may be one of the biggest anticipated impacts of the wind project - but the scale of the consequences is not known. It is likely that the magnitude of the effect will vary by species, and that this uncertainty will be further compounded for	The SEIS addresses these issues throughout Section 3.14 (Other Uses, Scientific Research and Surveys), and Section 3.14.2 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).

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	fished species that are experiencing distribution shifts (both among and within years) due to climate change as the proportions of stocks being available/unavailable to monitoring will change as the spatial footprint of wind farm development changes (increases) over time during regional deployment, also exacerbating dynamic changes to biological reference points.	
13090-012	Also discovered in the Azavea report is that looking at the years between 2007 and 2018 as little as 1.1%, but as much as 30.0% of the fleets fishing time, according to the VMS data, was spent in this one wind energy lease area (NJ Lease OCS-A 0499) during a given year. Fishery biomass shifts over time due to environmental factors. If we are to take thousands of square miles of historic fishing grounds and virtually make them off-limits to large mobile tending bottom fishing vessels in the mid-Atlantic bight, some of the United States' most productive fishing grounds, we risk making off limits grounds that will be vital to the survival of many fishing businesses.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses how development in a Wind Lease Area could cause fishing vessel relocation, increased conflict, increased operating costs, and lower revenue; therefore, no change to the FEIS is warranted.
13090-013	Allowing such expansive areas to be operated by wind energy companies w/ 1 nm x 1 nm turbine spacing such as is being considered, preventing fisheries to operate these historic fishing grounds, by not accommodating the spatial operational needs of the fisheries, by causing the removal of portions of the fishery quota due to inaccessibility of NMFS survey vessels and the resulting increased uncertainty this will cause, the fishing industry is sure to contract significantly and some businesses to will not survive the addition of wind energy as a user group or our waters at this scale. This is not consistent with the national need for food security, the national need to enable our fisheries to operate. For these considerations of existing use of the OCS and national needs, BOEM must disapprove of the Vineyard Wind 1 Project.	Section 3.11 and 3.14 of the SEIS discusses the needs of some fishing operations for greater than 1 nautical mile clearance, the potential of practical exclusion of some fishing operations from Wind Development Areas, the restrictions on NMFS survey vessels and the resulting increased uncertainty, the potential to impact the financial outcomes of fishing, and the voluntary financial compensation programs offered by Vineyard Wind. Table 3.10-11 of the FEIS shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Therefore, no change to the FEIS is warranted.
13090-014	In conclusion, now that it is known that the environmental impacts of building over the cold pool, cannot be determined with the degree of certainty necessary to proceed, BOEM must disapprove of the Vineyard Wind 1 Project.	Cold pool dynamics and potential impacts are addressed in Section 3.3.1 of the FEIS. This information was also presented in the SEIS.
13090-015	Now that it is know that the impacts to fisheries due to loss of access to historical fishing grounds could easily account for 30% of a fleet's annual effort, BOEM must disapprove of the Vineyard Wind 1 Project.	Section 3.10 and 3.10.2 (Table 3.10-4b) of the FEIS demonstrates that less than 2 percent of landings from any given fishery are annually sourced from the Wind Development Area of the proposed Vineyard Wind 1 Project.
13090-016	Now that it is known all impacted fisheries will likely lose quota to sustainable fishery biomass BOEM must disapprove of the Vineyard Wind 1 Project.	Section 3.11 and 3.14 of the SEIS discusses that impacts on fisheries scientific surveys may result in more conservative quota and effort management measures; therefore, no change to the FEIS is warranted.
13090-017	Now that it is known that fisheries could potentially lose access to historically productive fishing grounds for 30 years, or even indefinitely BOEM must disapprove of the Vineyard Wind 1 Project.	Section 3.11 of the SEIS discusses how development in a Wind Lease Area could cause fishing vessel relocation, increased conflict, increased operating costs, and lower revenue; therefore, no change to the FEIS is warranted.

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13090-018	Last Tow, LLC report "Fishing Route Analytics Report"	Thank you for your comment.
13091-001	Massachusetts has committed to cost-effective offshore wind energy in two landmark pieces of legislation: the 2016 Energy Diversity Act and the 2018 Act to Advance Clean Energy. Already we have met the first legislative mandate requiring the procurement of 1,600 MW of offshore wind energy by 2027 and we are advancing efforts to meet the next goal requiring procurement of an additional 1,600 MW of offshore wind energy by 2035. The advancement of the 800 MW VW1 project is a critical component of the Commonwealth's offshore wind energy future and meeting our greenhouse gas emission reduction targets, including Governor Baker's commitment to reach net-zero emissions by 2050 announced in January.	Thank you for your comment.
13091-002	We would like to thank BOEM for releasing the SEIS on the timeframe previously put forward. Given the far-reaching and deep impacts of COVID19, BOEM's efforts to deliver such a comprehensive document, with the appurtenant information and analysis, and to hold five highly engaged and productive virtual public meetings on the SEIS is truly commendable.	Thank you for your comment.
13091-003	Since the DEIS, the United States Coast Guard (USCG) has released the final recommendations of the Massachusetts Rhode Island Port Access Route Study (MARIPARS)... The final study recommends that wind turbines in the Massachusetts and Rhode Island Wind Energy Areas (MARIWEA) be developed along a consistent and uniform grid pattern with at least three lines of orientation and spacing to accommodate vessel transit, traditional fishing, and emergency safety operations.	Section 2.1.3 and Section 3.11 of the FEIS incorporate, where appropriate, the Final MARIPARS. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13091-004	Massachusetts strongly supports the proposed VW1 project. More specifically, we support the Covell's Beach cable landfall route (Alternative B) and the 1 nm x 1 nm spacing with E/W orientation (Alternative D2). The 1nm x 1nm E/W turbine layout and spacing alternative meets the recommendations of the MARIPARS. This layout and spacing has also been adopted by the five offshore wind developers with active leases in the MARIWEA. A consistent and uniform grid pattern will reduce potential impacts on existing ocean uses including commercial and recreational fishing and other maritime traffic... As the authority on maritime safety and navigation, we recommend that BOEM with input from USCG adopt and apply these recommendations into the review of the VW1 project as well as future offshore projects.	Vineyard Wind has announced they will be using the Covell's Beach landfall and all state and local permits have been obtained. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. The FEIS includes BOEM's Preferred alternative.
13091-005	We request that BOEM reject the new transit lane alternative (Alternative F) as it is not supported by the MARIPARS and would result in a significant reduction in total offshore wind energy produced within the active wind energy lease area, making it difficult for the Commonwealth to meet our	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Both the SEIS and the FEIS provide a detailed analysis of the potential effects that could result if Alternative F were implemented.

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	offshore wind energy goals. Additionally, the transit lane Alternative F could have broader and more far reaching impacts on future offshore wind projects and other state offshore wind energy goals associated with projects planned within the MARIWEA. As the authority on maritime safety and navigation, we recommend that BOEM with input from USCG adopt and apply these recommendations into the review of the VW1 project as well as future offshore projects.	
13091-006	In parallel to BOEM’s review of the Construction and Operations Plan for the VW1 project, the project was reviewed by Commonwealth agencies for conformance with a number of applicable state laws and regulations. The review by these Massachusetts offices and departments is complete, and all licenses and permits have been issued. Coordination between Vineyard Wind, LLC and these agencies will continue through the implementation of specific monitoring plans for avifauna, benthic habitats, water quality, and cable burial to ensure the minimization and mitigation of impacts to critical coastal species and habitats throughout project construction, operation, and decommissioning.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13091-007	As part of the state review process, EEA and Vineyard Wind, LLC formally agreed to the Massachusetts Fisheries Compensatory Mitigation Plan. With this agreement, funds were established to compensate the Massachusetts fishing industry for potential impacts associated with the VW1 project that cannot otherwise be avoided or mitigated. Pursuant to the plan, Vineyard Wind agreed to establish two funds totaling \$20,935,016 over the life of the project: the Compensatory Mitigation Fund and the Fisheries Innovation Fund. The Compensatory Mitigation Fund (\$19,185,016) will offset potential direct, indirect, and cumulative economic impacts to Massachusetts fishing businesses and the Fisheries Innovation Fund (\$1,750,000) will facilitate innovation that supports the co-existence of the fishing and wind sectors in the offshore environment.	Section 3.10.2 and Appendix D of the FEIS discusses these mitigation funds related to the proposed Project; therefore, no change to the FEIS is warranted.
13091-008	I want to reiterate the Commonwealth’s commitment to the responsible development of cost-effective offshore wind energy to meet our greenhouse gas reduction commitments while ensuring its long-term coexistence with our commercial and recreational fishing industries and the protection of our marine ecosystems. We urge BOEM to continue its comprehensive and timely work on the VW1 project, finalizing the NEPA analysis and COP review, with an issuance of an affirmative Record of Decision in December 2020.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP.
13095-001	As compared with Alternative F... or any hybrid alternative that incorporates transit lanes, Alternative D.2.... provides a superior basis for supporting	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	multiple uses safely while further developing the offshore resource as Congress intended.	
13095-002	Specifically, Alternative D.2 strikes the best balance in meeting the intended purpose of the Vineyard Wind project...and addressing the U.S. Coast Guard’s (“Coast Guard”) recommendations for navigational safety..... inclusion of transit lanes—where no turbines could be erected—in offshore leases would stymie the ability of states to meet their renewable energy procurement goals by limiting the amount of offshore lease area for siting wind turbines. Against this need, Alternative D.2 strikes a reasonable balance with the navigation and safety concerns raised by stakeholders and promotes the safe coexistence of multiple waterway uses.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13095-003	Coast Guard’s final MARIPARS report, issued on May 27, 2020, clearly supports the selection of Alternative D.2....Coast Guard concluded that there is no need to establish routing measures through the NE WEA considering all vessel traffic patterns and a standard and uniform grid pattern. Coast Guard, however, recommended several mitigation measures and strongly recommended that BOEM require a standard array throughout the NE WEA that would allow for multiple, straight-line navigation safety corridors....In sum, Coast Guard’s MARIPARS report provides robust support for Alternative D.2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13095-004	Equinor Wind also is concerned that a transit lane, as described in Alternative F, would not guarantee that vessels would use the lane and would therefore create additional navigation complications or negate the purported purpose of the lane, meaning that significant swaths of the NE WEA would be restricted from wind turbine placement without any commensurate improvement to navigation safety. Further, transit lanes also may funnel more vessel traffic into the corridor and increase vessel density in an area with limited sea room. This funneling effect also may increase navigation risks, as Coast Guard recognized.	The FEIS addresses this comment in Section 3.11.5.
13095-005	Finally, a transit lane or port access route does not establish a two-way traffic pattern, separating in-bound and out-bound traffic flow. Should such a transit lane be established, Coast Guard may find it necessary to impose yet more navigational safeguards that could further limit or restrict fishing activities in the designated lanes altogether.	The Final MARIPARS study (USCG 2020) considered routing measures for possible application to the MA/RI WEA.
13095-006	As a matter of law, BOEM may rely on the expertise of Coast Guard in the NEPA process, and in fact, NEPA policy encourages BOEM to do so. ¹⁶ This reliance is routine and expected.	Thank you for your comment.
13095-007	BOEM’s guidance materials also expressly state that it will rely on the Coast Guard to review an applicant’s Navigation Safety Risk Assessment	The FEIS incorporates, where appropriate, the Final MARIPARS.

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	(“NSRA”) and to advise BOEM on its adequacy and the adequacy of any proposed navigational safety mitigation measures. BOEM should not blindly adopt Coast Guard’s analysis but, rather, should apply its independent judgment based on Coast Guard’s expert analysis. However, should BOEM disregard or supersede the Coast Guard’s recommendations in the NEPA process, BOEM may not benefit from deference in a court’s review of BOEM’s decision on a given project. Accordingly, Equinor Wind urges BOEM to closely consider Coast Guard’s expertise and advice, as reflected in the MARIPARS report.	
13095-008	The SDEIS takes the opposite approach of the DEIS. Instead of starting the analysis by identifying which projects are sufficiently defined for their impacts to be reasonably foreseeable, the SDEIS considers all potential development of the Atlantic seaboard, limited only by the technical resource potential and planned state solicitations for offshore wind energy. As a result, whereas the DEIS determined 926 MW of offshore wind projects were reasonably foreseeable, the SDEIS concluded that approximately 22,000 MW is reasonably foreseeable. The SDEIS does not adequately explain how in the intervening 18 months such a drastic change in foreseeability is possible when only incremental progress had been made on the offshore projects themselves. While it may be within BOEM’s prerogative to expand its analysis beyond the requirements of NEPA for a given project, BOEM should clarify that the unusual approach and breadth of analysis reflected in the SDEIS is not universally required by NEPA for cumulative impacts review and that other projects will continue to be evaluated on a case-by-case basis.	Thank you for your comment.
13095-009	The broad assumptions and generalities underlying the SDEIS cumulative impacts analysis highlight the challenges with including undefined and speculative projects in a cumulative impacts analysis and why NEPA bounds the analysis to projects that have more definite parameters. For instance, the SDEIS assumes that all projects will be constructed with 12 MW turbines....BOEM’s reluctance to take larger turbine sizes into account even for entirely hypothetical future projects on the Atlantic coast does not justify using 12 MW as a uniform base assumption; rather, it highlights the degree to which the SDEIS steps beyond NEPA’s requirements in order to blend known, likely, speculative, and even highly unlikely parameters. In doing so, BOEM departs from NEPA’s aversion to speculation, which does not meaningfully inform current decision-making.	Thank you for your comment.
13095-010	BOEM also assumes in the SDEIS that most offshore wind projects will use the 1 nautical mile spacing proposed within the NE WEA.... The assumptions for the spacing of turbines in offshore wind projects in other	Thank you for your comment.

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	states is without explanation or basis in the record. The assumptions are not tied to a specific project, particular offtake obligations of the project, or the navigational or safety concerns for that unique project. This turbine spacing information and Coast Guard’s input on a specific project’s NSRA, for example, is the type of information presented with a COP, again highlighting the relevance of including projects in a cumulative impact analysis only when they are sufficiently advanced for their impacts to be reasonably foreseeable—typically at the COP stage.... But renewable energy goals of other states may similarly require spacing less than one nautical mile, which again highlights the unstable assumptions on which the SDEIS is based.	
13095-011	Equinor Wind urges BOEM not to pre-ordain turbine spacing requirements for other offshore wind projects. These projects will be subject to individual and specific review by BOEM, with Coast Guard’s input as a cooperating agency.	Thank you for your comment.
13095-012	Offshore wind developers are likely to include various mitigation measures to avoid, minimize and offset potentially detrimental impacts.... However, the SDEIS largely omits mitigation measures that developers may employ, and as a result, the SDEIS presents impacts that are almost certainly substantially larger than will be the case as individual projects mature. Equinor Wind urges BOEM to directly state that, on a project basis, mitigation measures would be expected and could reduce the anticipated impacts below significance.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13095-013	The SDEIS underestimates the potential beneficial economic impacts with developing an entirely new industry in the United States with the finding of “minor or minor beneficial impact.”.... While the foregoing categories may catalogue beneficial or detrimental impacts, Equinor Wind believes that the magnitude and extent of the beneficial impacts is short-changed when juxtaposed with BOEM’s exceptionally broad—essentially industry-wide—scope of impacts analysis for offshore wind off the Atlantic coast.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13095-014	The efforts to develop offshore wind projects will result in significant economic development in many forms, such as increased tax revenues and thousands of jobs, as well as intangible benefits such as increased energy security. The SDEIS mentions little of the considerable contributions offshore wind development is expected to make. For instance, the SDEIS does not address the significant direct and indirect jobs offshore wind development is expected to generate, nor does it appear to account for the	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.

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	domestic supply chain that will be developed to support the burgeoning industry.	
13095-015	Numerous entities, including American Wind Energy Association (“AWEA”), have conducted studies estimating the net positive impacts associated with states’ efforts to foster offshore wind development.... While the SDEIS mentions the foregoing AWEA study, the SDEIS does not explain why these significant benefits reduce the expected economic impact to “minor or minor beneficial.”	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13095-016	In addition, BOEM narrows the economic benefits anticipated from the Atlantic offshore wind development by cabining it only to investment in New England. Yet BOEM canvasses nearly the entire Atlantic seaboard to cast for potentially negative impacts to the fishing industry. Moreover, balanced against this immense development benefit, BOEM adduces a relatively small risk of vessel allision or collision. BOEM itself had concluded that the navigation safety risk from the cumulative development is only moderate for Alternative D.2.	The geographic analysis area for economics is based upon the economic impact specific to the Vineyard Wind 1 Project. Section 3.6.1.1 of the FEIS notes the recent studies identifying nationwide anticipated investment in Atlantic coast offshore wind; however, the conclusions in the FEIS are limited to the geographic analysis area.
13095-017	In sum, to balance the exceptional, nearly industry-wide breadth of its cumulative impacts analysis, Equinor Wind believes BOEM should give greater consideration and weight to the beneficial impacts from offshore wind development writ large off the Atlantic Coast and should appropriately compare the full scope of the expected economic benefits, not just those from New England, to the potentially adverse impacts.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis.
13095-018	The SDEIS incorrectly concludes that Alternative F would have the same impact as Alternative D.2. The SDEIS explains that Alternative F has a similar cumulative impact than the proposed action based on a conclusion that the revised layout reduces impact on marine business related to the presence of offshore wind structures, short-term air emissions, cable emplacement, and vessel traffic. However, the impact to marine business, principally arising from navigation risk concerns, is lower with Alternate D.2 than with Alternative F. In other words, in relation to cumulative impacts from navigation and vessel traffic, BOEM finds Alternative D.2 to be safer than Alternative F, yet undermines this conclusion in the Environmental Justice discussion by omitting this difference between the two alternatives.	Section 3.7.4 of the FEIS has been revised to note that Alternative D2 in combination with Alternative F would result in increased risk of allision and collision.
13095-019	Equinor Wind encourages BOEM to reconsider the Environmental Justice finding for Alternative F and also consider the consequences of fewer	Sections 2.2.2 and the discussion of Alternative F for multiple resource areas have been revised to note that Alternative F may reduce the capacity of

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	turbines and the inability for states to meet their renewable energy procurement goals. This also will likely result in fewer construction and maintenance jobs, which could be filled by newly trained workers from the environmental justice communities that presently support the commercial fishing industry. Equinor Wind believes that offshore wind development could bring significant economic benefits to the environmental justice communities and that Alternative F may diminish this opportunity by reducing offshore wind development.	offshore wind power generation in the RI and MA Lease Areas. In addition, the FEIS concludes in Section 3.6.4 that Alternative F would have "incrementally smaller beneficial impacts due to potentially lower levels of job creation and economic investment in offshore wind." Section 3.7.4 of the FEIS notes that the reduced power generation capacity of Alternative F could reduce the displacement of fossil fuel power generation with the associated air quality benefits.
13095-020	The SDEIS concludes that the cumulative impacts on the military and national security uses of the NE WEA will be “major.” Equinor Wind urges BOEM to provide greater explanation and justification for this finding. The “major” impact finding appears to be largely driven by a perceived impact to search and rescue operations. However, this finding is at odds with the MARIPAR study, discussed above, that concluded uniform, one nautical mile spacing with three axis corridors would present only a minor impact to search and rescue operations. BOEM should explain why the same finding does not accrue to military and national security uses, especially given that the US Navy found only minor but acceptable impacts.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The Final MARIPARS report did not classify impacts to SAR operations as "minor" but rather was intended to determine navigational safety concerns, to evaluate the need for changes to enhance navigational safety, and to evaluate the need for establishing vessel routing measures in and around the RI and MA Lease Areas. Following the layout recommendations in the Final MARIPARS would improve safety, but it would not remove the risk of allisions or collisions with WTGs during SAR operations particularly in challenging weather or visibility conditions (USCG 2020).
13095-021	The SDEIS identifies paleolandforms and paleolandscapes, features that are contributing elements to a National Register-eligible Tribal Cultural Property, as being potentially impacted by offshore wind development. However, not all paleolandscapes will necessarily be eligible for the National Register. Equinor Wind believes it is premature to draw an impact conclusion pertaining to paleolandscapes while studies are pending or have yet to be initiated. The nature of cultural and historic impacts is highly specific to the location and requires project-specific studies, not broad assumptions.	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. The description of impacts is located in Sections 3.8.2-3.8.5, and when considered against the criteria determining the intensity of impacts (i.e., whether they are minor, moderate, etc.), located in Section 3.8.6, the impacts are of a moderate nature.
13095-022	Additionally, re Homeland security, ROTH type radar facilities like the ARSR-4 which are considered the first line of site protection from 240 km out could be greatly affected by Offshore Wind especially as the turbine heights get larger and larger.	Section 3.12 of the FEIS has been updated with additional details regarding radar systems and concludes that the Proposed Action alone would have minor impacts to radar systems, but moderate impacts in the context of reasonably foreseeable environmental trends and planned actions. As described in Section 7.9.2.1.2 of the COP, Vineyard Wind conducted a basic radar line-of-sight analysis for the North Truro ARSR-4 and Riverhead ARSR-4 radar systems, and determined that the Proposed Action WTGs would not be visible or interfere with either system. The DoD Clearinghouse would coordinate with military and national security agencies for each

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		offshore wind project proposed in the RI and MA Lease Areas to de-conflict potential impacts to radar systems on a project-by-project basis.
13101-001	The SEIS developed for the Vineyard Wind project, along with the original Environmental Impact Statement (EIS), fulfill these requirements, and given the benefit of experience, science, and evolving technologies, it is likely that subsequent offshore wind projects will similarly be able to meet these criteria.	Thank you for your comment.
13101-002	The SEIS contains a cumulative impact analysis under the National Environmental Policy Act (NEPA) that is unparalleled in its expansive scope and atypical for NEPA reviews conducted by the U.S. Department of the Interior....During this same time frame, the Council of Environmental Quality (CEQ) was revising the NEPA regulations as part of the Administration's efforts to streamline environmental reviews, including a revision that would eliminate the consideration of cumulative impacts.....Thus, arguably BOEM will not need to conduct or apply its cumulative impact analysis for offshore wind projects after September 14, 2020.	Thank you for your comment.
13101-003	Under its significantly broader SEIS analysis, BOEM assumed a large amount of new, offshore wind projects in the Atlantic, namely the development of 22 gigawatts of offshore wind energy produced by approximately 17 lease areas involving the installation of 2,000 turbines over a ten year period... Thus, the inclusion of this many projects in such a short time frame overloads the cumulative impacts analysis, with the silver lining that this approach ensures there are no deficiencies in the NEPA analysis.	Thank you for your comment.
13101-004	The SEIS' cumulative impact analysis also does not account for the fact that many of the identified impacts will be addressed in each project by the project developers. Specifically, the analysis does not consider that individual wind project developers will implement significant mitigation measures during construction, throughout the design and installation phase, and with regard to navigational safety.	Thank you for your comment.
13101-005	Furthermore, the SEIS analysis does not include the proposed mitigation measures discussed in the draft EIS.	Thank you for your comment.
13101-006	Lastly, the SEIS greatly expanded its geographic reach to include nearly the entire Atlantic coastline southward to Cape Hatteras, North Carolina, providing a massive level of review beyond the affected region.	Thank you for your comment.
13101-007	As a result, the SEIS is unparalleled in its comprehensive scope and considers the maximum level of impacts. Despite this front-loading, the SEIS did not find major impacts that are unmanageable....Thus, while there are impacts associated with the Project, they are manageable, mostly temporary,	Thank you for your comment.

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	and will be addressed by the developer, as will be the case with other offshore projects.	
13101-008	BOEM has developed a NEPA analysis that supports the selection of Alternative D2, which provides for a one nautical mile turbine spacing layout to allow for both navigational safety and accommodation of fishing routes... Indeed, the Massachusetts and Rhode Island Port Access Route Study (MARIPARS) conducted by the US Coast Guard, the agency responsible for safe vessel navigation, supported the one nautical mile turbine spacing approach and did not recommend new transit corridors in the New England region.....Significantly, Vineyard Wind and other offshore wind developers in the region are committed to adopting Alternative D2.... Thus, there is a strong and rational basis for BOEM to adopt Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13101-009	In light of the foregoing, BOEM should reject Alternative F, which was a late proposal from the Responsible Offshore Development Association (RODA) on January 3, 2020....Furthermore, while Alternative F has a lower level of cumulative impacts (moderate to major as opposed to major) compared to some of the other alternatives, it has greater cumulative impacts than Alternative D2, which has only a moderate cumulative impact.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13101-010	Alternative F's transit lanes do not significantly improve navigational safety, as suggested by the fact the U.S. Coast Guard did not recommend transit lane changes, and there is no indication that there was a need for this alternative given that the other alternatives were determined to have only negligible to moderate direct and indirect impacts to navigation...Furthermore, to adopt an approach that would jeopardize the viability of multiple wind projects and renewable energy generation is not justified under these circumstances. As such, BOEM should not adopt Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13101-011	It is important to emphasize that the SEIS was developed for the purpose of assessing cumulative impacts for the Vineyard Wind project, but it is not an assessment of other offshore wind projects coming online at a later time. Each offshore wind project should be evaluated on its own facts, geographic location, and site-specific conditions under the BOEM COP review and approval process. Of course, the SEIS provides helpful information to BOEM in its evaluation of future projects, such as the valuable knowledge gained from evaluating navigational safety routes and the development of the collaborative Alternative D2 approach. Certainly, lessons learned here will streamline and support future wind development moving ahead. But it will be important for BOEM to properly evaluate each project on its own merits.	Thank you for your comment.
13101-012	This approach will not circumvent important environmental considerations, given that most offshore wind developers are proceeding under a design	Thank you for your comment.

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	envelope approach, which assumes a “maximum design scenario,” resulting in an assumption of greater impacts than what may actually occur, given that adjustments will be made by the developer in the final design and installation phase of the project to avoid, minimize, or mitigate impacts. Thus, there is an overinclusion of potential impacts in the NEPA evaluation even without this overly comprehensive cumulative impact analysis.	
13101-013	BOEM is also poised to propose new regulations on the facility design and installation phase of the approval process, which is expected to better facilitate the inclusion of important geophysical and geotechnical survey data into the design and fabrication and installation process. See BOEM Deregulating and Streamlining Renewable Energy Regulations (RIN 1010-AE04). These refined regulatory changes will ensure that the NEPA review is structured to enable developers to make well-informed, final decisions about the layout of their projects with the most recent and specific information about site conditions and marine uses.	Thank you for your comment.
13101-014	Lastly, BOEM also requires developers to include a navigational safety risk assessment in their COP submittals. These measures, combined with compliance with other, applicable federal laws that are protective of natural resources, marine uses, and wildlife, will ensure that adequate NEPA reviews will occur for each offshore wind project.	A navigational safety risk assessment was included in the COP submittal (COP Volume III, Appendix III-I, Epsilon 2020a).
13102-001	[Seafreeze's] pre-existing federally permitted activities, use of the sea and seabed for a commercial fishery, and associated navigation, per the Energy Policy Act, are in conflict with existing BOEM leases [in the OCS and USEEZ]. Although in many instances, these conflicts were raised early in the BOEM process, leases proceeded without regard for these impacts.	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and the proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing.
13102-002	Regarding the Vineyard Wind Project, we repeatedly raised similar fishery and navigational concerns with both the project developer and BOEM over several years, via in person meetings, and both verbal and written public comments. Agency response over this timeframe has included dismissal of concerns, termination of stakeholder phone calls mid call while we waited to make comments, and statements that our fishing and navigational concerns re	The FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.

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	the Energy Policy Act would be addressed at the end of the BOEM process during consideration of the COP	
13102-003	...neither BOEM nor Vineyard Wind have included Rhode Island Department of Environmental Management's Division of Marine Fisheries analysis of the value of Rhode Island fisheries in the Vineyard Wind lease area into their decision-making process. ... As a result, the impacts to the commercial fishing industry from the Proposed Action alone have been severely undervalued.	The Section 3.10.1 of the FEIS has been updated to utilize the cited RI DEM analysis.
13102-004	these impacts to our vessels and businesses will be evaluated pursuant to the final NEPA analysis currently ongoing, at the final decision on permitting...We continue to contend that impacts to existing uses such as a fishery or navigation per the Energy Policy Act should be considered at the beginning of the process, to eliminate important fishery areas from lease consideration at the outset. However, as BOEM has held off its final decision until the very end, it retains considerable leeway in approval or disapproval at this late stage, a fact also made clear to project developers early in the leasing process.	The potential effects of commercial wind lease issuance and site assessment activities offshore Rhode Island and Massachusetts had notice and comment opportunities that resulted in the removal areas from consideration because of known fishing activity (e.g., Massachusetts [Nantucket Lightship], and Rhode Island/Massachusetts [Cox Ledge]). These areas were then evaluated and presented in an Environmental Assessment in 2013. A link to that document can be found here: https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/State_Activities/BOEM%20RI_MA_Revised%20EA_22May2013.pdf That process included and accounted for public input. In addition to project specific meetings as part of the NEPA process, BOEM also regularly briefs and solicits comments from the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils, as well as the Atlantic States Marine Fisheries Commission. These briefings are an important avenue for BOEM to make sure the fishing community is aware of the status of projects, when there is opportunity to comment on a project and for BOEM to receive important information from the fishing community regarding its leasing activities. BOEM has continued to engage with commercial fishing industry and interested stakeholders throughout the NEPA process for the proposed Project; BOEM engages with the public and stakeholders in each step of the process and takes public input into consideration when making any decision. BOEM has considered all comments throughout the Vineyard Wind 1 Project NEPA process. In addition, Appendix C of the FEIS provides information related to BOEM's consultation and coordination efforts.
13102-005	We also draw attention to Table ES-1, Changes to the Limits of the PDE, on page ES-3 of the SEIS, which proposes to increase the limit of turbine size from 10 MW and associated parameters to 14 MW and associated parameters. We are unaware of any other construction project where such a significant change, or any change at all, is permissible at such a late stage...Allowing such tremendous last-minute changes to a PDE is not only inconsistent with established public policy at many levels, but it also	The SEIS and FEIS take into account the changes in the proposed Project's design envelope and assess the potential impacts of larger turbines. As evaluated in the SEIS and in Chapter 3 and Appendix A of this FEIS, implementation of fewer, larger turbines could be less impactful to many resources, such as benthic, marine mammals, and sea turtles due to decreased pile driving activities. However, utilizing larger turbines could have greater visual impacts, and the magnitude of positive economic effects would be less

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	significantly changes the levels of impacts. These impacts range from magnitude of pile driving and operational noise to benthic footprint to radar and national security footprints. To assume the same level of impact from a smaller structure with related impacts as from a larger structure with related impacts is unreasonable.	with fewer turbines when compared to utilizing a greater number of smaller turbines.
13102-006	While the SEIS states that changes to the proposed Project have been analyzed to the “extent they are applicable” this is clearly not the case. For example, Table A-4, Offshore Wind Leasing Activities in the U.S. East Coast: Projects and Assumptions” all future projects estimated to begin construction after the Proposed Project are in the 8-12 MW turbine range, i.e. smaller than the 14 MW turbines being currently proposed in the changes to the limits of Vineyard Wind’s PDE. It is not reasonable to assume that if larger turbines are available for projects at this time, future projects will use smaller and outdated turbines. Therefore, all the cumulative impacts from future projects assumed in the SEIS have actually been underestimated.	As noted in Section 1.7.1.1 of the SEIS, it is difficult to predict turbine capacity and spacing or other future engineering for planned but currently unscheduled offshore wind awards. Therefore, BOEM used reasonably foreseeable assumptions for the analysis and no change to the FEIS is warranted.
13102-007	If project developers are able to update PDEs throughout the application process and right up until final decision, it is reasonable to assume that they will do so with larger and larger turbines as these technologies become available. Therefore, cumulative impacts should include impacts from 15-20 MW and potentially larger turbines for coastwide leases.	As noted in the SEIS, and within the FEIS, BOEM has included a list of assumptions for the analysis for those planned actions that were considered reasonably foreseeable. As noted, for those projects with announced WTG sizes, BOEM assumed an 8 or 12 MW WTG. BOEM understands that turbine capacity may exceed 12 MW in the future. However, for future procurements and projects under this analysis, BOEM evaluated potential impacts assuming that 12 MW WTGs will be used—since it is the largest turbine now commercially available. In addition, each of these future projects will have a NEPA analysis, which will evaluate the appropriate turbine capacity assumption at that time. Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts. As noted in Section 1.7.1.1 of SEIS, it is difficult to predict turbine capacity and spacing or other future engineering for planned but currently unscheduled offshore wind awards. Therefore, BOEM used reasonably foreseeable assumptions for the analysis and no changes to the FEIS are warranted.
13102-008	An ever-changing target is nearly impossible to assess, and undoubtedly will lead to poor public policy and planning, as well as lack of timely assessments of conflicts with existing uses managed by multiple bureaucratic agencies. Such changes to PDEs not only make accurate impacts assessments nearly impossible, but it is also inconsistent with other federally permitted entity processes.....Potential impacts from proposed wind projects, such as irreversible habitat alteration/destruction and continual operational noise, to fish stocks are much greater than those of commercial fisheries, which are restricted and transient in nature. Two different standards should not be	The development of the DEIS, SEIS, and FEIS has been based on Vineyard Wind's utilization of the PDE. The SEIS as well as Section 2.1.1 of the FEIS specify Vineyard Wind's recent changes to the PDE, particularly related to the potential use of up to 14 MW WTGs. The FEIS states that implementation of fewer, larger turbines could be less impactful to many resources, such as benthic, marine mammals, and sea turtles due to decreased pile-driving activities. However, utilizing larger turbines could have greater visual impacts, and the magnitude of positive economic effects would be less with fewer turbines when compared to utilizing a greater number of smaller

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	maintained by federal regulators for competing uses of the same federal waters, impacting the same natural resources.	turbines. The FEIS assesses the impacts of the reasonable range of Project designs that are described in the Vineyard Wind COP and presented in Appendix G by using the “maximum-case scenario” process. Additionally, once BOEM makes a decision on whether to approve the COP, approve it with conditions, or disapprove it, any changes to the PDE or activities that do not fit within the PDE would require BOEM's approval. Certain variations to a proposal are allowable under NEPA without the need to prepare a supplemental analysis.
13102-009	In weighing the net benefit to the nation on whether to approve the Proposed Action or any of the Action Alternatives, major adverse impacts cannot be outweighed by negligible or potential minor impacts if placed on an objective scale. Mitigation of climate change is purportedly the driving force behind all offshore wind projects. However, if the SEIS determines that “construction of offshore wind facilities are not expected to impact climate change” but will have major negative impacts on the U.S. seafood industry and related jobs, cause loss of life due to major adverse impacts on marine navigation, and cause major adverse impacts to U.S. national security, a rational conclusion is that the Proposed Action and all other anticipated future projects should not go forward unless all these issues can be fully resolved.	The quoted text in the comment is related to the adverse impacts to climate change as a result of construction activities of the proposed Project. The SEIS and FEIS specify that the proposed Project would offset emissions related to its development and eventual decommissioning within 8 years of operation, and from that point would offset emissions that would be generated otherwise were the electricity being generated from another source.
13102-010	The major impacts to commercial fisheries and fishing communities highlighted in the SEIS as a result of the Proposed Action would be at odds with the President’s May 7, 2020 Executive Order “Promoting American Seafood Competitiveness and Economic Growth”...As noted in our comments below, U.S. commercial fisheries and particularly the squid/calamari fishery, which produces a sustainable product that cannot be farmed via aquaculture methods, will be even more negatively affected by the Proposed Action then assumed in the SEIS....Therefore, we can only support Alternative G- No Action Alternative.	The Secretary of the Interior will work with the Secretary of the Army, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, other appropriate Federal officials, and appropriate State officials to implement the Executive Order as described in the Order. Section 3.10 of the FEIS considers the squid fishery's reliance on the Vineyard Wind lease area and other nearby lease areas in regards to landings and revenue.
13102-011	"The Proposed Action would cause sediment deposition on up to 2,594 acres, which would result in minor impacts. [from SEIS]" We do not believe this is a minor impact. Should year classes of longfin squid eggs and larvae be smothered by sediment, there would be far-reaching impacts for both the resource and the fishery. Furthermore, suspended sediment through the water column for a 10-mile radius will also impact this stock, particularly when vibrating with underwater sound (discussed below in regards to longfin squid).	Section 3.4 of the SEIS discussed potential impacts of sediment deposition on squid, among other organisms. Stock-specific assessments are beyond the scope of this EIS. Such analyses are not essential to a reasoned choice among alternatives. Therefore, no change to the FEIS is warranted.
13102-012	[Regarding scour] Appendix K references the COP Volume II Section 2.2.4, which is also redacted despite both of these data sources being public. Without knowing which section of the RI Ocean SAMP was quoted, it is	The COP (Volume II and Appendix III-A) contain modeled predictions and sonar-based measurements of scour in the WDA and OECC, as well as estimates of sediment transport. These sources consider the increased

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	difficult to comment on that source directly. However, the RI Ocean SAMP data primarily focused on the Block Island Wind Farm area, which is very differently hydrodynamically than the Proposed Project area and surrounding areas, and with much slower tidal currents...These tidal current speeds in and around the Vineyard Wind project area and MA/RI leases are equal to or greater than those causing sediment plumes in European projects. Therefore, we believe the SEIS underestimates the impacts of sedimentation, scour from the Proposed Project area, and also the need for cable matting and scour protection and adjacent/cumulative impacts lease sites and/or levels of exposed cables, which increases the overall footprint of structure/exposure on the seabed and sediment impacts to commercial fisheries and fisheries resources.	hydrodynamic forces in the Vineyard Wind lease area and OECC compared to the Block Island Wind Farm. The Section 3.4 and 3.11 of the SEIS consider the potential impacts of scour, sedimentation, and scour/cable protection; therefore, no change to the FEIS is warranted.
13102-013	Based on the tidal speeds and sediment type in the project area, it is reasonable to assume that cables will become unburied over time, as is the case in many wind farms in Europe... Impacts from EMF to benthic resources “would be permanent as long as the cables are in operation”. These negative impacts will be higher than anticipated should cables become exposed, as is likely given strong tides in the vicinity.	Section 3.2 of the FEIS was updated to note that if cables are not sufficiently buried this may lead to stronger EMF; however, the cables would be contained in grounded metallic shielding to prevent detectable direct electric fields and routine monitoring would be performed by Vineyard Wind to make sure cables are buried.
13102-014	..these assumptions [for scour protection and operating footprints] regarding 12 MW turbines are incorrect, and based on information we have verbally received, the footprint of scour protection estimated per foundation for projects other than Vineyard Wind is far too small. Additionally, it is reasonable to assume the need for more cable matting than estimated by the SEIS, both inside and outside of leases (in export cable corridors). This impacts not only benthic habitat, benthic resources and habitat conversion, but also removes more fishable area from trawl gear.	The development of the DEIS, SEIS, and FEIS has been based on Vineyard Wind's utilization of the PDE. Each Applicant for a lease area is required to submit their own COP which triggers an NEPA analysis. BOEM believes that the information provided by Vineyard Wind in their COP is accurate.
13102-015	The SEIS mentions many times that “Structures, including tower foundations, scour protection around foundations, and various means of hard protection atop cables create uncommon relief in a mostly sandy seascape.” We do not understand how BOEM has reached this conclusion. Hard structure is not the preferred habitat type of many species, including longfin squid....we disagree that structure is “uncommon relief”, as the SEIS repeatedly assumes and which habitat conversion it asserts will be “moderate beneficial,” even for commercial fishing. This assumption fails to recognize the fact that the largest fishery in the area, the longfin squid fishery, is entirely a trawl fishery, which cannot operate on or around structure bases, scour protection, or cable covering. In fact, the majority of all commercial fishing in the WDA is trawl fishing, so “moderate beneficial” impacts to commercial fishing could not be further from the truth.	Sections 3.3 and 3.10 of the FEIS have been updated to clarify that adding hard structure would provide "uncommon vertical relief." Regarding permanent habitat alteration and impacts to commercial fisheries, Section 3.10.2 of the FEIS states "Permanent habitat alteration in the form of scour and cable protection would reduce the habitat for species such as winter flounder and displace species that prefer soft-bottom habitat (e.g., squid) from the area immediately surrounding the foundation footprint. The creation of hard-bottom habitat would, however, benefit species such as American lobster, striped bass, black sea bass, scup and Atlantic cod—and potentially increase their habitat."

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13102-016	For example, the summer longfin squid fishery that occurs in the MA/RI area and Project area is not only the major economic driver for many Southern New England and Rhode Island trawl vessels, but is managed without daily trip limits... The alternative “hard bottom” habitat fish primarily harvested in the area is black sea bass. In the summer months in the state of Rhode Island, this species is currently subject to a 100 lb trip limit. This is simply not a financially viable alternative for a 60-100 foot squid trawl vessel, the primary fishery vessel typically working in and around the WDA. Therefore, a “moderate beneficial” impact assessment for commercial fisheries as a result of habitat conversion is ludicrous.	Regarding permanent habitat alteration and impacts to commercial fisheries, the Section 3.10.2 of the FEIS states "Permanent habitat alteration in the form of scour and cable protection would reduce the habitat for species such as winter flounder and displace species that prefer soft-bottom habitat (e.g., squid) from the area immediately surrounding the foundation footprint. The creation of hard-bottom habitat would, however, benefit species such as American lobster, striped bass, black sea bass, scup and Atlantic cod—and potentially increase their habitat."
13102-017	We also fail to see how pile driving on and essentially paving over benthic species living in or on the sand will provide uncommon relief for those species. Neither will the increased EMF exposure to unburied cables provide “uncommon relief” for such species.	"Relief" in this context means three-dimensional vertical relief. The FEIS was updated to use the term "vertical relief," and not simply "relief." Section 3.2 of the FEIS considers the consequences of pile driving, placing materials on the seafloor, and EMF on benthic resources.
13102-018	The SEIS assumes that cables will remain buried and therefore impacts [to longfin squid would be] minimal, but this would not be a valid assumption given the experiences both in Block Island and Europe [where cables became exposed shortly after installation].	Section 3.3.2 of the FEIS has been updated to discuss that the cables will be buried to a minimum target burial depth of 5 feet (1.5 meters), that routine monitoring would be performed by Vineyard Wind to make sure cables are and remain buried, and that, in cases where cables become unburied, additional cable protection measures would be installed.
13102-019	...it is reasonable to assume that longfin squid eggs at the very least will be exposed directly to EMF, and most likely the adult squid themselves if they attempt to maintain their natural daytime habits near the seafloor. The EMF impacts on squid are not analyzed by the BOEM EMF study, because it labels them “pelagic” while at the same time acknowledging that longfin squid stay near the seafloor and attach their eggs to the seafloor. In fact, despite being the most significant and impacted fishery/commercial species in the Project area, longfin squid is not even mentioned in the EMF study’s Table ES-1... This is a glaring omission considering the overlap of longfin squid habitat and fishing activity with the Vineyard Wind lease and cumulative impacts analysis leases, as is the fact that bottom dwelling shellfish such as scallops and clams are also absent from the EMF analysis yet also most likely to experience impacts.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. BOEM continues to fund studies to address concerns raised in public comments, including responses of additional species to EMF (https://www.boem.gov/environment/environmental-studies/renewable-energy-research).
13102-020	The SEIS says that noise from pile driving and construction for foundations would be “temporary.” But then it proceeds to say that this noise would be produced for 4-6 hours at a time for a 6-10 year period, and from 2021-2030 in the MA/RI lease areas alone. That is not temporary. That is long term. Particularly for species such as longfin squid that live only approximately 9 months. Such a construction time would affect many generations of this	Section 3.4.1 of the SEIS discussed the vulnerability of longfin squid, which spawn only once, to pile-driving noise; therefore, no change to the FEIS is warranted.

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	species, the most prevalent species in the Proposed Project and surrounding areas.	
13102-021	The [pile driving] impacts may in fact extend further than 5.7 miles, as the SEIS references for these estimates the COP Section 4.2.3, which anticipated to use less than 4,000 kJ of energy per strike on up to 10 MW turbines and which is the same kJ estimate given in the SEIS regarding hammer size impacts. This is not reasonable, given that the new PDE anticipates 14 MW turbines with larger foundations that would logically require more force to install. The SEIS also quotes updated information in Epsilon 2020, which is fully redacted, so informed comment on that document is unfortunately not possible.	Section 3.3.2 of the FEIS has been updated to discuss potential increases in pile-driving hammer energy. The COP states that the foundations and pile driving would not change as a result of the proposed 14-MW turbines.
13102-022	...The impact of pile driving noise on finfish and invertebrates would depend on the time of year it occurs; the impact could be greater if the noise occurs in spawning habitat during a spawning period, particularly for species that...spawn only once during their lifetime (e.g. longfin squid...It is anticipated that most pile-driving activity would occur in the summer months when weather windows are favorable. Thus, species that spawn in the summer (e.g. longfin squid...) would be more susceptible to disturbance from pile driving noise.....We do not understand how the SEIS has not singled out longfin squid for “major” impacts considering [injurious noise discussed in the SEIS]. ...longfin squid live 9 months and spawn once. The Proposed Project area, as well as the NY lease area re cumulative impacts, are two summer spawning areas that also support healthy and sustainable fisheries. Noise kills longfin squid and other cephalopods...The construction will happen in the summer months, which is the time of year when the squid are present...It is reasonable to assume that 6-10 year classes of longfin squid will suffer repressed recruitment due to consecutive years of pile driving during the summer months. This is entirely unacceptable, and will result in major, not moderate, impacts to the longfin squid stock and summer fishery. There is no mitigation for this should construction occur as planned, and no reparations to the squid industry for the potential loss of the squid population and summer fishery. Should population level impacts occur stockwide from both the Proposed Action and cumulative impacts, Seafreeze Shoreside and Seafreeze Ltd., both national leaders in longfin squid production and harvest, will experience significant and irreversible negative economic impacts.	Section 3.4.1 of the SEIS discussed the vulnerability of longfin squid, which spawn only once, to pile-driving noise, and Section 3.3.6 of the DEIS discussed mitigation of impacts from pile-driving noise. Section 3.3 and Appendix D of the FEIS include the corresponding information from the DEIS and SEIS.
13102-023	The SEIS states “while noise associated with operational WTGs may be audible to some finfish and invertebrates, this would occur at relatively short distances from the WTG foundations, and there is no information to suggest that such noise would adversely affect finfish, invertebrates, and EHF (English et al),” “[t]here does not appear to be evidence that noise related to	Please refer to the revised Section 3.3 of the FEIS for a discussion of operational turbine noise impacts from existing wind farms.

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	operations and maintenance of offshore wind energy facilities would negatively affect finfish, invertebrates and EFH”, and concludes that operational noise would therefore “not likely lead to noticeable impacts on commercial fisheries.” This is entirely false... [references studies cited in SEIS]...The impacts from the Vineyard Wind project alone, never mind cumulative impacts, are orders of magnitude larger than anything studied. It is not reasonable to assume that sound impacts from a wind farm comprised of 2 MW turbines, or measurements taken from two 6 MW turbines, will be the same level of noise generated by over 900 MW+ turbines. The MA/RI area alone is larger than the state of Rhode Island. Introducing that degree of noise over an area larger than an entire state is not a minor or moderate impact...Introducing massive levels of low frequency noise lethal to longfin squid for decades on end right on top and adjacent to their prime summer habitat and the irreplaceable fishery that relies on this stock is completely unacceptable.	
13102-024	Introducing massive levels of low frequency noise lethal to longfin squid for decades on end right on top and adjacent to their prime summer habitat and the irreplaceable fishery that relies on this stock is completely unacceptable.....Impacts to longfin squid cannot be lumped in with general “moderate” impacts to fish and invertebrates both from the Proposed Action and cumulatively. It is the most impacted commercial species in the Vineyard Wind area, and has significant overlaps with both the MA/RI and NY lease areas, as does the summer longfin squid fishery. Squid will suffer major impacts as a result of lethal sound alone, both from 6-10 years of construction noise during summer spawning and summer fishing activity as well as over 20-30 years of operational noise which is projected to worsen over time as structures age. These are major impacts by SEIS definition. They will remain throughout the life of the project(s) and cannot be mitigated... The Rhode Island longfin squid fishing industry, the largest in the country, cannot withstand these major impacts to its product source.	Section 3.4 of the SEIS discussed the potential impacts of WTG operational noise and construction noise on squid. Given the nature and extent of impacts anticipated, BOEM has no reason to expect that finfish and invertebrate communities, or longfin squid in particular, would not fully recover, even after the impacting agent is gone and remedial or mitigating action is taken. Quantitative stock assessments are beyond the scope of this EIS. Therefore, no change to the FEIS is warranted.
13102-025	The SEIS contends that finfish and invertebrates will be affected by climate change, affecting species composition, leading to changes in fishing activity and frequencies of disease. According to the definitions put forth in the document, all impacts are considered adverse impacts unless otherwise specified as beneficial. Therefore, it assumes that climate change impacts on longfin squid will be negative. However, this is not what the science says. In fact, according to Hare et. al., which the SEIS quotes for this information, longfin squid is projected to be positively impacted by climate change, along with several other species. Therefore, productivity of this species and related fishery should actually increase, not decrease. If other fisheries are negatively	Section 3.4.1 of the SEIS discussed the potential impacts of climate change on species and considers that some changes may be positive, negative, or neither; therefore, no change to the FEIS is warranted. A stock-specific analysis is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives.

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	impacted by climate change, the longfin squid fishery due to increased productivity would, absent negative impacts due to offshore wind development, become even more economically important to fisheries stakeholders. If it is majorly impacted by offshore wind development, the negative impacts may become even more severe in the future.	
13102-026	One particularly pertinent impact not discussed by the SEIS is the potential impacts to the Massachusetts area horseshoe crab population from cable laying, EMF, cable exposure and/or scour protection in the Proposed Project area, as well as potential other construction activities for the Proposed Action and other anticipated projects, through and on horseshoe crab habitat coastwide. Neither the SEIS nor the COP analyze these impacts...The impacts to horseshoe crabs from both the Vineyard Wind project and other anticipated cumulative projects is much broader than a basic “fishery analysis”...Considering the importance of horseshoe crab blood to the FDA on all injectable drugs, in addition to the COVID19 situation, the impacts to the entire U.S. public health system and medical safety of U.S. citizens should be a factor evaluated by the SEIS for both the Proposed Project and cumulative projects if this species may experience any impacts whatsoever.	Horseshoe crabs are discussed in the revised Section 3.2 of the FEIS. Potential impacts on horseshoe crabs are considered alongside other slow-moving benthic species of importance. Impacts on spawning horseshoe crabs are addressed specifically.
13102-027	There is no cumulative analysis on the impacts to [the Mid Atlantic] Cold Pool from the extent of structures planned in the cumulative scenario. However, in the SEIS, “using the assumptions in Table A-4, it is anticipated that the expanded cumulative scenario would include up to 373 structures in the water quality geographic analysis area and could result in alteration of local water currents.” The water quality geographic analysis area only partially covers sections of the MA/RI lease area. This must be expanded to an overall NEPA cumulative impact analysis for the entire East Coast or potentially risk irreversible impacts to the Mid Atlantic Cold Pool and marine food web.	Section A.8.2.1.1 of the SEIS discussed the potential impacts from the placement of up to 373 structures within the water quality geographic analysis area. It concluded the overall impact of changes in local water currents (and sedimentation) from the presence of structures is anticipated to be localized and interim over the life of the projects, resulting in little change to water quality. The FEIS also considers the impacts of the Proposed Action in combination with other projects. It is reasonable to assume that impacts from the Proposed Action on water quality would typically occur within a 10-mile radius around the WDA, the OECC, and vessel approach routes to port facilities that would be used by the Project, as described in Table A-1 and in Section A.8.2.1. Furthermore, Section 3.4.4.1 of the SEIS discussed the cold pool more specifically, as well as the potential impacts on finfish, invertebrates, and EFH from potential mixing of the cold pool. Therefore, no change to the FEIS is warranted. This is a Project-specific EIS, not a Programmatic EIS or assessment.
13102-028	“Marine mammals have the potential to react to submarine cable EMF; however, this impact, if any, would be limited to extremely small portions of the areas used by migrating marine mammals. As such, exposure to this IPF would be low” [from SEIS]. This is wholly untrue considering the number of endangered NARWs that habitually migrate through the Project area and entire MA/RI lease area. [presents figures depicting right whale sightings/dynamic management areas within Project area]. Based on the	Sections 3.5.1 and 3.5.2 of the SEIS discussed the potential impacts of EMF on marine mammals, including the NARW. As discussed, modeled and measured magnetic fields from AC cables buried to a depth of 3 feet would emit detectable fields up to 82 feet above the cable and 79 feet along the sea floor. Vineyard Wind proposes to bury Project cables to a depth of 5-8 feet, providing greater shielding and reducing field detection distances. Additional discussion of the uncertainty regarding the individual and/or population level

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	above notices to mariners provided by NOAA fisheries regarding endangered NARWs in the Project area and MA/RI lease areas, the SEIS is incorrect to assume that migratory exposure by this endangered species would be “low.”	impacts of EMF on marine mammals was provided in Appendix H of the SEIS. Given the extremely localized nature of the potential EMF related impacts exposure is expected to be low. Therefore, no change to the FEIS is warranted.
13102-029	Additionally, based on our above discussion about tidal currents, scour and potential for unburied cables in the benthic impacts section, it is unreasonable to assume that the EMF will be in the low(er) levels assumed by the COP/SEIS.	Section 3.2 of the FEIS was updated to note that if cables are not sufficiently buried this may lead to stronger EMF; however, the cables would be contained in grounded metallic shielding to prevent detectable direct electric fields and routine monitoring would be performed by Vineyard Wind to make sure cables are buried.
13102-030	...Noise sensitive and endangered NARWs, have demonstrated altered behavior when exposed to background noise...We therefore disagree with the SEIS assessment of “moderate” adverse impacts for marine mammals because of the presence of structures and pile driving noise. Additionally, it is wholly unreasonable for the SEIS to assume “moderate beneficial” impacts due to the presence of noise and EMF-creating structures. Based on the impacts to NARWs from even ship created and background noise, we do not agree that the “continuous underwater noise of operational WTGs” will result in “negligible” impacts on this species.	The FEIS addresses both adverse and beneficial impacts to marine mammals from the Vineyard Wind 1 Project from individual Impact Producing Factors and overall impacts. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, the consequences of Level A harassment as a result of exposure to pile driving noise would be "minor degradation of hearing capabilities..." and the PTS anticipated is considered a "...minor auditory injury." Level B harassment is expected to result in "low-level, temporary behavior modifications..." NMFS expects exposures to be brief and that behavior responses would be temporary, with behavior returning to as baseline state after the pile driving stops or the individual swims far enough away to avoid exposure to disturbing levels of noise (NMFS 2020). Further, NMFS (2020) concluded that these behavior responses are not expected to impact individual health, survival, or reproduction. Also discussed in the Biological Opinion (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of noise associated with the project. The potentially beneficial impacts are concluded for increased foraging opportunities created by the reef effect the WTG foundations will have, particularly for fish- and shell-fish eating marine mammals. The vertical WTG structures may also result in increased primary production and zooplankton abundance, increasing prey availability for mysticete whales, relative to surrounding locations. Section 3.5 of the SEIS concludes long-term, moderate beneficial impacts to some marine mammal groups that may benefit from increased foraging opportunities. This impact rating has been updated in the FEIS. BOEM believes that structures will not adversely impact the prey availability of NARWs. While the proposed 1 nautical mile spacing between WTGs would be sufficient to allow unimpeded movement within and between offshore wind facilities, there is a lack of information and a

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		large amount of uncertainty relative to large whale responses to the presence of offshore WTG structures. Therefore, long-term, intermittent impacts on foraging, migratory movements, or other important behaviors may occur as a result of the future offshore wind development. Regarding underwater noise, an extensive mitigation and monitoring plan is proposed (Appendix D) that will avoid and minimize potential impacts from pile driving on NARWs. Section 3.3.7.3 of the DEIS and Section 3.5.1 of the SEIS discussed the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017). Overall, considering all the individual impact determinations combined, both moderate beneficial and moderate adverse impacts may occur to some marine mammals.
13102-031	Particularly given the fact that the NARW population has dropped from 450 to 400 in two years, and that 25% of the known world population is known to inhabit the area of the Proposed Action at one time, and knowing that the Proposed Action as well as cumulative MA/RI projects will have adverse impacts on this declining stock, it would not be in the interest of conservation to permit construction in these areas.	Section 3.4.2 of the FEIS discusses the potential impact of the proposed Project on marine mammals, including the NARW. A detailed analysis of impacts to ESA listed species, including the NARW is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13102-032	The SEIS notes that there are current measures being taken to reduce the interactions between certain types of fishing gear and NARWs by 60%, which would occur as a measure to permitted entities. It is not reasonable to require certain existing entities permitted in federal waters to bear conservation burdens that will be exacerbated by entities applying for new federal permits and which will not be held to the same level of conservation responsibility.	The FEIS only considers those mitigation, monitoring, and reporting conditions as it pertain to the proposed Vineyard Wind 1 Project. No future measures are being proposed to reduce interactions between commercial fishing activities and marine mammals through this FEIS. The current measures being taken to reduce the interactions between certain types of fishing gear and NARWs is assessed to establish the baseline conditions for NARWs and the additional measures that may be required by Vineyard Wind due to those ongoing impacts on this species. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine

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		mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, enhanced mitigation measures during the month of May and when DMAs or NARW Slow Zones are designated, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. The commenter provided no additional information and no revisions to the FEIS are required.
13102-033	The SEIS claims that “The economic impacts of future offshore wind activities (including associated energy storage and peaker generation capacity projects) on energy generation and energy security cannot be quantified, but would be indirect, long-term and beneficial.” However, the unreliability of wind power is well documented, which is a negative impact to energy security...[presents case studies]. This is not “beneficial” energy security.	Commenter presents no data or references to support their claim; therefore, no change to the FEIS.
13102-034	Additionally, according to the U.S. Energy Information Administration, offshore wind is the most expensive type of potential electricity in the nation, with estimated levelized costs of electricity for new generation resources entering service in 2023 at more than double that of natural gas....Therefore, adoption of offshore wind results in much lower energy reliability and output compared to other energy sources, but for a much greater cost.....the projected ability of offshore wind to meet state offshore wind energy goals is less than the SEIS estimates in Section 1.2. [based on recent Harvard research on the average power density of a wind farm].	Commenter presents no data or references to support their claim; therefore, no change to the FEIS.
13102-035	Considering the fact that the United States is a leader in oil and natural gas production, as well as other energy technologies more reliable than offshore wind, it does not seem that national energy security will benefit from offshore wind construction by foreign offshore wind entities. Additionally, since the SEIS states that there will be no impact to climate change from offshore wind facilities, there is no logical reason to move towards unreliable energy and away from current U.S. resources.	Thank you for your comment.
13102-036	One of impacts regarding energy generation and economics that has been completely omitted from the SEIS is that of U.S. tax credits....For some large investors, this is the sole reason for investment.	Section 3.6.1.1 of the FEIS has been updated to include additional projections of economic investment from offshore wind (updating information that was included in Section 3.7.2.1 of the SEIS). The projections are sufficient to support conclusions that offshore wind would support jobs and businesses within the geographic analysis area. Consideration of the source of funding is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
13102-037	When it comes to offshore wind, all developers with current U.S. leases are entirely foreign owned, some majority owned by foreign governments.....The Vineyard Wind project under consideration in this SEIS is 50% owned by Copenhagen Infrastructure Partners...Therefore, foreign governments and	Section 3.6.1.1 of the FEIS has been updated to include additional projections of economic investment from offshore wind (updating information that was included in Section 3.7.2.1 of the SEIS). The projections are sufficient to support conclusions that offshore wind would support jobs and businesses

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	European pension funds will directly benefit from U.S. taxpayer credits given to their companies should offshore wind move forward under the cumulative scenario, even as they put U.S. fishermen out of work.	within the geographic analysis area. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
13102-038	We do not believe it is good public policy to put U.S. citizens, jobs, and existing industries such as the commercial fishing industry at risk to enrich foreign governments and pension funds with taxes derived from the very U.S. citizens being placed at economic disadvantages by their projects.	Thank you for your comment.
13102-039	The SEIS admits that the majority of employment created by offshore wind development would occur during construction. Therefore, these are not full time, long term jobs, like the jobs in the U.S. commercial fishing industry that they would displace... [W]e do not believe the jobs, even of operations and maintenance, will be American jobs [because there will be no] U.S. flagged, U.S. built, U.S. crewed, Jones Act compliant wind farm construction/turbine installation vessels in existence, these jobs and associated activities will be carried on by foreign entities, not contributing to U.S. employment...This does not benefit U.S. employment. Rather, it is a negative impact, considering the potential job losses in the U.S. commercial fishing industry as a result of offshore wind development on fishing grounds.	Section 3.6.1.1 of the FEIS uses several studies that provide generalized projections of economic investment from offshore wind. These studies incorporate varying projections of projected foreign versus domestic economic activity, depending upon the growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Although recognizing that most jobs would be created during construction, Section 3.6.2 of the FEIS has been updated to include additional information on this concern.
13102-040	The Proposed Vineyard Wind project has already demonstrated that job creation will be foreign and not U.S. jobs...Therefore, expectations that jobs created will be American are unfounded, particularly for the construction phase which is projected to be the predominant job creation period.	While Section 3.7 of the SEIS addressed projected national job creation, Section 3.6.1.1 of the FEIS has been updated to include more detailed information from several studies that provide generalized projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. The text of the SEIS and FEIS clearly state that most jobs would be created during construction. Although included in the SEIS, the FEIS has been updated to more clearly explain that the jobs created during operations would last for 25 to 30 years; thus, the estimate of approximately 80 full-time operational jobs would result in 2,000 FTE job years (80 times 25 equals 2,000).
13102-041	Additionally, the SEIS notes that if Vineyard Wind moves towards the larger 14 MW turbines, creating lower employment, economic output, and tax revenue, producing the smallest “beneficial economic benefit”. As other developers are already planning for up to 15 MW turbines, this scenario is likely and should impact the cumulative impacts analysis as well as analysis for the Proposed Action.	The SEIS in Section 3.7.2.1 noted that the larger, 14 MW turbines would result in slightly lower employment and economic output during construction, and during the operations and maintenance phase. The conclusions of the SEIS and FEIS are based upon this scenario.

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13102-042	[L]iving resources, including commercial fishing and aquaculture, and tourism and recreation, including recreational fishing... will be negatively impacted by offshore wind construction due to commercial fishing displacement, negative impacts on commercially harvested species- which has impacts on national food security, negative impacts on tourism due to a resultant lack of locally caught seafood for coastal restaurants, negative impacts on various recreational species and food sources for recreational species, and negative navigational impacts on fishing vessels. All of this stands in contrast to and outweighs the AWEA estimate that offshore wind would support \$14.2 billion in total output by 2030, with the majority of jobs created being foreign jobs.	The SEIS evaluated the impacts of offshore wind on the commercial/for hire recreational fishing as well as the impact of the offshore wind industry itself on employment and economic activity, and concluded that the Proposed Action combined with reasonably foreseeable offshore wind development would have moderate adverse impacts on the commercial fishing sector, resulting in minor adverse impacts on employment and economics as a whole (Section 3.7.2.1). These adverse impacts are in addition to and distinct from the finding that there would be minor beneficial impacts on employment and economics due to offshore wind employment and economic activity. The FEIS retains the finding of a moderate adverse impact on employment and economics related to commercial fishing, and is updated to include information on the importance of commercial fishing engagement and reliance for communities within the geographic analysis area (Section 3.6.1 and 3.6.2). The FEIS also updates information on recent investment in job training and port infrastructure, and analysis of projected investment in offshore wind (Section 3.6.1), to conclude that the Proposed Action combined with other offshore wind development would have a moderate, rather than minor, beneficial impact on employment and economics. In both the SEIS and FEIS, conclusions are based on domestic job projections only.
13102-043	Finally, offshore wind development and foreign job creation at the expense of U.S. jobs would run contrary to the policy of the Office of Trade and Manufacturing Policy, “Buy American, Hire American.”	Thank you for your comment.
13102-044	we do not agree that “the long term impacts of concrete cable protection on commercial fishing businesses would be indirect and localized” or that “[o]perators would be able to adjust to avoid affected locations.”..The entire area both inside the Project area, as well as outside the Project area wherever cables are present, will be a complete loss to trawl fisheries.	Sections 3.11.1.1 and 3.11.2 of the SEIS discuss the needs of trawl fisheries for sufficient sea room, the potential for hanging up on structures. Section 3.10 and Appendix D of the FEIS have been updated to discuss potential mitigation measures to help avoid trawl hangs, and the financial exposure of trawl fisheries to the Vineyard Wind WDA.
13102-045	Therefore, for years at a time during construction, which requires exclusion zones for safety purposes, both of these areas will be off limits to the summer longfin squid fishery, as construction is planned to occur in the summer months when the fishery also occurs.....The SEIS ignores this seasonal aspect [of the summer longfin squid fishery, when construction is planned to occur]. Should [the vessels engaged in this fishery] have no income for months at a time for many years in a row during construction, particularly of these two areas at the same time, and then suffer permanent loss of area in the future during operations, many vessels in this fishery will not survive the impacts.	Section 3.10.2 of the FEIS was updated to discuss potential additional mitigation including daily two-way communication during construction in order to reduce conflict with the commercial squid fishery in the spring and summer. Section 3.10.2 of the FEIS also discusses how development in a Wind Lease Area could cause fishing vessel relocation, increased conflict, increased operating costs, and potentially lower revenue.
13102-046	The areas in and around/outside the Project Area already contain pre-existing “hangs”, whether rocks or shipwrecks, etc. Commercial trawl vessels participating in the squid fishery already have detailed charts marking each of	Sections 3.11.1.1 and 3.11.2 of the SEIS discuss the potential for hanging up on structures and potential impacts caused by construction vessels and increased vessel traffic; therefore, no change to the FEIS is warranted. The

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	these hangs, with the purpose of avoiding that coordinate and preserving their fishing gear. Avoidance of new structure, concrete mats and cables even outside the WDA may not be possible due to these existing avoidance areas. Additionally, it is likely that “available space” left even outside the WDA, inside of which trawling will be impossible, will be taken up by many of the 184 construction vessels in the MA/RI navigational analysis area at times of peak construction, and lesser but considerable numbers of construction vessels over the 6-10 year construction period.	FEIS Appendix D discusses potential mitigation measures to help avoid trawl hangs.
13102-047	We do not agree that these impacts [of cable installation and maintenance] will be temporary and/or short term. We also do not agree that commercial fishing vessels can simply “adjust” their operations to avoid cables... They will certainly, however, result in substantial revenue and local job loss...[because] all cabled areas will become a complete exclusion zone for trawl fisheries.	Sections 3.11.1.1 and 3.11.2 of the SEIS discuss the needs of trawl fisheries for sufficient room to maneuver, the potential for hanging up on structures, and the financial exposure of trawl fisheries to the Vineyard Wind WDA. The impacts from the "presence of structures: transmission cable infrastructure", would have long-term, minor to moderate impacts on commercial fisheries that use mobile bottom gear (Table 3.11-1). The presence of transmission cable infrastructure is discussed under a different IPF than "new cable emplacement and maintenance." Therefore, no change to the FEIS is warranted.
13102-048	However, we continue to emphasize that commercial fishing vessels, and therefore related businesses, may not simply be able to “adjust”. Adjustment may be impossible due to permit restrictions, fishery regulations, and the lack of available alternative species for harvest.....The fishing industry is one of the few industries left in the country where an American without higher education can work hard and make a good living. Land-based seafood facilities also employ a diverse workforce of various ethnicities and income levels.. Therefore, the most impacted environmental justice populations as a result of the Proposed Action are in fact a part of the commercial fishing and seafood industries and therefore have the most to lose. In light of this fact, we would disagree with the SEIS “overall minor adverse impacts”. Lumping in the most negatively affected environmental justice population with a general geographic environmental justice analysis masks the true impacts to this affected environmental justice population.	Detailed impacts on commercial fishing were provided in Section 3.11 of the SEIS, and the FEIS is updated to provide additional detail. With regard to environmental justice populations, the DEIS provided information to address this comment, and the data has been updated for the FEIS. The environmental justice analysis specifically refers to potential impacts on low income workers in the commercial and for-hire fishing sector with regard to the impacts of cable emplacement, the presence of offshore structures, and increased vessel traffic. The analysis relies on the analysis in the commercial fishing and demographics, employment and economics section to assess the likely impact. The FEIS also provides data in Table 3.7-3 on income of workers in commercial fishing compared to average income, but clearly points out that the "average" income includes workers of both low and high income. Section 3.6.1 of the FEIS provides data on the proportion of county economies attributed by NOAA Coastal and Ocean Economy data to the "ocean economy," the living resources sector and the recreation and tourism sector. The environmental justice analysis takes into account the diverse economies of the geographic analysis area counties as well as potential impacts on the commercial fishing industry and the recreation/tourism sectors of the coastal economy. The finding of a minor impact on low income workers is reasonable given all factors considered.
13102-049	As no commercial fishing vessels will be permitted in the construction zone during construction due to safety/exclusion areas, if the construction vessels anchor in areas outside the exclusion zones, there could be very significant	Sections 3.10.1 and 3.10.2 of the FEIS discuss the potential impacts caused by construction vessels, anchoring, and increased vessel traffic, and have been updated to discuss potential additional mitigation, including daily two-

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	impacts to commercial fishing activity in these areas (providing there are any harvestable animals still in the vicinity of construction).....As this anchoring activity would occur primarily in the summer months, the impacts may not be insignificant, particularly if anchoring occurs in the middle of longfin squid fishing tows/fishing grounds which have not already been made construction exclusion zones or de fact exclusion zones due to cable placement or installation of structure.	way communication during construction in order to reduce conflict with the commercial squid fishery in the spring and summer.
13102-050	The SEIS states that “Fishing vessels may not have access to impacted areas, which could lead to reduced revenue and/or increased conflict over other fishing grounds” during cable placement/maintenance. This is correct. However, the assumption that this would be “temporary displacement and disruption of fishing activities” is incorrect. Avoidance of wind farm cables will be a permanent displacement for mobile bottom tending gear vessels such as trawl vessels. This particularly impacts the longfin squid fishery, a trawl fishery which is overwhelmingly the predominant existing fishery in the MA/RI and NY lease areas. Contrary to all assumptions made in the SEIS and assertions by wind developers both to BOEM and the U.S. commercial fishing industry, mobile bottom tending gear fishing in wind energy areas and along export cable routes will not be possible without risk of loss of life.	Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS discuss that some vessels may choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures, the potential for hanging up on structures, and has been updated to discuss potential mitigation measures. BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. The FEIS states that some impacts due to the presence of structures may be permanent.
13102-051	..the SEIS assumption that cables will only result in temporary fishing displacement while installation occurs is erroneous. During the entire life of the Proposed Action and all other cumulative actions, inter-array and export cables will present a default exclusion zone for mobile bottom tending gear vessels, such as longfin squid trawl vessels. Unless the vessel is willing to risk “loss of life.” We believe this is a major impact. The SEIS and all BOEM analysis must therefore consider all inter array areas within the wind farm as well as export cable routes a complete loss of trawl fishing activity and revenue.	The impact level for commercial fisheries is major and the impact from the presence of structures, which includes cables, has been updated in the Table 3.10-1 of the FEIS to range up to major impacts. Sections 3.10.2, 3.10.8, and Appendix D of the FEIS have been updated to discuss potential mitigation measures. BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth.
13102-052	...the Vineyard Wind export cable is planned to go directly through the middle longfin squid trawl fishery area on the outside of the MA/RI lease area. As this export cable is both a hazard in itself and will also be covered with concrete matting in some areas, this will cut some of the fishery’s most productive tows outside the WDA in half. We raised this problematic issue to Vineyard Wind early on in the process during port meetings, as well as throughout the process with Vineyard Wind fishery liaisons, in an attempt to	The Section 3.10 of the FEIS states that the OECC intersects areas with high vessel density for fishermen targeting squid, that the accessibility of resources within the OECC may be affected by the location of the proposed infrastructure in some locations, and that some loss of fishing revenue is expected. Section 3.10 of the FEIS also discusses increased traffic, fishing congestion, increased competition, Vineyard Wind's voluntary financial compensation measures, and was updated to discuss potential additional

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	route the cable through a less disruptive route, but to no avail. Cutting off a tow halfway can mean half the harvest and more lack of maneuverability as the vessel is forced to set and reset its gear. If all vessels are forced to do this at the same exact spot, it can lead to congestion and other issues.	mitigation measures. BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details.
13102-053	The SEIS mentions in this section that “It is anticipated that most construction activities would take place in the summer months due to more favorable weather conditions. Thus fisheries and fishery resources most active in the summer will likely be impacted more than those in the winter.” And we again point out that the fishing activity that occurs in this area from the most impacted fishery from the Proposed Action, is the summer longfin squid fishery which takes place in the area only in the summer. There is no fishing in the area in the winter. The SEIS fails to assess the seasonality of this fishery and therefore assess accurate impacts. This is true for both cable construction and construction noise, as well as operations, below....The impacts of cable exclusions and inability to operate in the wind farm itself as well as export cable corridors would be permanent for the life of the project(s)....Consideration of the longfin summer squid fishery, the most impacted fishery by the Proposed action, cannot be lumped together with general “commercial fishing” impacts.	The FEIS acknowledges fisheries most active in the summer will likely be impacted more than those in the winter and Section 3.10.1.1 was updated to clarify this would impact on the longfin squid fishery. Section 3.10.2 of the FEIS discusses additional mitigation including daily two-way communication during construction in order to reduce conflict with the commercial squid fishery in the spring and summer. Sections 3.10.2, 3.10.8, and Appendix D of the FEIS have been updated to discuss mitigation measures.
13102-054	The fact that [finfish and longfin squid] both spawn and support a summer fishery not only in and around the Proposed Project and other MA/RI lease areas and NY Equinor lease area at the same time, and as construction and operations for all of these areas will be simultaneous, is a tremendous cumulative population and fishery level impact.	Section 3.11.1.1 and 3.11.2 of the SEIS estimates fishing revenue exposure as more offshore wind energy facilities are developed, and Section 3.3.1.1 and 3.3.2 of the FEIS considers potential impacts on fish and invertebrate populations; therefore, no change to the FEIS is warranted.
13102-055	The SEIS assumes “These direct impacts on fish could impact fishing activities if vessels need to temporarily relocate to other fishing locations in order to avoid or reduce impacts on revenue... What it does not acknowledge is that the summer longfin squid fishery occurs in primarily two areas: the Vineyard Wind lease/ MA/RI WEA and surrounding areas, and the NY Equinor lease and surrounding areas south of Long Island....[Additionally] the idea that a vessel can simply engage in another fishery is flawed. Fishing vessels are limited by their federal permits and associated species permit suite, and cannot simply shift effort into other fisheries. Furthermore, permits	Section 3.11.1.1 and 3.11.2 of the SEIS discusses how offshore wind development will potentially impact the squid fishery. This includes a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas (Table 3.11-3) if a harvester opts to no longer fish in the area and cannot recapture that income in a different location; therefore, no change to the FEIS is warranted.

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	cannot be added to or consolidated into one vessel in order to expand permitted fisheries alternatives.	
13102-056	Should trawl gear become snagged on underwater infrastructure, the vessel could suffer severe damage and endanger the crew if it were to swing into a turbine or ESP due to wind, tide/current, or inclement weather....None of the Seafreeze vessels will be able to safely operate in a wind farm... None of our customer vessels will be able to work inside a wind facility. Longfin squid trawl vessels will suffer complete exclusions from developed areas, as well as cable areas. This is true regardless of the 1x1 nm layout that developers and the SEIS assume will alleviate these issues...	BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details. Section 3.11.2 of the SEIS also discusses the needs of some fishing operations for greater than 1 nautical mile clearance and the potential of practical exclusion of some fishing operations from Wind Development Areas.
13102-057	We also submit that the SEIS should consider the enormity of the MA/RI lease areas and account for potential lack of vessel maneuverability due to the fact that this combined lease area is larger than any other continuous wind area/wind farm in the world.....This makes the issue of conflict with fixed structure orders of magnitude larger than the U.K. experience in just the MA/RI lease area alone.	Section 3.10 and 3.11 of the FEIS discuss impacts from offshore wind development to vessel navigation and maneuverability. This includes a cumulative assessment of impacts from all potential offshore wind lease areas in the geographic analysis area, including the RI and MA Lease Areas.
13102-058	The SEIS notes that fixed structure may attract more recreational for-hire and private anglers, which could lead to space conflicts with commercial fisheries. This is a huge issue that is not well explained in the SEIS....Therefore, user conflicts have the ability to permanently alter huge portions of a fishery revenue. Should these types of issues occur to vessels after they have already lost significant amounts of revenue due to fixed structure and wind farm displacement, provided there was anywhere else to go which would be doubtful at best for the summer longfin squid fishery, the rest of a vessels' revenue could easily be swallowed by a management action due to "user conflicts" borne out of wind farm displacement.	Sections 3.11.1.1 and 3.11.2 of the SEIS discuss space use conflicts that may result from offshore wind development and acknowledge that impacts on management processes would in turn have short-term or long-term impacts on commercial and for-hire recreational fisheries operations; therefore, no change to the FEIS is warranted.
13102-059	The SEIS states that "Vineyard Wind has committed to voluntarily establish gear loss and revenue compensation funds for fishing interests in Rhode Island and Massachusetts, which is intended to compensate for gear and/or revenue losses over the life of the Project (Table 3.11-5)." This fund in no way provides reparations to the Rhode Island commercial longfin squid fishing industry for the economic activity that would be lost as a result of the Proposed Action. As such, the impacts have not been mitigated and have not been reduced from "major" to "moderate".	Section 3.10.2 and Appendix D of the FEIS has been updated to discuss the revenue voluntary compensation funds established by Vineyard Wind and states that impacts or losses for which claims may be filed include lost revenues related to the Project's interference with fishing activities (if any).

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13102-060	Both the SEIS estimates of squid fishery value in the WDA and the Vineyard Wind compensation plan severely underestimate the value of the longfin squid fishery in the area. The SEIS estimates the total revenue exposure from the squid fishery to all cumulative projects, including the Proposed Project, at only \$1.16 million from 2020-2030. This is ludicrous. And the Vineyard Wind “Direct Compensation Fund” would provide only \$4.2 million over a 30-year period, for all fishery claims. The fund would initially only contain \$1million initially, with subsequent annual payments starting at \$76,000, and paid claims would require a release of liability from future claims. This is also ludicrous and does not represent the true impacts to the Rhode Island summer longfin squid fishery alone. In fact, \$76,000 would cover the cost of one net and set of trawl doors lost on subsea structure.	Section 3.10 of the FEIS explains the methods used to estimate fishing revenue exposure and the methods used to set the value of the voluntary compensation funds. Table 3.10-11 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Furthermore, the FEIS was updated to include a different methodology submitted by RIDEM (Table 3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas.
13102-061	Neither the SEIS nor the Vineyard Wind Rhode Island Direct Compensation Fund acknowledge the fishery values analysis compiled by the Rhode Island DEM Division of Marine Fisheries specifically for the Vineyard Wind project. This analysis is much more aligned with the true level of fishery impacts experienced by the fishing industry in the Proposed Project area. Yet, it is glaringly absent from any mention in the SEIS.	The Section 3.10.1 of the FEIS has been updated to utilize the cited RI DEM analysis.
13102-062	We agree with the SEIS conclusion that cumulative impacts from all the IPFs together would result in “major” impacts to commercial fisheries from offshore wind activities in the geographic analysis area, and that the cumulative impacts associated with the Proposed Action combined with reasonably foreseeable activities would result in “major” impacts on commercial fisheries. However, we disagree that “The financial compensation agreements outlined in Table 3.11-5 may result in a lower impact specific to the Proposed Action”, as the compensation level is only 2.6% of the actual economic impacts from the Proposed Action to the longfin squid industry in the state of Rhode Island alone. We will again point out that the figures contained in the Rhode Island DEM analysis [specifically for the Vineyard Wind project], even when combined with the economic multipliers of the Science Center for Marine Fisheries study, do not take into account the stock level/population impacts to the longfin squid stock that are likely to occur due to construction and operational noise of planned wind farms, both of the Proposed Action and cumulative lease areas. The economic impacts of stock decline would require additional discussions and valuations.	The Section 3.10.1 of the FEIS was updated to utilize the cited RI DEM analysis. Section 3.3 of the FEIS considers potential impacts of the Proposed Action on fish and invertebrate populations, both positive and negative; however, a quantitative assessment of individual fish stocks is beyond the scope of a typical NEPA analysis and is not essential to a reasoned choice among alternatives.
13102-063	This is the only place in the entire SEIS that marine radar is mentioned, despite the fact that marine radar interference has been a topic of concern for the fishing industry for years, and for years we have asked that a model be created to assess radar interference impacts from the turbine sizes and project sizes planned for all cumulative East Coast leases, and specifically for the	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to

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	Vineyard Wind and MA/RI lease area. Omission of so great an impact results in the SEIS navigational analysis being seriously flawed. Wind turbines are not simply fixed structure. They are moving structures that create significant marine radar interference....The Proposed Action area is notorious for foggy conditions, and is a primary transit area for many vessels headed to offshore fishing grounds even outside the Project area and MA/RI WEA....The majority of these vessels are also without AIS. Therefore, a good portion of the vessel traffic in the analysis area is visible on marine radar only.	ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13102-064	..interference to marine radar interference due to turbines cannot simply be tuned out by the vessel radar operator without losing true targets. This is especially true in inclement weather conditions. Navigation in and around the Proposed Project and other cumulative projects is even more dangerous and the impacts more severe than already estimated in the SEIS... As the radar interference arising from 955 WTGs will be a significant issue for the commercial fishing vessels both inside and outside the area to navigate, and as there is likely to be difficulty target tracking recreational and sailing vessels both inside the area, in any transit lanes through the area, and in the areas adjacent to the wind farm, these are not minor considerations. For the SEIS to completely ignore this issue and only mention “marine radar” one time in the entire document with absolutely no analysis of this impact is a huge shortfall.	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13102-065	The SEIS states, “The most prevalent vessel route pattern though the WDA is a roughly northwest/southeast orientation.” This is in fact the current transit route taken by our vessels through the area. However, even in the Draft MARIPARS recommendation for 1x1 nm grid spacing of turbines, the NW-SE spacing would only be 0.6 to 0.8 nm wide. This means that the most heavily trafficked area will be the narrowest part of the layout. This is not rational.	The Final MARIPARS study report (USCG 2020) states that multiple parallel vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report (USCG 2020).
13102-066	Due to the flaws and omissions on [the Draft MARIPARS] report, we do not believe that the SEIS can rely on its recommendations alone in determining navigational impacts to vessels in and around wind energy areas. Both the	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As

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	omitted radar analysis and flawed structural analysis should be rectified prior to authoritative use by BOEM.	stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13102-067	SEIS utilizes AIS to assert that fishing vessels will be able to make 180-degree turns inside the wind farm, using AIS data. We presume this is implying that fishing activity can take place within the array, as we know is not the case for trawl vessels based on our comments regarding cables in the Commercial Fishing Impacts section. However, even if there were a cable-free corridor, the assumption that trawl fishing activity could continue within the area is still flawed. Trawl vessel tracks themselves may show maneuverability, but the trawl gear is not where the vessel is located. It may be in fact up to half a mile behind the vessel itself, and can shift in tides and currents requiring the vessel to position itself accordingly to ensure that trawl gear remains in areas free of undersea hangs and structure. Operating a trawl vessel inside either the Proposed Action or 1x1 nm spacing recommended by the MARIPARS will still be impossible for larger vessels, including those in the longfin squid fishery.	Section 3.10.1 and 3.11.2 of the FEIS addresses the use of AIS. According to the AIS data, trawling vessels required 180-degree turning diameters between 0.16 nautical mile and 0.86 nautical mile in good weather and sea conditions (larger diameters would be required in poor weather and sea conditions, and to account for trawling equipment) (COP Volume III, Appendix III-I; Epsilon 2020b). These diameters were found to be possible within the Vineyard Wind turbine layout, where vessels could turn either within a row of WTGs or from one row to another (COP Volume III, Appendix III-I, Epsilon 2020a). In addition, a formula from offshore wind farm and maritime navigation guidance developed by the Permanent International Association of Navigation Congresses found that the minimum fishing vessel channel widths of 0.33 nautical mile and 0.32 nautical mile were calculated for transiting and trawling vessels, respectively (COP Volume III, Appendix III-I, Epsilon 2020a). Additional rationale is provided in the Final MARIPARS study report (USCG 2020), which states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Finally, as discussed in Section 3.10.2, mitigation includes Vineyard Wind's proposal to establish a voluntary financial compensation program for documented loss of income due to inability of fishing vessels to access previously fished locations within the WDA and temporary loss of use during cable maintenance. Direct impacts or losses for which claims may be filed include, but are not necessarily limited to, lost or damaged gear associated with fishing within the Project area and lost revenues related to the Project's interference with fishing activities (if any).

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13102-068	The SEIS impacts regarding SAR in the Project Area, as both a result of the Proposed Action (which lacks uniform 1x1 nm spacing and therefore less desirable according to the document) as well as other alternatives such as Alternative D2 (which the SEIS asserts will contribute to USCG SAR success) do not consider marine radar interference impacts on USCG SAR vessel capabilities, and associated computational flaws of the MARIPARS.	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. Further, the USCG is the consulting agency with the expertise regarding navigation impacts; therefore, BOEM considers the MARIPARS to be the best available information for purposes of analyzing the impacts to navigation resulting from the project.
13102-069	Realistic radar modeling and impacts assessments should and must occur as part of the SEIS Navigational Impacts analysis section, especially for marine radar and HF radar impacts. Absolutely no offshore wind construction should occur until all radar interference issues and related impacts on vessel safety can be properly assessed. Maritime safety and lives are at stake and should not be left to experience these impacts via potentially fatal trial and error. All flaws in the MARPARS methodology should and must be addressed and the results used to reassess the Navigational and Vessel Traffic section of the SEIS.	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. Further, the USCG is the consulting agency with the expertise regarding navigation impacts, and is therefore the agency best suited to determine the adequacy of the Final MARIPARS. The USCG is a cooperating agency for the FEIS that is the

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		leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13102-070	Additionally, radar interference with the HF radars associated with SAR will experience impacts as a result of cumulative lease areas.	Sections 3.11 and 3.12 of the FEIS have been updated to include additional information on potential radar interference.
13102-071	...the SEIS acknowledges that fixed structures alter water flow , and that it expects changes in water flow caused by wind farm development on the OCS...This means that currents will change due to the presence of fixed structures, and previous experience with typical current direction in the area may not be useful in predicting future currents....Lack of accurate SAR has life threatening implications for mariners, and lack of accurate oil spill response has potential far reaching consequences for natural resources, including commercially harvested species.	Impacts on navigation that may impact SAR activities are discussed in Section 3.11.2 of the FEIS. The USCG has not raised any concerns to navigation related to changes in currents due to the presence of structures.
13102-072	One additional omission is the fact that the USCG does not provides towing services for disabled vessels. Therefore, if a vessel becomes disabled in or near a wind farm, it is up to either a Good Samaritan or a professional towing company to recover the vessel. It is questionable whether professional towing companies or Good Samaritans will risk the liability of hooking up to a vessel slamming against turbines or in the middle of a field of fixed structure. This is particularly true in inclement weather.	Section 3.11.2 of the FEIS discusses the presence of structures and the potential impacts. Vessels that could continue to navigate within the WDA would need to navigate with more caution than is currently necessary to avoid WTGs and ESPs, especially during inclement weather. Professional towing companies are experienced in securing vessels under a variety of conditions. Since the USCG has determined that the spacing provides for adequate navigation, BOEM has no reason to believe that all towing companies will refuse to provide services to a disabled vessel within the WDA.
13102-073	Realistic radar modeling and impacts assessments should and must occur as part of the SEIS Navigational Impacts analysis section, especially for marine radar and HF radar impacts. Absolutely no offshore wind construction should occur until all radar interference issues and related impacts on vessel safety can be properly assessed. Maritime safety and lives are at stake and should not be left to experience these impacts via potentially fatal trial and error. All flaws in the MARPARS methodology should and must be addressed and the results used to reassess the Navigational and Vessel Traffic section of the SEIS. We do agree with the SEIS conclusion that overall cumulative impacts of any alternative when combined with past, present, and reasonably foreseeable activities on navigation and vessel traffic would be “major”, and that the impacts of the Proposed Action even including Alternative F would be “major”. However, we disagree with the SEIS assessment that Alternative D2 or Alternative F with the D2 layout will be “moderate” [based on navigation and radar comments above].	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. Further, the USCG is the consulting agency with the expertise regarding navigation impacts, and is therefore the agency best suited to determine the adequacy of the Final MARIPARS. Finally, the analysis is in accordance with the impact definitions for moderate (Section 3.0). The USCG is a cooperating agency for

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		the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13102-074	Considering the fact that wind leases have been sited on the approach to potential terrorist targets such as New York, Philadelphia, Norfolk Virginia, and in the case of the Proposed Project, the approaches to Quonset, RI and Groton, CT, the primary construction sites for U.S. Navy nuclear submarines, this would seem to pose a grave and immediate threat to U.S. military and homeland defense capabilities.	As was the case in the DEIS, the FEIS includes language in Section 2.3 addressing the potential terrorist attacks. Since BOEM considers potential terrorist attacks as low probability events, and since the magnitude and extent of such unlikely events cannot be predicted, the effects of terrorist attacks are not fully evaluated in the FEIS.
13102-075	According to both the SEIS and the COP, “Any impacts on long-range radar systems are anticipated to be mitigated by overlapping coverage and radar optimization” and states that the “FAA would evaluate potential impacts on radar systems, as well as mitigation measures for those when Vineyard Wind refiles Form 7460-1 for individual WTGs.” This reasoning is flawed for two reasons. First, the FAA form 7460-1 is only for assessing if the height of fixed structure poses a threat to airspace use and any antenna/frequency transmission, and FAA authority only extends out to 12 nm. Second, in 2017 the federal interagency Wind Turbine Radar Interference Mitigation Working Group comprised of the DOE, DOD, FAA, DHS, NOAA, determined that radar interference caused by offshore wind leases off Massachusetts and Rhode Island could not be solved by overlapping coverage mitigation approaches and that such approaches could not restore low altitude radar coverage....Despite the claim by the SEIS that “the cumulative impacts on radar systems would be localized...and minor and potential conflicts addressed through established processes” if no solutions exist at this time, as detailed by the information above and discussed as recently as April 2020, the impacts are anything but minor. In fact, any permitting of offshore wind on the U.S. OCS could result in catastrophic consequences.	Section 3.12 of the FEIS has been updated to 1) Include references to FAA Order JO 7400.2M, (FAA 2019) which implement procedures for conducting aeronautical studies per 14 CFR Part 77, and require an obstruction evaluation to consider "physical, electromagnetic, or line-of-sight interference on existing or proposed air navigation, communications, radar, and control systems facilities" and provide specific requirements for such an analysis; 2) Clarify that BOEM assumes offshore project proponents would conduct radar studies in coordination with BOEM's Information Guidelines for a Renewable Energy Construction and Operations Plan (COP) issued May 27, 2020 and the requirements of 30 CFR 585.621; and 3) provide additional detail for radar systems; and 4) update potential impacts to radar systems in the context of reasonably foreseeable environmental trends and planned actions to moderate instead of minor. The 2017 document (available at https://www.energy.gov/sites/prod/files/2017/12/f46/Final%20Coastal%20Radar%20Public%20Summary%20-%20Comments%20Incorporated.pdf) states that "This study is mission agnostic and does not constitute a full assessment of offshore wind turbine interference or mitigation. It should be viewed as the first of many steps in determining where there is potential for impacts in terms of geographic areas and radar types." Therefore it is not considered a resource for development of the FEIS. BOEM relied on the FAA's DOD Preliminary Screening Tool which indicates potential to impact Air Defense and Homeland Security radars, NEXRAD Radars, and Military Operations; prior FAA determination for WTGs up to 696 feet, Vineyard Wind's project-specific evaluations including a radar line-of-sight analysis, the Aviation Impact Analysis included in COP Volume III, Appendix III-J; Epsilon 2020a, and input received from military and national security agencies to develop the information in the FEIS.
13102-076	The SEIS states “It is assumed that all project operators would coordinate with relevant agencies during the COP development process to identify and minimize conflicts with military and national security operations.” This is clearly not happening, and has not happened during the progression of the	Section 3.12 of the FEIS has been updated to include additional information on BOEM's coordination with military and national security agencies. BOEM coordinated with the DoD and USCG throughout the RI and MA Lease Area identification process and associated environmental review, and continues to

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	BOEM and offshore wind process if existing leases are in wind farm exclusion zones, if the Vineyard Wind COP assumes radar mitigation techniques that are invalid, and if BOEM has not even assessed or included all of the above information in its SEIS. The process is clearly broken and there is a lack of interagency and interdepartmental communication and transparency.	coordinate with Vineyard Wind and other project proponent during COP development and approval to identify and minimize potential conflicts with military and national security concerns. The FEIS also describes Vineyard Wind's FAA Determination of No Hazard for the original proposed Vineyard Wind structures. Furthermore, Vineyard Wind is required to submit Form 7460-1 to FAA, which also triggers consultation with DoD.
13102-077	The lack of having a functional fishery survey in all of the areas under consideration by the SEIS, including the Proposed Action, could will result in lower harvest limits and quotas, potentially leading to zero possession limits over time, which would in essence eliminate commercial and recreational fishing. Making commercial fisheries economically responsible for a lack of survey and scientific data caused by offshore wind projects is unacceptable.	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail and discussed the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no changes to the FEIS are warranted. Furthermore, concerning vessel access to the WDA, it is worth mentioning that temporary limited or restricted access areas (safety zones) may be set up around active construction areas where applicable. However, note that BOEM does not have the authority to restrict access to the WDA during operations. In addition, the USCG has stated that they will not restrict access to the WDA during operations. The USCG's authority to establish safety zones only extends to the boundary of the territorial waters of the United States, which is 12 nautical miles from shore and outside the WDA. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13102-078	What [the SEIS] does not adequately discuss is that due to the legal constraints of the Manguson Act, the fishing industry will be held as the wholly responsible and accountable entity for both lack of data and any negative stock impacts as the result of offshore wind development.	The SEIS addresses these issues throughout Section 3.14.1.1 (Other Uses, Scientific Research and Surveys), and Section 3.14.2 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).

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13102-079	One issue not discussed in the SEIS at all is the potential impact to U.S. submarine detection and capabilities. The DOD acknowledged in May 2019 that offshore wind turbines that underwater noise generated by offshore wind turbines disturb acoustically sensitive environments.	The U.S. Navy operates the military's submarine fleet. Section 3.12 of the FEIS states the Navy has informed Vineyard Wind that the Vineyard Wind 1 Project does not raise concerns for their military operations.
13102-080	The SEIS states that “The Proposed Action would likely result in both long-term and localized, temporary negligible to minor impacts on birds and may include minor beneficial impacts”...Assuming minor or beneficial impacts to birds is incorrect. In a 2020 study entitled “Mortality limits used in wind energy impact assessment underestimate impacts of wind farms on bird populations”, scientists showed that rather than having a negligible effect, just a 1% additional mortality in postfledgling cohorts of studied populations resulted in up to 24% decrease in population level after 10 years, and allowing a 5% mortality resulted in up to a 77% reduction in the populations after 10 years. This level of impact is in line with those observed on the Isle of Man as wind farms have continued to be constructed in the Irish Sea. In an Isle of Man study, partly supported by the Walney Extension Offshore Wind Farm project, populations of herring gulls were found to be down 82%, European Shag down 51% and Razorbills down 55%. These potential types of population level impacts would appear “major.”	The Walney Extension is not a valid offshore wind facility to compare to the Vineyard Wind 1 Project for several reasons. First, the Walney Extension is located much nearer to shore (less than 20 km) and is surrounded by land. Additionally, as shown in FEIS Table A.8.3-6, the median predicted annual mortality of herring gulls and razorbills are both zero (range - 0-349 and 0-17, respectively). Therefore, no change to the FEIS is warranted.
13102-081	The SEIS does not assess the impacts to national food security arising from major commercial fishing impacts associated with offshore development and relative to the President’s Executive Order on “Promoting American Seafood Competitiveness and Economic Growth”. American citizens cannot eat electricity.	The Secretary of the Interior will work with the Secretary of the Army, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, other appropriate Federal officials, and appropriate State officials to implement the Executive Order as described in the Order. FEIS Table 3.10-11 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. In addition Tables 3.10-3 and 3.10-7b allow for a comparison of the total volume of seafood landed at affected ports compared to seafood harvested just from the Vineyard Wind Development area.
13102-082	In the development of this entire Proposed Project, as well as the whole BOEM offshore leasing process, there has been a complete lack of rational procedure or really any process at all...The current lack of rational BOEM process and clear federal leadership in what is a federal jurisdiction affecting existing federal permit holders has allowed offshore wind lease siting and development to be driven by state renewable energy goals, multiple state Task Forces, and other state groups. This is not acceptable for a federal issue. Lack of process has also led to unassessed impacts discussed in our comments due to lack of interagency and interdepartmental coordination.	The potential effects of commercial wind lease issuance and site assessment activities offshore Rhode Island and Massachusetts had notice and comment opportunities that resulted in the removal areas from consideration because of known fishing activity (e.g., Massachusetts [Nantucket Lightship], and Rhode Island/Massachusetts [Cox Ledge]). These areas were then evaluated and presented in an Environmental Assessment in 2013. A link to that document can be found here: https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/State_Activities/BOEM%20RI_MA_Revised%20EA_22May2013.pdf

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		That process included and accounted for public input. In addition to project specific meetings as part of the NEPA process, BOEM also regularly briefs and solicits comments from the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils, as well as the Atlantic States Marine Fisheries Commission. These briefings are an important avenue for BOEM to make sure the fishing community is aware of the status of projects, when there is opportunity to comment on a project and for BOEM to receive important information from the fishing community regarding its leasing activities. BOEM has continued to engage with commercial fishing industry and interested stakeholders throughout the NEPA process for the proposed Project; BOEM engages with the public and stakeholders in each step of the process and takes public input into consideration when making any decision. BOEM has considered all comments throughout the Vineyard Wind 1 Project NEPA process. In addition, Appendix C of the FEIS provides information related to BOEM's consultation and coordination efforts.
13102-083	Furthermore, there are some decisions that should not be left in the hands of BOEM. Wind exclusion zones, defense radar impacts, and issues affecting national security should not be relegated to mere “Cooperating Agency” status. These should take first and foremost priority in any process and eliminate any conflict areas whatsoever at the outset....In summation, the entire federal offshore wind process needs to be redesigned from the bottom up. This would result in greater certainty for all involved, and much better public policy than currently exists on this issue.	BOEM works closely with Cooperating Agencies on each step of the leasing and COP approval process. BOEM recognizes these agencies hold the expertise in each of their representative jurisdictions and BOEM works with them to resolve issues prior to proceeding. In addition, throughout the development of this EIS the Cooperating Agencies have provided concurrence on several steps prior to moving forward in the NEPA review.
13102-084	Based on all of the information we have detailed in this comment, the only Alternative that we can support is Alternative G- No Action. As national and world leaders in longfin squid production, the cannot accept these major impacts to our product source, our vessels, our customers vessels, the safety of our vessel crew, our shoreside facilities, livelihoods and our nation. We demand a 5 year moratorium on all offshore wind permitting off the U.S. East Coast until all these issues are completely addressed.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13108-001	These physical structures [WTGs and cables] along with massive transmission cables attached to each turbine stretching as much as 17 miles or more carrying 60,000 volts each will effectively close these areas to commercial fishing. Our business relies on our 20 vessels at sea to harvest clams using a hydraulic dredge to release the Atlantic Surfclam and Ocean Quahog clams from the high energy sand where they grow.	BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details. Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS also discuss that some vessels may

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		choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures, the potential for hanging up on structures, and has been updated to discuss potential mitigation measures. Section 3.10 of the FEIS explains the methods used to estimate fishing revenue exposure and the methods used to set the value of the voluntary compensation funds. SEIS Table 3.11-3 shows the potential average revenue exposed per year if a harvester opts to no longer fish in the area and cannot recapture that income in a different location, including the surfclam and ocean quahog fishery. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas.
13108-002	Taking these structures into consideration makes it impossible for us to safely send our fleet into these areas because of the proposed spacing of turbines and the buried cables which have a tendency not to stayed buried. Using hydraulic dredges, we have interacted for years with old and new telecommunication cables which are few and far between, but they do not carry 60,000 volts each. The current proposed layout of Vineyard Wind I and other proposed WEA's would render these WEA's unfishable to us and the majority of other commercial fisheries.	BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details. Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS also discuss that some vessels may choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures, the potential for hanging up on structures, and has been updated to discuss potential mitigation measures.
13108-003	Let me say this, we are not opposed to Clean Energy Alternatives and have embarked on several projects ourselves to investigate this for our processing business. What I cannot understand is why Offshore Wind is so attractive to the Governors of coastal states when there is so much proven success with land-based wind energy in this country. We have seen successful WEA's in the west for decades and along the mountain tops of West Virginia and on land right in Atlantic City where we port a good portion of our fleet. Solar farms are becoming common place now throughout the country. Building wind farms in the middle of the ocean cannot be cheap, transmission cannot be cheap, what will this do to the cost of energy in the coastal states?	BOEM' s action is to assess the potential impacts of the proposed Project as specified in Vineyard Wind's COP, as well as reasonable alternatives to the proposed Project that meet the purpose and need. Onshore wind and solar projects would not meet the purpose and need and were therefore not evaluated as part of the NEPA process for the proposed Project.
13108-004	The Atlantic Surfclam and Ocean Quahog Fisheries have been managed under the Magnuson- Stevens Act since 1977 which is when the EEZ was established to protect our fisheries from foreign companies coming into harvest our domestic natural resource. Now we have foreign owned energy	Thank you for your comment.

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	companies coming into our waters and dictating the use of our traditional fishing grounds. If the pandemic has taught us anything it is that our national security, health, and jobs should not be controlled by foreign companies. These foreign companies will reap the majority of the financial gains from these offshore WEA's. Power production is a matter of national security and our national infrastructure should not be placed into the hands of foreign owned companies who will take profits overseas.	
13108-005	It is for these reasons and many other submitted by our staff and RODA that we ask that BOEM choose Alternative G, No Action on the Vineyard Wind I project. We also strongly support the 5-year moratorium put forth by RODA on all WEA construction, leasing, and surveying so the proper science can be performed to determine the best path forward for the safety of our fishermen, protection of our natural resources and environment.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13109-001	I am writing you today to show my support for the offshore wind industry and to emphasize the importance of continuing the momentum that the industry has gained. This is a vital time for renewable energy everywhere, and we need to foster its growth to the best of our ability. Putting off the potential of offshore wind is unacceptable. Especially with the recent mentions of a moratorium on offshore wind, the industry is in desperate need of people who believe in what wind can do to change our world. We've seen it work magic in Europe, and the rest of the world has been following suit and investing in a cleaner future. We have seen the effects of nonrenewable energy, and our populations continue to grow. If not now for offshore wind, then when?	Thank you for your comment.
13111-001	After more than 10 years of exhaustive study and public consultation to identify areas for offshore wind leasing in the United States, the SDEIS presents a comprehensive and in-depth analysis of the potential impacts of an industry that is poised to, by 2030, create 83,000 jobs, generate \$25 billion in annual economic output, and deliver substantial infrastructure investments in port facilities along the East Coast. The enormous economic opportunities this home-grown energy industry presents are unparalleled in recent times.	Thank you for your comment.
13111-002	The Vineyard Wind 1 Project is at the forefront of the nascent U.S. offshore wind industry; a responsibility that we take very seriously. We have worked diligently over the past 10 years to engage with thousands of stakeholders, form partnerships with local communities and organizations, support work force initiatives and job training programs, commit funds that support projects that enable fishermen to continue to safely fish within offshore wind farms, advance methods and technologies that enhance protections for marine mammals, enable battery energy storage and solar projects in local	Thank you for your comment.

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	communities, provide credits to low income ratepayers, and advance the offshore wind supply chain, businesses, and infrastructure in Massachusetts. We have also committed to numerous measures to minimize and mitigate impacts through all phases of the project. We have learned much through the process and we hope to serve as a role model for projects that follow.	
13111-003	The successful launch of the project is a critical marker for the long-term success of the industry. The timely completion of the federal review and approval process will provide the certainty needed for continued investments in a U.S. market. Further delay risks undermining investor confidence in the market and could have broader negative economic implications for an industry that is poised to inject significant U.S. and inward investments that will deliver affordable power, displace foreign energy imports, and help facilitate recovery from the COVID-19-related economic impacts the country is now experiencing.	Thank you for your comment.
13111-004	Importantly, the timely completion of the federal review process fulfills the central purpose of Executive Order 13807, which is to make “efficient and effective” infrastructure decisions that will strengthen the economy, create jobs, increase wages for workers, and reduce the costs of goods and services for families, as well as Executive Order 13927, which aims to accelerate economic recovery from COVID-19 and requires agencies to “take all reasonable measures to speed infrastructure investments and to speed other actions in addition to such investments that will strengthen the economy and return Americans to work.”	Thank you for your comment.
13111-005	We applaud BOEM for its far-reaching and objective analysis that provides the reader with a complete understanding of the potential effects of 22 gigawatts of offshore wind power development from the Gulf of Maine to Cape Hatteras, North Carolina. The SDEIS more than fulfills BOEM’s obligations under the National Environmental Policy Act (NEPA) to examine the Vineyard Wind 1 Project in the context of other reasonably foreseeable offshore wind projects.	Thank you for your comment.
13111-006	The SDEIS correctly identifies some of the many technical challenges created by the imposition of a transit lane intersecting the Vineyard Wind 1 wind development area (WDA). However, the SDEIS underestimates the potential impacts a transit lane would have on the viability of the project and, on a cumulative basis, the effects of multiple transit lanes on the offshore wind energy industry’s ability to meet the need for energy generation in New England and New York and the associated loss of jobs and economic benefits.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.

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13111-007	With respect to the project, the SDEIS correctly recognizes that a transit lane through the WDA would result in additional transmission losses that are not factored into the design that could result in “technical difficulties and additional unanticipated costs.” SDEIS at 2-5. As we have explained, inter-array cables experience the greatest transmission losses of all cables due to their lower voltage and lengthening each of them by 2 or 4 NMs would significantly increase such losses proportionally to the added length of cables, in addition to those losses already incurred by adopting the D2 1 x 1 NM layout.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-008	The SDEIS also correctly recognizes that a transit lane through the WDA would significantly increase cable joints along the inter-array cables which significantly increases the risk of cable failures, associated loss of production, increased insurance costs and expensive and weather sensitive repairs compared to a project where transit lanes are not intersecting the WDA. Vineyard Wind, and other offshore wind developers work hard to eliminate such joints in their designs, however introduction of 2 or 4NM wide lanes would not make that possible.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13111-009	Vineyard wind is not aware of other projects globally being designed with such array cable lengths and none of these factors were considered in Vineyard Wind’s design of the project or its pricing of power under its power purchase agreements with Massachusetts distribution companies. Nor could Vineyard Wind have reasonably expected that its project proposal could be upended in such a way. The SDEIS does not recognize the full extent of these technical difficulties or the potential of foreclosing Vineyard Wind’s ability to deliver 800 MWs of power under contracts with Massachusetts distribution companies.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13111-010	In addition, while the SDEIS recognizes that Alternative F would again delay the project because of the additional geophysical and geotechnical data that would be needed to site turbines beyond the WDA, it does not fully address the impacts of such a delay. The FEIS should recognize that the technical complexities of a transit lane and delaying the project a second time would not only significantly increase project costs, it could preclude Vineyard Wind’s ability to meet its current contractual obligations with Massachusetts distribution companies thereby creating significant risk for the project’s long-term viability. The SDEIS therefore incorrectly concludes that “[d]espite the technical, operational, and economic challenges that Alternative F would present if selected, this Alternative could technically and economically meet the purpose and need.” SDEIS at 2-6.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted. Section 2.5 of the FEIS has been added that includes the agency-preferred alternative.

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13111-011	The Council on Environmental Quality (“CEQ”) finalized its revised regulations implementing NEPA that become effective on September 14, 2020 and are thus applicable to the FEIS. The revised regulations direct that where, as here, the agency is reviewing an application for authorization, the agency “shall base the purpose and need on the goals of the applicant and the agency’s authority.” 40 C.F.R. §1502.13. The revised regulations further define that a reasonable alternative “must be technically and economically feasible and meet the purpose and need of the proposed action.” Final Rule at 192 (July 16, 2020), citing <i>Yankee Nuclear Power Corp. v. Nat. Res. Def. Council, Inc.</i>, 435 U.S. 519, 551 (1978) (“alternatives must be bounded by some notion of feasibility”). BOEM must therefore recognize in the FEIS the magnitude of the technical difficulties associated with siting a transit lane through either the proposed project or the D2 Alternative and the impacts of further delay on the project, which could potentially render the project incapable of delivering 800 MWs of power in accordance with Vineyard Wind’s stated purpose and need for the project, which in turn would render Alternative F an infeasible alternative under NEPA.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-012	Further delay would also be contrary to Executive Order 13807 and the Administration’s stated policy to “conduct environmental reviews and authorization processes in a coordinated, consistent, and timely manner in order to give the public and private investors the confidence they need to make funding decisions for new infrastructure projects” and BOEM’s review has already exceeded the stated goal of completing all federal reviews within two years.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM’s anticipated date for a decision on the COP.
13111-013	Finally, it is important to note that in proposing the 4 NM transit lanes in January 2020, the Responsible Offshore Development Alliance (RODA) assumed that “the locations of the proposed transit lanes should not affect the projects with existing state procurement agreements, and should therefore not impact any project’s ability to meet its pricing goals . . .” This is an inaccurate assumption with respect to a transit lane intersecting the Vineyard Wind 1 project.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-014	On a cumulative basis, the SDEIS estimates that if all six of 4-NM transit lanes proposed by RODA were implemented, there would be a loss of 3,300 MWs of power generation across the Rhode Island and Massachusetts lease areas, which is 500 MW less than the current state demand for offshore wind in the area. It also represents a loss of thousands of jobs, capital investment, and economic development opportunities. Using Vineyard Wind’s 800 MW project as a basis, the loss of 3,300 MWs of power equates to a loss of almost 15,000 good-paying U.S. jobs, which is likely a low estimate as subsequent projects will have the benefit of adding more U.S. workers as the industry	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted. The resource sections within Chapter 3 and Appendix A of the FEIS also address the potential impacts of implementing Alternative F. Furthermore, the FEIS was modified in Section 3.6.4 to explain the smaller beneficial impact resulting from Alternative F due to potentially lower levels of job creation and economic investment in offshore wind, and potentially lower energy generation. This conclusion is sufficient to support the FEIS recommended alternative, which does not include

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	grows. Even so, we believe the SDEIS underestimates the potential loss of power production and its associated economic benefits.	Alternative F. More detailed analysis of the potential impacts of Alternative F is not necessary to support the conclusion.
13111-015	Vineyard Wind and the other Rhode Island and Massachusetts leaseholders have committed to implement the D2 Alternative, 1 x 1 NM, layout if no transit lanes are added which would add further burdens on the individual projects. The 1 x1 NM turbine spacing is significantly wider than any of the offshore wind projects constructed globally within the last 20 years... This was a significant, but important compromise to foster the coexistence of the offshore wind and commercial fishing industries as it significantly impacted the economics of projects with existing power purchase contracts by forcing developers like Vineyard Wind to redo geotechnical surveys, locate turbines in deeper water, and incur higher transmission losses due to increased cable lengths. The compromise was in response to commercial fishermen advocating strongly that turbines to be oriented in east-west rows to accommodate long-standing practices designed to minimize conflict between fixed and mobile fishing gear and facilitate safe fishing operations among the turbines. Fishermen also asked that turbine layouts be consistent across lease areas to avoid changing their operations as they pass from one lease area into the next. The Rhode Island Coastal Resources Management Council, as a cooperating agency in the Vineyard Wind project NEPA process, urged, with input from its Fishermen’s Advisory Board, BOEM to include the 1 x 1 NM layout as an alternative in the environmental impact statement.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-016	Further, the leaseholders only proposed the uniform layout after they had assured themselves through extensive third-party analysis that it promoted safe navigation in and around the wind farms, ensured safe search-and-rescue activities, and allowed fishermen to continue fishing safely within the turbine arrays, all to be safeguarded without the need for transit lanes. These findings were confirmed by the Coast Guard’s recommendations after its careful analysis in the MARIPARS study released in May 2020.	Section 2.1.3 and Section 3.11 of the FEIS incorporate, where appropriate, the Final MARIPARS. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-017	In adopting the D2 Alternative, 1 x 1 NM, layout, the leaseholders lost approximately 30% of the lease areas that otherwise would have been used for power production and added additional costs to all projects. RODA’s proposed six, 4-NM transit lanes eliminate another 31% of the area available for locating turbines within the 1 x1 NM grid. That is a total loss of approximately 50% of usable lease areas.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-018	While Vineyard Wind and the other developers have committed to the 1 x1 NM layout, the imposition of 4 NM transit lanes on top of the D2 Alternative would eliminate an additional 329 turbine positions. Assuming 12 MW wind turbine generators (WTGs) are utilized across the lease areas, Alternative F	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	would impose a further loss of 3,948 MW of offshore wind capacity, which is 648 MW greater than the loss estimated in the SDEIS. The further loss of almost 4,000 MW of power generation capacity is significant by any standard and, as noted in the SDEIS would not leave enough power generation to meet current state demand. Indeed, based on the Vineyard Wind 1 project, 4,000 MW of offshore wind capacity would power some 2 million homes and businesses, sustain 18,000 U.S. jobs, provide billions of dollars in ratepayer savings, and reduce carbon emissions by 8.5 million tons per year.	
13111-019	Moreover, the loss of this much power production would have a ripple effect on development of the U.S. supply chain and market investments. These are all factors that BOEM should consider in the FEIS, particularly because, as shown in the next section, a transit lane intersecting Vineyard Wind's WDA is not justified by the low volume of vessel traffic that transits through the WDA.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-020	A 2 or 4 NM transit lane in combination with the 1 x 1 NM layout would not improve transit to George's Bank fishing grounds for two reasons: (1) the 1 x 1 NM layout provides more than 200 separate lanes of travel and (2) the data show that the level of vessel transit activity through the WDA is relatively low and varies from year-to-year with vessels transiting both through and to the north of the WDA. At Vineyard Wind's request, Baird, leading experts in marine navigation, analyzed monthly vessel transits through Vineyard Wind's WDA over the past four years (2016 -2019). Baird's report is attached.	Section 3.11.2 of the FEIS includes a discussion on potential impacts on vessel traffic. In addition, Section 3.11.4 and 3.11.5 of the FEIS includes a discussion of potential effects of Alternative D2 and Alternative F, respectively.
13111-021	Baird found that over four years on average only 2.8 fishing vessels transit the WDA each day with the highest volume of traffic occurring in August where an average of 7 vessels per day transit the WDA. While these figures represent AIS-equipped vessels, which accounts for approximately 50% of all vessels operating in the area, even a maximum of 14 vessels on average per day still demonstrates the exceedingly low level of traffic transiting through the WDA. Baird's analysis further found that 86% of the time there are no vessels present at all in the WDA. Baird also compared the transits through the WDA to all transits out of New Bedford and found that the transits through the WDA are small percentage (~6%) of the overall transits.	The FEIS addresses vessel traffic in Section 3.11.2. Although findings of the Baird (2020) study were not included in the FEIS, the findings described here are consistent with findings in the FEIS. Information presented draws upon the COP, (Epsilon 2018a), including the Revised NRA for the Project (COP Volume III, Appendix III-I, Epsilon 2020a), and the Supplemental NRA (COP Volume III, Appendix III-I, Epsilon 2020a), which were prepared to comply with guidelines in the USCG's Navigation and Vessel Inspection Circular 02-07 (USCG 2007).
13111-022	Imposing an additional transit lane beyond the many provided by the 1 x 1 NM layout to accommodate a small percentage of vessel transits through the WDA is not justified by the available data, especially when balanced against the impacts on the project and the ripple effects on offshore wind industry. Indeed, Vineyard Wind would most likely on average have more vessels crossing the transit lane daily to maintain turbines during their operational	Section 3.11.2 of the FEIS includes a discussion on potential impacts on vessel traffic.

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	life than vessels that would on average transit through the lane. Moreover, the expert federal agency charged with ensuring navigational safety, the U.S. Coast Guard, makes clear that additional transit lanes are not necessary and in fact could increase conflicts between fishing and transiting vessels. The FEIS should recognize the low volume of traffic a transit lane would serve.	
13111-023	Baird also examined the variability of fishing vessel transit patterns over the past four years and found there is no consistent pattern from year-to-year. In some years fishing vessels transiting from ports to George’s Bank largely transit to the north of the WDA while in other years they transit through the WDA. The MARIPARS study illustrates the variability where in 2017 most vessels transited to the north of the WDA, while in 2018 more vessels transited through the WDA. This demonstrates that transiting outside of the WDA rather than through it is common practice and does not impose undue burdens on fishermen. Moreover, the difference between transiting through the WDA and just to the north of it is a distance of approximately 2 NMs, which at most may add 15 minutes to a more than 100 NM-mile trip from the ports to the George’s Bank fishing grounds. The FEIS should recognize the variability in vessel traffic patterns and the marginal difference between transiting through the WDA or to the north of it.	Section 3.11.4 of the FEIS includes a detailed discussion of Alternative D2 and the potential impacts.
13111-024	As the Coast Guard MARIPARS study concluded, “[s]afety considerations require a standard and uniform grid pattern with sufficient path width and spacing between turbines to provide adequate sea room for vessels to avoid collision in passing, crossing, and overtaking situations, and adequate room to react to various potential emergencies.” This is what the D2 Alternative provides.	Section 3.11.4 of the FEIS includes a detailed discussion of Alternative D2 and the potential impacts.
13111-025	The Coast Guard also explained that: Although these larger navigation corridors may appear to provide area for navigation, they actually provide far less area than the numerous corridors that result from the recommended array and spacing. . . . Furthermore, the recommended standard and uniform grid pattern provide sufficient space for certain vessels that fish in the WEA to continue fishing after the wind farms are constructed. For these reasons, the Coast Guard confirmed the 1 x 1 NM layout provides the best approach for safe navigation and “will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing within the [the lease areas].”	Section 3.11.5 of the FEIS includes a discussion of potential effects of Alternative F.
13111-026	In addition, the SDEIS correctly finds that the D2 Alternative combined with the Alternative F transit lane does not materially change the impact ratings assigned to the identified navigational impact producing factors and may actually “increase adverse impacts on safe vessel movement and navigation	Thank you for your comment.

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	as a whole by adding choke points and funneling navigation.” SDEIS at 3-1093. This is because “fishing vessels are more likely to conduct active fishing within a 4 NM transit lane thereby increasing the risk of allision or collision, thereby increasing navigational safety risks.”	
13111-027	The SDEIS acknowledges that the presence of wind turbine generators (WTGs) “would interfere with marine radars (although other navigation tools are available to ship captains).” SDEIS at 3-113. The MARIPARS study examined the potential interference WTGs may cause with marine radar and noted it is “site specific and depends on many factors including, but not limited to, turbine size, array layouts, number of turbines, construction material(s), and the vessel types.” The Coast Guard also reviewed several studies that address correlations between wind turbines and marine radar interference and concluded that, “to date, the USCG is not aware of an authoritative scientific study that confirms or refutes the concern that WTGs will degrade marine radar.” The FEIS should acknowledge these findings [in the MARIPARS study p. 25].	Section 3.11.2 of the FEIS includes a discussion of radar and acknowledges the USCG's findings on radar. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13111-028	To further its commitment to work with mariners to address potential impacts of the project on marine radar, Vineyard Wind has commissioned Baird to conduct a study to quantify the potential radar impacts and identify potential mitigation strategies. Baird’s summary of the proposed study is attached. Vineyard Wind has also committed funds for two innovation funds that can, and should, be used for upgrading or procuring radar equipment for fishermen who fish within the lease areas if deemed necessary. The FEIS should acknowledge the important contribution this study and the innovation funding Vineyard Wind will provide is expected to make towards addressing potential radar interference concerns.	Section 3.11.2 of the FEIS notes that a radar study will be completed by Baird.
13111-029	In the Executive Summary of the SDEIS, BOEM concludes that the Vineyard Wind 1 Project, as proposed, and Alternatives B, C, D1, and F combined with the proposed project, could have “major direct” impacts on navigation due to the presence of structures. However, in the body of the analysis BOEM determines that the presence of structures “would have a localized (to the WDA), long-term, continuous moderate impacts on navigation and vessel traffic.” SDEIS at 3-113. Under the impact producing factors identified in Table 3.13-1, BOEM similarly finds that the presence of structures in the proposed project area would have moderate impacts on navigation and vessel traffic, including impacts on search and rescue (SAR) operations and risks of allision. It is therefore unclear to us how the Executive Summary concludes that the proposed project would have “major” direct impacts on navigation due to the presence of structures. We understand that because the Vineyard Wind 1 Project, as proposed, is not aligned in a 1 x 1 nautical mile (NM)	The FEIS addresses this comment in the Executive Summary and Sections 3.11.3 and 3.11.5. Even with mitigation, overall, the impacts of Alternatives C, D1, and F on navigation and vessel traffic would likely be major, due primarily to the increased potential for loss of life due to maritime incidents, which would produce significant local and possibly regional disruptions for ocean users in the RI and MA Lease Areas.

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	layout, on a cumulative basis, the disparity in layouts could complicate SAR operations and that could support a major impact rating, but the Executive Summary is referring to the direct, not cumulative, impacts of the proposed project. We therefore recommend that BOEM clarify the direct impact rating in the Executive Summary.	
13111-030	It also appears that the major impact rating assigned to the cumulative impacts of structures is principally driven by the disparity in layouts between the proposed project and the assumed 1 x 1 NM layouts for other projects. We believe that BOEM should recognize in the navigation and vessel traffic section, as it does in other sections of the SDEIS, that Vineyard Wind in conjunction with the other Rhode Island and Massachusetts leaseholders, has committed to align the project in the 1 x 1 NM layout, which would eliminate the disparity in layouts thereby decreasing the risk of collision/allision and navigational complexity. Consistent with BOEM's impact rating for the D2 Alternative, the cumulative impacts of the proposed project, when mitigated by the 1 x 1 NM layout, would be moderate, not major.	Section 3.11.4 of the FEIS discusses Alternative D2. Alternative D2 would result in 1 x 1 nautical mile spacing between WTGs, with WTGs arranged in east-to-west rows and north to south columns, matching the orientation that BOEM assumes for all other future offshore wind projects. Impact ratings are based on consultations with cooperating agencies (specifically the USCG) and the definitions in Section 3.0. The overall reasonably foreseeable environmental trends and planned action impacts of Alternative D2 when combined with past, present, and reasonably foreseeable activities on navigation and vessel traffic within the geographic analysis area would be lower than under the Proposed Action—moderate— due to improved SAR access and reduced loss of life.
13111-031	The SDEIS identifies that the Vineyard Wind 1 Project, as proposed, could have major impacts on environmental justice communities. The “major” impact rating is driven by Vineyard Wind’s potential use of the New Hampshire Avenue cable landing site in Yarmouth which would require cable installation through Lewis Bay. The SDEIS finds that installing a cable through Lewis Bay would have a disproportionate impact on low-income residents in the commercial and for-hire recreational fishing industry near Lewis Bay, albeit localized and short-term. On June 26, 2020, Vineyard Wind formally notified BOEM that it was not pursuing the New Hampshire Avenue landing site. While the New Hampshire Avenue site was included in the project design envelope, Vineyard Wind never sought state or local permits for the site and instead has obtained all of the state and local permits necessary to bring the cable onshore at the Covell’s Beach in Barnstable. The Vineyard Wind 1 project therefore will not have a major impact on environmental justice communities.	The references to the New Hampshire Avenue landfall route and the associated "major" impact ratings from the DEIS have been removed in the FEIS as Vineyard Wind has obtained all necessary permits from state and local entities for use of Covell's Beach.
13111-032	Finally, the SDEIS assigns a major impact rating to both the direct and cumulative impacts of the proposed project on the National Marine Fisheries Service’s (NMFS) scientific research and studies because the wind turbine structures would restrict access to research areas under current protocols. We understand that these impacts can be mitigated through adapting NMFS’s research protocols to account for the presence of offshore wind structures but will require additional agency resources. We further understand that BOEM is working closely with NMFS to address the issue and is in the process of awarding a contract to assist NMFS in revising its methodologies. We	Section 3.12 of the FEIS has been updated to acknowledge potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of the FEIS. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be

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	recommend that BOEM include in the FEIS more detail on the ongoing agency efforts to address the issue and consider how ongoing fisheries studies being conducted by Vineyard Wind and other developers, as well as regional science efforts advanced by the Responsible Offshore Science Alliance contribute to the overall efforts to obtain the needed data on fisheries in the wind development areas.	required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13111-033	When BOEM issues its decision on the Vineyard Wind 1 project in December 2020, the project will have been delayed by more than one year. During this time, we have worked hard to address numerous concerns and most importantly we have committed to adopting the 1 x 1 NM layout, D2 Alternative. The Coast Guard’s MARIPARS recommendations confirm that this layout is safe for navigation and “will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing.” We therefore urge BOEM to adopt the D2 Alternative as the right solution for coexistence of the offshore wind and commercial fishing industries and growth of the blue economy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-034	We further implore BOEM not to further delay the project by imposing a transit lane through the project area. The technical challenges and delay associated with a transit lane create significant risks for the project, which we believe will have a ripple effect on an industry that is poised to create tens of thousands of U.S. jobs, generate billions in annual economic output, and revitalize U.S. port facilities along the East Coast. BOEM should render a timely and feasible permitting decision in order to promote public confidence, as well as give private investors the confidence needed to make funding decisions for new infrastructure projects and the associated U.S. supply chain growth.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13111-035	Several comments in the SDEIS pertain to the potential issue of the impacts of the proposed development on vessel navigation. Two of the draft findings relate to the following topics: • Marine radar systems. The SDEIS Cumulative Impacts assessment (Section 3.13.2.1) indicates that the presence of Wind Turbine Generators (WTGs) “would interfere with marine radars” and that “vessel owners would likely need to add navigation and communication equipment to safely navigate through the offshore wind project”. • Navigation risk and vessel traffic. The SDEIS mentions the potential for increased risk of vessel collision and allision within the turbine field. This document provides supplementary information related to both concerns. Specifically, a marine radar study comprised of field and numerical investigations is to be carried out in 2021, as summarized briefly in Section 2.0. As well, additional AIS data analyses have been completed to better	Thank you for your comment.

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	quantify the volume of vessel traffic transiting within and outside the Project area, as discussed in Section 3.0.	
13111-036	...MARIPARS, examined a number of potential navigational issues, including the potential for WTGs to affect marine radar systems. Some key points outlined in the Final MARIPARS on this topic were: 2. The potential for interference with marine radar is site specific and depends on many factors including, but not limited to, turbine size, array layouts, number of turbines, construction material(s), and the vessel types. A number of commenters mentioned the potential for radar interference by WTGs. The USCG reviewed several studies that address correlations between wind turbines and marine radar interference. To date, the USCG is not aware of an authoritative scientific study that confirms or refutes the concern that WTGs will degrade marine radar. 3. Some of the general types of interference may include radar clutter, radar saturation, and shadowing... 4. Vessels have different types of radar with different capabilities. UK radar studies have concluded that the that the location of radar antenna aboard vessels may contribute to the ability of radar to properly detect targets and may even cause false echoes. For example, radars that are off-center or obstructed by railings, antennas, masts and the like are more likely to detect objects falsely. Additionally, radar operator wind farm. 5. The UK studies also show that general mitigation measures, such as properly trained radar operators, properly installed and adjusted equipment, marked wind turbines and the use of AIS enable safe navigation with minimal loss of radar detection. Thus, the USCG noted that it is unclear as to whether WTGs will cause a degradation of marine radar and that UK studies have indicated the potential a potential to mitigate these concerns.	Section 3.11 of the FEIS has been updated to address the Final MARIPARS study. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted equipment, marked wind turbines, and the use of AIS enable safe navigation with minimal loss of radar detection.
13111-037	Concerns have been raised by the local fishing community as to the possible impact of WTGs on marine radar systems. To address this concern, Vineyard Wind has undertaken the design of a detailed study [Baird, 2020] to quantify the potential impacts of the Vineyard Wind project on marine radars and to identify mitigation strategies (if needed). The proposed radar study includes documenting the types of radar systems commonly used by vessels regularly transiting through and around Vineyard Wind's Lease Area OCS-A 0501, completing a site specific numerical modeling assessment, and undertaking a two-day field program to take advantage of a unique opportunity for testing of actual marine radar systems at the nearby Block Island Wind Farm.	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease

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		as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted equipment, marked wind turbines, and the use of AIS enable safe navigation with minimal loss of radar detection.
13111-038	In addition to the Block Island field trial, a complementary numerical modeling assessment will also be undertaken for Vineyard Wind’s proposed turbine layout in the Wind Development Area (WDA). The site-specific numerical modeling approach enables a direct assessment of potential radar interference for the proposed WTGs and marine radars representative of the systems used by the local fleet...The scope of work for numerical study includes a turbine reflectivity assessment, radar system modeling, scenario simulations, impact assessment, and a mitigation discussion (all supported by site specific modeling results). The model will incorporate sea clutter approximating the effects of waves and weather, and takes into account the turbine sizes and spacing.	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted equipment, marked wind turbines, and the use of AIS enable safe navigation with minimal loss of radar detection.
13111-039	The radar study will advance the understanding and provide documented full-scale observations on how the Project may influence marine radar and radio. Three vessel sizes will be used in the field trial portion of the study, and have been selected to be representative of the full range of vessel sizes in the local fishing fleet (vessel selection is expected to include an ~87 ft scalloper, a ~47 ft gillnet vessel, and a ~23 ft skiff, though final vessel selection will depend on vessel availability at the time of the field trial).	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential radar interference. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted equipment, marked wind turbines, and the use of AIS enable safe navigation with minimal loss of radar detection.

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13111-040	Expected outcomes of the overall radar study include the following: • Assessment of the ability of vessel radar systems of different types to track stationary, moving, and turning vessels in the presence of WTGs. • Evaluation of the performance of different radar systems from several manufacturers, including both older magnetron/pulse types and the latest solid-state technology. Radar height, scanner size, and output power will also vary, depending on the specific details unique to each vessel. The extent to which WTGs create effects on marine radar systems, such as side lobe clutter, spurious reflections and shadowing, will be assessed for each system at different settings and adjustment levels. • Identification of potential mitigation strategies including the use of manual gain control as well as automatic anti-clutter technology to identify real targets and eliminate false echoes. • Evaluation of the potential influence, if any, of WTGs on VHF radio direction-finding communication from the Vineyard Wind development.	Thank you for your comment.
13111-041	It is anticipated that the proposed study will result in the advancement of knowledge related to the use of marine radars in the vicinity of the Vineyard Wind project and future offshore wind energy developments in general...Observations related to VHF radio direction finding and communication testing will also be documented for consideration by radio operators and Search and Rescue organizations.	Thank you for your comment.
13111-042	At a technical level, the proposed numerical modeling investigation and full-scale field trial will document and quantify potential impacts and identify mitigation strategies to improve radar-based navigational safety. More importantly, the overall value of the study will be to improve the understanding and the extent to which the Vineyard Wind Project (and potentially future projects) may affect marine radar compared to the current state of knowledge.	Thank you for your comment.
13111-043	Analyses of historical AIS data (Baird, 2019a,b) have indicated that there is relatively low traffic density in the Wind Development Area (WDA) under existing conditions: • 86% of the time there are no vessels present in the WDA. • Two or more vessels are present in the WDA simultaneously 258 hours per year on average (2.9% of the time). • The maximum amount of recorded traffic in four years (2016-19) in a 15-minute period over the 306 square kilometer area of the WDA was 22 vessels (Sept. 2016) during a very active trawling period of short duration. The maximum amount of transiting traffic in this same 4-year period was 7 vessels.	The FEIS discusses vessel traffic in Section 3.11.2.

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13111-044	Table 3.1 summarizes the number of vessel transits by month across the WDA over a four-year time period (2016-2019) based on analyses of AIS data. Transiting fishing vessels were identified as being those vessels having a speed greater than 4 knots. On average, there were 2.8 transits per day across the WDA with peak traffic occurring in August with an average of 7 vessels per day in transit (roughly one every three hours if evenly spread through the day). It is important to recognize that vessels less than 65 feet in length are not required to carry AIS although many do. In Baird (2019), it was estimated that AIS-equipped vessels may represent about 50% of the total fishing fleet. Thus, the transit numbers may be double those shown in Table 3.1, but this still represents a relatively small amount of vessel traffic...There is significant variability in the transiting fishing vessel traffic patterns from year to year. For example, in 2016 fewer fishing vessels transited through the WDA (1.8 vessels per day on average) while in 2019 there was more traffic (4.1 vessels per day on average).	The FEIS discusses vessel traffic in Section 3.11.2, which has been edited to include the SNRA estimation of the percentage of fishing fleet covered by AIS data.
13111-045	Transiting vessels may prefer to divert around the WDA rather than sail through the turbine field. Figure 3.1 shows two possible transit paths – one through the WDA and one around the northern extent of the WDA. The difference in distance is 2 nautical miles. At an average transit speed of 8 knots, this additional distance would add 15 minutes to the trip.	Thank you for your comment.
13111-046	One concern with the designating a vessel transit corridor is the potential conflict between transiting vessels and those fishing. A corridor will naturally attract traffic that currently spreads over a wider area under existing conditions. This increased traffic in the corridor may result in increased interactions with vessels trawling in the corridor. Figure 3.2 shows the average AIS traffic density map for vessels conducting fishing (assumed to be moving at speeds of less than 4 knots) over the 2016 to 2019 time period. The proposed 4 nm transit corridor is shown on the maps. As with the transiting vessels, there is considerable variation in fishing activity from year to year, as may be noted in the plots of Figures 3.3 and 3.4 for the years 2016 and 2019, respectively. Overall, given the low density and variability of the vessel traffic, the relatively short additional distance to divert around the WDA should this be preferred and the potential to increase conflicts between transiting and fishing traffic, the designation of a wide transit lane through the project area does not appear warranted.	The FEIS addresses this comment in Section 3.11.5.
13112-001	I fully support the efforts for Vineyard wind to start. We need more renewables and working in the education field more and more kids want to be a part of the green movement. We should move this project forward 100%	Thank you for your comment.

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13113-001	I lived on the cape for 40 years. Now, I'm in Maine. I remember when pilgrim nuclear power plant went in. No one objected. And that is such a scary issue. We have many wind turbines on the ridges around us, in Maine. No issues. No fears of a meltdown. Let's be forward thinking and Get this wind power going! Europe has embraced wind for decades. I say Do It.	Thank you for your comment.
13117-001	On behalf of Garden State Seafood Association we ask for a five-year delay on wind energy solicitation in the Mid Atlantic. The current process in use by the Bureau of Ocean Energy Management (BOEM), identifies wind energy area sites without consideration of their adverse environmental impacts in the original lease selection, on the locations historically rich and economically vital commercial fisheries, or on the communities that support and benefit from those fisheries. The only factors even considered in the initial location determination was visibility from shore and an attempt to minimize bird interactions, not the needs of other ocean users, particularly fishermen. The potential results of continuing offshore wind solicitation include permanent harm to our environment, diminishment of our industry's ability to produce food from the sea, and increased costs to the consumers who must purchase expensive 'green' power. We therefor support Alternative G, the No Action Alternative at this time.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project. In addition, the NEPA process for the proposed Project is being implemented consistent with Secretarial Order 3355, including the page and timing limitations for preparing the EIS. Last, the FEIS does not evaluate impacts as a result of lease selection and issuance because that assessment has already been conducted and published in 2013. The Environmental Assessment for commercial wind lease issuance and site assessment activities offshore Rhode Island and Massachusetts can be found online here: https://boem-prod.opengov.ibmcloud.com/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/State_Activities/BOEM%20RI_MA_Revised%20EA_22May2013.pdf
13117-002	By nature of their reliance on the ocean for their way of life, fishermen must be good stewards of the environment. Any proposed opening of fishing grounds or increase in allowable catch requires years of intensive scientific study. By contrast, there have been almost no environmental studies on the impact of offshore wind farms and, thus far, the BOEM has not addressed any major environmental concerns that were raised as a result of the first project solicitations.	The environmental assessment for the Vineyard Wind 1 Project has relied upon the best available information regarding impacts from the proposed action by using the results of local site characterization information from the developer, the National Marine Fisheries Service, and others. Impact information from the Block Island Wind Farm and European projects are applicable to the anticipated impacts of the proposed action. Section 3.3 of the FEIS has been updated to include European studies of impacts from offshore wind facilities on finfish and Section 3.10 has been updated with a U.K. study (by Roach et al.) that shows impacts to catch rates from offshore wind facilities.
13117-003	The New York bight is also home to a unique phenomenon called the cold pool. The cold pool is a significant element in the reproduction and migratory patterns of many aquatic species on the east coast and its disruption could be catastrophic to those species. It is as significant to our marine environment as the Pine Barrens, Catskills or Martha's Vinyard. Though this has been brought to the attention of developers and federal officials on several occasions, no research has been done to determine the impacts of offshore wind on this important part of our ecosystem.	Section 3.4 of the SEIS discussed the cold pool and potential effects of offshore wind development. Therefore, no change to the FEIS is warranted. Potential impacts on the cold pool are dominated by factors other than the Proposed Action; nevertheless, the FEIS considers impacts of reasonably foreseeable environmental trends and planned actions, including the Proposed Action. This is a Project-specific EIS, not a Programmatic EIS or assessment.
13117-004	While the SEIS and developer talk of successful project in Europe, we have found no peer reviewed scientific studies on the impact of wind energy	Section 3.10.2 of the FEIS has been updated to include a European study on the impact of offshore wind on lobster. The Section 3.14.2.5 of the SEIS

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	facilities to fisheries or fish stock. This fact combined with the projects impact on federal fisheries resource surveys should give the federal government ample reason to pause. With the potential impact to the surveys the resulting uncertainty will create pressure to reduce legally allowable catch at the industry and nations detriment.	addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).
13117-005	Finally, this area is the site of right whale activity for a healthy portion of the year. Fisheries are held to significant regulatory restrictions to minimize potential impact. BOEM must develop a similar system to insure the whales continued protection prior to approving this project with possible significant acoustic impacts during construction and operation.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. The use of PAM technologies will allow Vineyard Wind to monitor the large Level A and B harassment zones. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13117-006	There has yet to be any true commitment from the developers with an existing procurement to modify design plans in any way to limit impacts on safe fishing near or transit through their site, and BOEM has ever mandated or even encouraged such modifications despite the late stage of the project. Discussions identifying transit lanes and spacing needs for continued commercial fishing operations within the project have resulted in zero changes. Despite numerous proposals and requests made by the fishing industry, there is no clear plan for transit corridors. These concerns need to be addressed in order to keep our state's fishermen safe at sea.	Section 3.11.2 and 3.13.2 of the SEIS evaluates impacts from alternatives with different spacing of turbines and transit corridors (Alternatives D1, D2, and F) on commercial fisheries and navigation. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. Section 2.1.3 of the FEIS was updated to clarify that Alternatives D1 and D2 were the direct result of scoping comments received from the commercial fishing industry (see April 30, 2018 comment from Tkjedle Law on behalf of the East Farm Commercial Fisheries Center on the Notice of Intent to Prepare an EIS). Alternative F was proposed by the Responsible Offshore Development Alliance through a collaborative process with commercial fishermen and the offshore wind industry.
13117-007	The SEIS in Appendix B Figures 3.11-2, 3.11-3 and 3.11-5 show significant transiting through the proposed development area in a North Eastern / South Western directions. As identified and proposed to BOWM and the developers, by the fishing industry and supported by RODA proposed 4 nm navigation corridor proposed in Alternative F. The 1 NM E/W spatial layout does not support this identified transit need. Specifically, in the case of Scallop fishery identified in Figure 3.11-5, this lack of transit corridor will	The FEIS addresses this comment in Section 3.10.1.1 and 3.11.2 and was updated to include the Final MARIPARS (USCG 2020), which states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additional rationale is provided in the Final MARIPARS (USCG 2020). Section 3.11.2 and 3.13.2 of the SEIS evaluates impacts from alternatives with different spacing of turbines and

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	have direct impact on the time constrained permit of the industry with a limited number of days at sea and running 24 hour clocks.	transit corridors (Alternatives D1, D2, and F) on commercial fisheries and navigation. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. Section 2.1.3 of the FEIS was updated to clarify that Alternatives D1 and D2 were the direct result of scoping comments received from the commercial fishing industry (see April 30, 2018 comment from Tkjedle Law on behalf of the East Farm Commercial Fisheries Center on the Notice of Intent to Prepare an EIS). Section 3.10 of the FEIS also notes that some fisheries may require spacing greater than 1 nautical mile between wind turbines.
13117-008	Current plans also call for separate transmission infrastructure for each project which will create additional cost to the rate payer and greater potential impact to commercial and recreational fishing grounds. Existing projects have already shown the problems that can arise when cables are only minimally buried. The need for deep cable burial suggests that a transmission backbone is required in order to build these projects with limited impacts on fishing.	BOEM assumed in Chapter 1 of the SEIS and FEIS that each project would require separate transmission infrastructure in order to evaluate a worst-case or most impactful scenario. BOEM acknowledges in Chapter 1 of the SEIS that if shared transmission infrastructure were implemented for future projects, potential impacts could be less.
13117-009	The Federal Government has stated that they will waive requirements under the Jones Act and allow foreign flagged vessels to transport and install turbine components produced overseas. This will significantly decrease the number of jobs created in the United States, despite the wind developers promises. A delay in future solicitations could give the industry time to build the necessary infrastructure to support these projects and allow for construction vessels to be built in American shipyards. Without this infrastructure, American wind farms will likely be imported, producing few, if any, local jobs. For example, construction of the recent pilot project off the coast of Virginia included two prefabricated turbines which were shipped from Europe to Nova Scotia and then traveled down the coast to VA on foreign vessels with foreign crews.	Section 3.6.1.1 of the FEIS references several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
13117-010	Finally, BOEM has done no cost-benefit analysis on the impact to the fishing industry. We are being sold the promise of future job creation with no analysis of how existing jobs and investments will be impacted. Recent studies from Europe do not support the wind energy developer's assertion that thousands of jobs will be created ¹ . In fact a 2006 German study found a net loss of jobs from windmill projects. Without a true cost benefit analysis, BOEM should defer and ensure the protection of existing commercial fishing jobs and the hundreds of millions of dollars in existing infrastructure investments.	This EIS provides an evaluation of both beneficial and adverse effects of the Proposed Action and the alternatives to the Proposed Action. Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries and Section 3.6 discusses impacts to employment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Although fishing activity may change, employment in the fishing sector is not anticipated to change as a result of the proposed action. Per 40 CFR 1502.23, a cost-benefit analysis is only required if it is relevant to the choice among environmentally different alternatives being considered. Therefore, no change to the FEIS is warranted.

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13119-001	I support putting the wind towers in Nantucket Sound. I think they'd be good for the environment and the fishermen. We've procrastinated too long and we can't continue to go through life with our heads buried in the sand.	Thank you for your comment.
13123-001	...I am strongly in favor of a Mass offshore windfarm. For me, the positives of such an initiative make this project completely worth it. Not only would it create jobs in the immediate future, but it would be a jump start to an entire potential industry that would boost the economy of our state in the years to come. Massachusetts stands out as an environmentally conscious state, so this project would also serve to make our state an example across the country.	Thank you for your comment.
13126-001	Research from Europe has dispelled misconceptions that construction of Offshore Wind foundations harm marine life. Quite the contrary marine life congregate around Offshore Wind tower foundations making things easier for commercial fishermen. Those foundations are of the same construction that enabled oil rigs to survive Hurricane Katrina in the Gulf of Mexico. Offshore Wind has proven successful in Europe and serves as a unique job creator for construction trades and in disadvantaged communities. Traumatic times such as these require a facilitation philosophy rather than one of obstruction.	Section 3.4 of the SEIS discusses the "reef effect" and the potential benefits to finfish and invertebrates. Section 3.10 and 3.11 discuss the potential for increased recreational, commercial, and for-hire fishing opportunities; therefore, no change to the FEIS is warranted.
13128-001	The need to reduce fossil fuel use has been known for decades now, and procrastination is not helpful.	Thank you for your comment.
13129-001	OCEAN encourages the forward progress toward permitting of Vineyard Wind with careful attention paid not only to fishing interests but to the overall health of the ocean and the planet. We feel that the wind lease areas can be designed to improve fish stocks, and to provide some added commercial and recreational fishing benefits within the Vineyard Wind Project.	Thank you for your comment.
13130-001	SIOW emphatically endorses Alternative D2 and urges BOEM to adopt it as the Preferred Alternative. SIOW also strongly encourages BOEM to reject Alternative F. Lastly, SIOW would like to incorporate by reference the comments submitted by the American Wind Energy Association.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13130-002	Building a successful offshore wind industry will require a diverse technical workforce spanning an estimated 74 occupations ranging from electricians, welders, ironworkers, pipefitters, pile drivers, engineers, scientists, vessel operators, lawyers and scientists. Many offshore wind jobs will be union jobs. The existing U.S. offshore oil and gas supply chain is bringing its expertise to the development of offshore wind energy facilities. Companies that have been working exclusively in the U.S. oil and gas industry have become involved in all aspects of offshore wind development. Their involvement has ranged from survey work to turbine installation to support.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. This information was also included in the SEIS (Section 3.7.2.1), and the FEIS provides additional detail and analysis. Section 3.6.2 provides information on types of jobs required for the Vineyard Wind 1 Project, but generally the FEIS does not address in detail the required workforce for offshore wind development.

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	For example, the foundations and service vessel provided to the Block Island Wind Farm were transported to New England from the Gulf of Mexico.	
13130-003	The Vineyard Wind project will create 3,600 jobs for local residents, while making a significant contribution towards climate change mitigation.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. The Vineyard Wind 1 Project contribution towards climate change mitigation is also addressed in Section 3.6.2 and in addition, the FEIS has been updated in Appendix A, Section A.8.1 to address potential air emission reductions in greater detail than the SEIS.
13130-004	In addition to the continuous and ongoing communications that exist between offshore wind developers and commercial fishermen, commercial fishermen have also been on the receiving end of extensive engagement from both the federal government and the states regarding offshore wind development. In fact, it would be difficult to find a stakeholder group whose participation has been more sought-after throughout the U.S. offshore wind area identification, permitting and leasing processes than the commercial fishing industry.	Thank you for your comment.
13130-005	BOEM should adopt alternative D2, comprised of a uniform 1 nm x 1 nm grid layout of turbines across contiguous lease areas, as the Preferred Alternative. After extensive study and public input, the USCG recently endorsed this layout as superior from a navigational safety perspective. In the context of its recently released final report “The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study” (MARIPARS), the USCG determined that the grid layout pattern “will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing within the [Wind Energy Area].”	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13130-006	BOEM should reject alternative F, comprised of a 4-mile wide dedicated transit corridor, either alone or in combination with D2. Large transit lanes are unnecessary, and, as the SDEIS itself suggests, will in fact pose greater risk to navigation than the uniform grid layout as proposed in Alternative D2, as more traffic is likely to be funneled into the lanes.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13130-007	Alternative D2 strikes an appropriate balance by ensuring the cost-effective development of federal WEAs without compromising the safety of recreational and commercial fishermen or other mariners. By contrast, Alternative F, which has no factual or scientific basis, would impose a significant burden on offshore wind development with no countervailing benefit to fishermen or other mariners, from a navigational safety	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	perspective. On this issue, BOEM should defer to the USCG, the federal agency charged with ensuring the safe navigation within federal waters, and adopt alternative D2 as the Preferred Alternative and reject Alternative F.	
13131-001	The only challenge to the supplement from an informed party took the form of a Request For Corrections to the USCG MARIPARS under the Information Quality Act (IQA). Incorporating the changes proposed in this request, including a 2 X 2 NM grid layout and 4 NM transit lane, would be the equivalent of BOEM selecting "G," the "No Action" alternative. Calling for a five-year moratorium of OSW development in order to conduct additional surveys in the WEA would have the same effect. I can't see this as a legitimate reason for further delay of the approval process for the VW1 project since RODA couldn't cite a previous challenge to a PARS made in this manner and that the USCG was aware of it prior to their approval of the MARIPARS.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13131-002	Large infrastructure projects will be key to our economic recovery from the effects of the pandemic. The approval of this \$2 billion project will open the floodgates to an over \$20 billion flow of projects along the east coast that will cement the domestic OSW industry's introduction to the United States. These projects will not only lead to investment in the education and training of a domestic OSW workforce, but will also convince the industries in the supply-chain that it's more efficient to locate production facilities closer to the coastal staging areas here in the U.S. rather than shipping components across the ocean.	Thank you for your comment.
13131-003	I encourage BOEM to approve this project with some combination of alternatives that will allow this project to move forward as expeditiously as possible.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13131-004	The valid concerns raised by RI squid fishermen being left out of financial mitigation and the fishing fleet's concern over X-Band radar interference can be addressed as the project moves forward, as explicitly stated by BOEM during the hearings.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. Section 3.10 and Appendix D of the FEIS discuss the details of the voluntary revenue compensation funds. Vineyard Wind has established voluntary gear loss and revenue compensation funds for fishing interests based in Rhode Island and Massachusetts, which includes owners and operators of vessels, vessel crews, shoreside processors, vessel supplier and support services, and other entities that can demonstrate losses directly related to the Vineyard Wind 1 Project.
13133-001	The Port of New Bedford has long been a leader in the effort to bring offshore wind to American waters. We have long believed that our port could reap the benefits of investment by an industry that has helped to revitalize and enhance ports across Northern Europe, creating tens of thousands of jobs	Thank you for your comment.

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	along the way. In the last eight years, the Port Authority, the New Bedford Wind Energy Center, New Bedford Ocean Cluster and other city agencies have conducted extensive planning, programming, research, and networking to place New Bedford in the middle of the offshore wind discussion in the United States. We are home to America's first purpose built offshore wind deployment facility, which is slated to stage the Vineyard Wind project and generate considerable economic activity in our region.	
13133-002	At the same time, we recognize that offshore wind must work in harmony with the commercial fishing industry, which is our primary industry. New Bedford is the highest grossing fishing port in America and is the undisputed epicenter of the fishing industry on the East Coast. Nearly five hundred vessels land fish in New Bedford each year, and we are home to dozens of shoreside support businesses. According to a recent study, fishing and related industries in New Bedford support over six thousand jobs and generate over \$10 billion in direct and induced economic output. Suffice it say, no other American port has more at stake in the resolution of the potential conflicts between the offshore wind and fishing industries.	The DEIS provided data on the economic importance of the New Bedford commercial fishing and seafood processing industries. The FEIS updates and expands this data based upon a more recent study (Section 3.6.1). Furthermore, Section 3.10.1 of the FEIS was updated to discuss the importance of New Bedford to the fishing industry.
13133-003	We in New Bedford believe that offshore wind and commercial fishing can successfully coexist. To do so, there must be an open dialog between the two industries, something we have strived to facilitate. The New Bedford Port Authority has been engaged in marine spatial planning efforts on the continental shelf since the launching of Massachusetts Ocean Management Planning process. That process, built on the input of stakeholders from Massachusetts and Rhode Island, resulted in the establishment of wind areas that were commercially viable for wind developers while making every effort to avoid the most valuable and contentious fishing grounds.	Thank you for your comment.
13133-004	As a result of the work done almost ten years ago to avoid conflicts with the fishing industry, the Massachusetts lease areas historically have not been heavily fished. This includes the Vineyard Wind lease area. While there is scarcely any place on the Outer Continental Shelf on the East Coast where windmills would have no conceivable impact on fishing, the Vineyard Wind lease area would rise to the top of the list of viable energy wind areas with the least impact on commercial fishing. In analyzing the impacts of fishing industry - either by individual wind project or cumulatively- one must ask, if not there, then where?	Thank you for your comment.
13133-005	We reject the idea, suggested by some, that there should a moratorium on wind farms. The American offshore wind industry has been gestating for nearly twenty years, with only seven total turbines installed on the East	Thank you for your comment.

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	Coast. Imposing an arbitrary waiting period for still more study will assuredly dampen industry investment for a far longer period.	
13133-006	Having the first wind project go forward in a lease area that is not heavily fished, is the best way for BOEM to understand the real cumulative impacts on the industry. This will be especially important to understanding the impacts in the New York Bight, which is far more heavily fished than the Massachusetts area, and where there has been considerably less impact analysis.	Thank you for your comment.
13133-007	We believe the fishing industry will help ensure that the offshore wind industry develops in the U.S. with the most local content and job creation. We have worked with MassCEC and Vineyard Wind to develop those supply chain opportunities, with a focus on fishing businesses.	Section 3.6.2 of the FEIS has been updated to include information on the coordinated effort by the Port of New Bedford, MassCEC, and Vineyard Wind to develop supply chain opportunities.
13133-008	In the absence of well-sited and planned development of the offshore wind industry, however, we foresee tremendous conflict ahead between [the offshore wind and commercial fishing] industries, that will likely result in years of litigation and lost economic opportunity. It is critical that BOEM ensure the nation's interests and natural resources are protected in federal waters and that the right uses are identified through stakeholder engagement.	Thank you for your comment.
13133-009	As [the offshore wind and commercial fishing] industries move forward more and more synergies will be found. They will use the same suppliers, buy from the same businesses, and work together to identify commercial opportunities. We believe that if offshore wind is going to happen in the US, we need to learn from areas that do not have significant impact to fisheries, and Vineyard Wind's lease is one of those areas.	Thank you for your comment.
13134-001	Orsted strongly supports the adoption of Alternative D2 (and the rejection of Alternative F) as the Preferred Alternative for project layout in the Rhode Island/Massachusetts contiguous lease areas. As one of the participating developers to the consensus developers' proposal for a uniform 1 nautical mile ("nm") x 1 nm grid configuration for these specific lease areas, Orsted welcomes the solid evidence presented in the SDEIS demonstrating the superiority of this approach from a navigational safety perspective.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13134-002	Adopting Alternative F—thereby effectuating material and arbitrary reductions in the lease areas—could also significantly depress the value of future lease sales. Further, retroactively shrinking lease areas introduces uncertainty into the federal offshore energy development process. That may have a chilling effect on developers' financial investment appetite and therefore lower lease revenues not only from reduced auction sales prices but also during the operating term.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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13134-003	It is hard to reconcile the SDEIS's qualitative assessment that future offshore wind development will result only in minor net economic benefits to the region with the SDEIS's recognition of significant new investment in ports and harbors, manufacturing and other supply chain activities, and workforce development. Orsted alone plans to invest \$10 billion over the next decade in the United States. The final EIS should reflect more realistic and more significant positive economic rating of offshore wind as a domestic financial development engine consistent with ongoing and planned investments.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13134-004	BOEM should more clearly acknowledge that the negative impacts described in the cumulative analysis are likely conservative worst-case estimates rather than the reasonably foreseeable scenario. That is because for many of the cumulative impact parameters considered in the SDEIS, BOEM chose not to incorporate widely accepted or legally required mitigation strategies, such as working with the Department of Defense Clearinghouse to resolve conflicts with military uses. Thus, the "bottom line" impact of the 22 gigawatts ("GW") build-out must be considered (as BOEM itself admits) as a worst-case scenario and not representative of as-constructed project impacts. The final EIS should incorporate reasonably foreseeable industry practices or legally required mitigation in assessing impacts.	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13134-005	It is inconsistent for BOEM to cite climate change as a contributing factor to impacts to fisheries and not acknowledge the positive impact offshore wind will have in displacing fossil-fuel electric generation and in reducing the carbon intensity of the economy.	Sections 3.11.1 and A.8.1 of the SEIS considered the influence of offshore wind energy development on climate change and state that offshore wind projects will likely result in a net decrease in GHGs. Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output

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		can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
13134-006	Not meeting the announced Record of Decision deadline (December 18, 2020) would have a chilling effect on the U.S. offshore wind energy market and its resulting job creation. Further delay would signal unreliable regulatory timelines by which development plans and investment decisions are guided.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP.
13134-007	...from a navigation perspective, the least conflicted alternative in the SDEIS with regard to impacts on navigation is Alternative D2...A grid layout that is uniform across the entire geographic analysis area, at a spacing of 1 nm x 1 nm as discussed in the final MARIPARS report and proposed in Alternative D2, would not have an adverse impact on navigation, and would not lead to increased loss of life. It also would be sufficient for navigation safety and search and rescue operations. The final EIS should reflect the Coast Guard's recommendation and adopt Alternative D2. The final EIS should reflect the Coast Guard's recommendation and adopt Alternative D2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13134-008	The Coast Guard made three specific recommendations in its MARIPARS report regarding spacing and layout: 1. Lanes oriented in a northwest to southeast direction, 0.6 to 0.8 nm wide; 2. Lanes oriented in an east to west direction, 1 nm wide; and 3. Lanes oriented in a north to south and east to west direction, 1 nm wide, to facilitate helicopter search and rescue operations. Alternative D2 is the only action alternative in the SDEIS that meets all three of the Coast Guard's criteria for navigation safety.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13134-009	...Alternative F will not appreciably improve navigation safety. The Coast Guard's MARIPARS report goes further as it clearly stated that not only would transit lanes as proposed in Alternative F fail to preserve navigation safety, such lanes would increase risk and make navigation more dangerous.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. The FEIS addresses this comment in Section 3.11.5.
13134-010	...the Coast Guard found that transit corridors as proposed in Alternative F would make "navigation more challenging, [as] most traffic would then be funneled into the corridors thereby increasing traffic density and risks for vessel interaction."The Coast Guard further concluded that the spacing and layout as recommended in the MARIPARS report—and as proposed in Alternative D2—would "provide sufficient space for certain vessels that fish in the WEA to continue fishing after the wind farms are constructed." In contrast, wider transit lanes, as proposed in Alternative F, would "largely preclude fishing in the WEA" according to the final MARIPARS report.	The FEIS addresses this comment in Section 3.11.5.
13134-011	The SDEIS applies an overly abstract standard in determining that Alternative F is "reasonable" under 40 C.F.R. § 1502.14, and fails to consider	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. The SEIS and Section 2.1.5 of the FEIS address some of the

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	adequately Vineyard Wind’s specific circumstances...the imposition of 4-nm transit corridors would impose significant technical and economic constraints on all proposed offshore wind farms in the northeastern United States. And in fact, BOEM has underestimated significantly the loss of energy production from the MA/RI WEA if the transit lanes in Alternative F were to be adopted.... Assuming 12 MW turbines, as BOEM has for the SDEIS, this equals a loss of 3,948 MWs of potential power, which is 648 MWs greater than BOEM’s estimated loss. It also is 1,148 MWs less than the current demand for offshore wind in the region. This analysis is in addition to the losses in turbine positions associated with the 1 nm x 1 nm layout, which precludes more turbines in the WEA. The final EIS for the Vineyard Wind Project should acknowledge this practical reality, and it should give substantial weight to the specific needs and preferences of Vineyard Wind in determining whether Alternative F is technically and economically feasible.	technical and practical challenges of implementing Alternative F. In preparing the FEIS, BOEM does acknowledge the technical and economic preferences of Vineyard Wind as it relates to alternatives to the proposed Project and meeting the purpose and need specified in Chapter 1.
13134-012	The layout assumptions underlying the cumulative analysis should not be used to impose the expectation of 1 nm x 1 nm spacing on projects outside of the MA/RI WEA. In relation to Alternative D2, this spacing is specifically applicable to the MA/RI WEA lease areas. It followed the 10-year leasing consultation initiated by a Memorandum of Understanding signed by the Governors of Rhode Island and Massachusetts in 2010...The result was the MA/RI WEA, which through a lengthy stakeholder and scientific review process identified “high value” fishing grounds and excluded those areas from the MA/RI WEA. High value fishing includes the overlap between fixed gear fisheries (traps, pots, and gillnets) and mobile fisheries (trawls, dredges). Areas excluded from the MA/RI WEA had three to four types of fishing pressure from participating fisheries such as bottom trawling, scallop dredging, and lobster trap fisheries.	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted.
13134-013	There is no data or evidence in the record for holding projects in New York, New Jersey, Maryland, and Delaware lease areas to the same layout constraints applicable to the Massachusetts and Rhode Island lease areas. If BOEM intends to use the cumulative impact analysis in the SDEIS as a template for future offshore wind projects, it should clarify in the final EIS that there is no expectation for developers to commit to a 1 nm x 1 nm layout across the Outer Continental Shelf, and that any layout in lease areas outside of Rhode Island and Massachusetts lease areas will be based on site-specific considerations.	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted. Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a

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		NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13134-014	BOEM’s classification of the cumulative impacts on demographics, employment and economics as “minor to minor beneficial” does not fully assess or reflect the plethora of reports and data concerning the existing benefits and economic impacts from other markets....First, offshore wind procurements including local content requirements will spur significant investment in a domestic U.S. supply chain.....Second, offshore wind development will spur the creation of high-quality, high-wage jobs, as well as even more indirect jobs....Third, the efficient build-out of the U.S. offshore wind potential will require a massive investment in new and revitalized port and harbor infrastructure....Fourth, offshore wind can produce economic benefits by providing clean energy and stabilizing often volatile energy prices....Finally, OSW directly addresses the challenges many states face in the imminent retirement of aging fossil- and nuclear-fired generation.....In sum, a moderate or major beneficial rating is warranted in the final SDEIS when the beneficial economic impacts currently in the record are fully accounted.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13134-015	The SDEIS’s rating of the cumulative impact on military and national security as “major” is confusing and a departure from the DEIS....It is unclear in the SDEIS what new or changed information caused the shift from “minor” in the DEIS to the “major” designation in the SDEIS. In the absence of public input from DoD, the main drivers for the major impact rating are installation of structures—primarily wind turbines—within the RI and MA lease areas that allegedly would hinder Coast Guard SAR operations. ⁴⁴ It appears that BOEM considers SAR to be a “military and national security use”; this may not be an appropriate characterization of that function, and certainly is not a basis for assigning a “major” impact to the military and national security category. As noted above in Section II.A., the Coast Guard’s MARIPARS report clearly states that it can effectively execute its SAR mission in a layout configuration as proposed in Alternative D2.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2 and F with D2 impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. Following the layout recommendations in the MARIPARS report would improve safety, but it would not remove the risk of allisions or collisions with WTGs during SAR operations particularly in challenging weather or visibility conditions (USCG 2020). The USCG is a branch of the armed forces that operates under the Department of Homeland Security during peacetime, and under the Navy during times of war (14 USC §101 - 102). Thus USCG SAR operations are discussed in SEIS and Section 3.12 of the FEIS, which includes military and national security uses. As stated in the Final MARIPARS, "The USCG will continue to serve as a [NEPA] cooperating agency to BOEM's environmental review of each proposed project. In that role, the USCG will evaluate the navigational risks of each proposal on a case-by-case basis" (USCG 2020). As described in Appendix C of the SEIS and the FEIS, the USCG has supported preparation of the FEIS as a cooperating agency and has provided direct input to the impact evaluation, including to the evaluation of impacts to SAR activities. The impact ratings for military and national security uses and SAR activities

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		were updated due to additional analysis and comments provided by the USCG and other entities in the course of the SEIS development. BOEM and Vineyard Wind have conducted extensive coordination with the DoD and the USCG, which is described in Section 3.14 of the SEIS.
13134-016	The SDEIS also rates as “major” the cumulative impacts of developments on military vessels and aircraft... the explanation of the rating appears inconsistent with statements in the SDEIS that (1) structures located in U.S. territorial waters require Federal Aviation Administration and DoD approval, and (2) BOEM assumes developers will identify and resolve aviation-related conflicts as standard due diligence, regardless of where they are sited. The SDEIS also Characterizes aviation impacts as “localized.” How localized impacts could lead to an increase in the cumulative impact rating for this category is unexplained and unsupported by the record.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2 and F with D2 impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The impact ratings for military and national security uses and SAR activities were updated due to additional analysis and comments provided by the USCG and other entities in the course of the SEIS development. BOEM and Vineyard Wind have conducted extensive coordination with the DoD and the USCG, which is described in Section 3.12 of the FEIS. FAA and DOD review may identify actions required to enhance navigational safety, but would not remove the navigational hazard associated with installing WTGs in the open ocean. Section 3.12 of the FEIS characterizes impacts of the Proposed Action as localized (near the WDA), but regional in the context of reasonably foreseeable environmental trends and planned actions.
13134-017	...the discussion of impacts in Section 3.11.2.4 suggests that (1) offshore wind is not a key action addressing climate change and hence would have an adverse effect on fish distribution, (2) offshore wind would have a negative impact on fishing due to mortality caused by fishing, and (3) the permanent presence of structures will prevent commercial fishing vessels from actually fishing. The SDEIS lacks adequate support for assertions (1) or (2), and assertion (3) does not comport with the findings of the Coast Guard MARIPARS, which clearly stated that the grid layout proposed in Alternative D2 would “provide sufficient space for certain vessels that fish in the WEA to continue fishing after the wind farms are constructed.	Sections 3.10.1 and A.8.1 of the FEIS consider the influence of offshore wind energy development on climate change and state that offshore wind projects will likely result in a net decrease in GHGs. Section 3.10 of the FEIS was updated to clarify that ongoing activities reduce stock levels through fishing mortality. Sections 3.10 and 3.11 of the FEIS discuss the Final MARIPARS and the impact of the proposed Project on vessel maneuverability.
13134-018	BOEM’s cumulative impact analysis should consider the cumulative positive impacts on climate change of U.S. offshore wind together with global replacement of non-renewable generation. Indeed, a significant build out of offshore wind as contemplated in the reasonably foreseeable scenario would mitigate impacts from climate change by displacing fossil-fuel power generation...the Final EIS should clarify the beneficial impact of wind facilities as a key action addressing climate change and not confound the impact rating on commercial fisheries and for-hire recreational fishing.	Sections 3.11.1 and A.8.1 of the SEIS considered the influence of offshore wind energy development on climate change and state that offshore wind projects will likely result in a net decrease in GHGs. Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of

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		renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
13134-019	The SDEIS states that the cumulative impact on recreational fisheries in terms of allisions with wind related structures is direct, long-term, continuous, and minor to moderate...it appears that potential allisions with offshore wind structures would have a negligible impact on recreational fishing interests as a whole. As for the 3% or less of recreational fishing interests traveling more than 3 nm offshore, there is little or no evidence in the SDEIS to suggest the risk of allisions is anything more than negligible to minor.	Although a small proportion of recreational vessels travel as far from shore as the WDA, the number is not insignificant, and the vessels are not limited to recreational fisheries. As noted in Section 3.9.1 of the FEIS , recreational vessels that routinely travel as far from shore as the WDA include HMS fishing vessels, sightseeing and tour boats, and ocean-going sailboats (including sailing races). The finding of minor to moderate impacts resulting from the risk of allision within the RI and MA Lease Areas does not apply to recreation and tourism as a whole, but is a reasonable impact level for these vessels that customarily travel in or near the RI and MA Lease Areas.
13134-020	Orsted has undertaken a long-term study examining the potential ecological effects on crab and lobster populations associated with construction and operation activities in and around the wind farm. The resulting peer-reviewed study found that the temporary no-take zone established during construction had a net positive effect on crustacean stock levels.	Section 3.3 of the FEIS considers the potential for wind farms to reduce or exclude fishing, resulting in benefits to marine life. Furthermore, Section 3.10.2 of the FEIS was updated to include the Cohen study and the Roach et al. study.
13134-021	The SDEIS concludes that recreational fishing would suffer long term, continuous, minor to moderate impacts relative to gear loss due to offshore wind structures. There is no basis for a minor to moderate designation without describing the type of gear anticipated to be lost and a comparison to existing gear losses in the area. ...the SDEIS assigns a continuous designation yet does not consider the impact of learning, the use of non-conflicting gear, or the use of charts and other aids-to-navigation.	Section 3.9.1 of the FEIS was updated to add the anticipated provision of charts and aids to navigation. The impact level reflects reasonable consideration of issues that could arise as recreational fishing occurs in waters above hard cable cover and near scour protection around WTGs and ESPs. Section 3.10 of the FEIS provides more detail on types of gear loss. Although a learning process would certainly take place, the presence of permanent structures would require additional caution and altered methods to avoid gear loss.
13134-022	The SDEIS states recreational fisheries will experience minor beneficial impacts because structures will create habitat and fish will aggregate in these areas. On the other hand, the SDEIS claims structure will remove commercial fishing effort for the proposed action and disproportionately impact bottom tending mobile gear. Even though for-hire fishing is combined with commercial fishing, the SDEIS is silent on the impacts regarding structure. Likely, the for-hire industry would realize the same benefits as the recreational industry. This is not mentioned for other alternatives.	Section 3.10.1.1 and 3.10.2 of the FEIS have been updated to discuss potential increased opportunities for the for-hire recreational fisheries.
13134-023	The SDEIS in Section 3.11 shows potential revenue exposure to commercial fisheries but does not show exposure or growth potential for the for-hire fishery which is included as part of the same section. Given that the for-hire industry (and even the commercial industry) would experience the same beneficial impacts as predicted for the recreational group, the SDEIS should	Section 3.10.1.1 and 3.10.2 of the FEIS qualitatively discusses the potential beneficial impacts for the for-hire recreational fisheries.

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	quantify those beneficial impacts or explain how the for-hire group's revenue exposure is in line with the commercial figures presented.	
13134-024	Presumably, all fishing interests, regardless of recreational, commercial, or for-hire status, would take advantage of fish aggregation and other tourism opportunities. However, the SDEIS only attributes this as a benefit to the recreational and tourism industries. The for-hire group would no doubt take advantage of good fishing as a destination. Additionally, the for-hire group would be the de-facto means of tourism as they would be operating sightseeing tours as well as fishing trips. This is not considered in the SDEIS. Further, the SDEIS states commercial fishing interests would also be able to realize the benefits of fish aggregation but does not expand on how. This should offset economic exposure.	Section 3.10.1.1 and 3.10.2 of the FEIS have been updated to discuss potential increased opportunities for the for-hire recreational fisheries.
13134-025	The SDEIS states commercial fishing interests will experience conflicts with other maritime users such as recreational fishing vessels. This implies more recreational fishing vessels will be in the area than at present because recreational fishing opportunities will increase. If the fact that an increase in the presence of recreational vessels has driven the cumulative finding of major, then that increase needs to be consistently accounted for in other parts of the SDEIS, e.g., the recreational fishing vessel community's impact on commercial fishing needs to be accounted as more than a minor benefit to the recreational fishing industry.	The increase in the presence of recreational vessels and other vessels does not singularly result in the cumulative finding of major. This impact rating is driven mostly by changes to fish distribution/availability due to ongoing climate change, reduced stock levels due to ongoing fishing mortality, and permanent impacts due to the presence of structures (cable protection measures and foundations). Therefore, no change to the FEIS is warranted.
13134-026	BOEM's designation of "major" impacts to scientific research and surveys from both the Proposed Action and the effects of other offshore wind projects lacks adequate support in the record because the analysis incorrectly assumes that manned vessel and aerial surveys are the only means to collect necessary data. This directly contradicts efforts to reduce dependence on manned vessel and aerial surveys in the future. It also ignores contributions to surveys being made by the offshore wind industry and academia. Orsted respectfully urges that BOEM reconsider this designation of "major" impacts to scientific research and surveys.	Section 3.12 of the FEIS has been updated to acknowledge potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of the FEIS. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13134-027	The SDEIS does not consider trends already underway in survey techniques that will reduce the impact of wind development on oceanographic surveys. ...The SDEIS acknowledges but fails to expand upon the "considerable survey efforts...underway for years using digital aerial surveys.... The final	Section 3.12 of the FEIS has been updated to acknowledge potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of

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	EIS should therefore account for existing and new survey methods to be implemented as well as calibration surveys to be conducted.	the FEIS. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13134-028	BOEM’s statement that the overall cumulative impacts on scientific research and surveys would qualify as “major” because those entities conducting surveys would have to make significant investments to change methodologies is inaccurate, especially given the recent release of the Unmanned Systems Strategy, including unmanned aircraft systems.	Section 3.12 of the FEIS has been updated to acknowledge potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of the FEIS. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13134-029	If the implication from NOAA is that any reduction in survey area—even a reduction of 3% before mitigation—constitutes a major impact [to NOAA/NMFS scientific surveys], such a conclusion is not supported by the record and, if implemented, would hinder achievement of state policy goals. Orsted requests reconsideration of this point or clarification and further definition of the impact of affected surveys.	Section 3.12 of the FEIS has been updated to acknowledge potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of the FEIS. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13134-030	Lastly, the “major” impact [to NOAA/NMFS scientific surveys] also does not recognize sampling, monitoring, and/or research contributions from the offshore wind industry and other non-NOAA stakeholders. Although Orsted and other offshore developers cannot and should not substitute for NOAA’s research work, they can offer valuable contributions to augment NOAA’s data. The Commercial Engagement Through Ocean Technology Act of 2018	Section 3.12 of the FEIS has been updated to acknowledge potential contributions by the offshore wind industry and other stakeholders, and potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the

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	requires NOAA to coordinate research, assessment, and acquisition of unmanned maritime systems with the U.S. Navy, other federal agencies, industry and academia. ⁷⁶	Section 3.12 of the FEIS. BOEM is funding a process to begin to understand the options available to evaluate and mitigate potential impacts and mitigation measures for scientific research and surveys. The outcome of that study and other actions that may mitigate impacts on scientific research and surveys may reduce some impact, but the extent of mitigation is not reasonably foreseeable at this time. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13134-031	The SDEIS weights its evaluation toward socioeconomic impacts to low-income individuals employed in fishing industries rather than to the health and environmental impacts of at-risk environmental justice communities. Assessing impacts to (unquantified) low-income workers in the commercial/for-hire fishing, marine recreation, and supporting industries duplicates the analysis conducted for commercial/for-hire fishing and recreational fishing. There is no basis for it to be doublecounted in the SDEIS. Moreover, as stated in the DEIS, and as required by executive order, “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, <i>disproportionately high and adverse human health or environmental effects of its programs</i> , policies, and activities on minority populations and low-income populations. These health and environmental impacts should be reflected more fully in the environmental justice analysis.	Section 3.7.1 of the FEIS has been revised to discuss how health impacts of fossil fuel consumption and resulting air quality impacts affect different racial groups, as well as different income groups. Section 3.7.1 has also been updated to note the impacts on Native American tribes resulting from viewshed impacts and disturbance of submerged landscape features. The DEIS and SEIS in Section 3.8.1 and 3.8.2 identified environmental impacts on fish and invertebrates that could impact subsistence fishing. EO 12898 and subsequent guidance from CEQ specifically requires the evaluation of impacts on low-income populations as part of the environmental justice assessment. Because the Proposed Action will have impacts on marine industries (commercial fishing and marine recreation) that employ a substantial number of low income employees, Section 3.7 is the correct section of the FEIS to discuss these employees. Section 3.9 of the FEIS evaluates recreation and tourism activities as a whole, while Section 3.10 of the FEIS evaluates impacts on the commercial/for-hire fishing industry as a whole. These are related but separate evaluations. The FEIS does not “count” impacts in the sense implied by the commenter.
13134-032	Rather than cursorily passing over displacement of fossil fuel generation by offshore wind, the SDEIS should reflect how oil and gas emissions increase health risks to environmental justice communities, and how offshore wind can displace older, higher-emitting power plants.... the cumulative impact of offshore wind’s displacement of fossil fuel generation will result in positive environmental and health impacts to environmental justice communities who often live adjacent to fossil fuel power plants. These impacts—rather than the “presence of offshore structures that would affect navigation and commercial fishing”— should form the foundation of the cumulative environmental justice analysis.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13134-033	The SDEIS in Section 3.10.1.1 states, “Current and likely future offshore wind applicants (including Vineyard Wind) have not proposed to work with USCG to note scour protection or cable hard cover hazards on navigational charts. Updating charts in this way would help make operators of recreational vessels aware of the locations of the cable protection and scour protection.” ⁹² This statement is inaccurate and should be removed from the	The text referred to in this comment has been deleted, and Section 3.9.1 of the FEIS was updated to note that cooperative efforts will continue to establish aids to navigation.

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	SDEIS. Orsted and all lessees in the MA/RI WEA have been engaged and continue to engage with both the U.S. Coast Guard and NOAA in developing a single, comprehensive aids-to-navigation plan for the entire WEA, including charting symbology and notes.	
13134-034	the SDEIS in Section 3.13.1.1 states, “Future offshore wind developers are expected to coordinate with the maritime community and USCG to avoid laying export cables through any traditional or designated lightering/anchorage areas.” That statement could have far reaching impact and requires clarification. ... The SDEIS fails to provide any reasoning for BOEM’s or the Coast Guard’s expectation that subsea cable should avoid these areas, particularly where there are dozens of examples through the U.S. maritime environment where subsea cables cross what could be considered traditional lightering/anchoring areas without incident or hazard to navigation. The SDEIS does not address why mitigation would be insufficient. ... Absent evidence or explanation, this blanket expectation should be clarified or removed in the final EIS. The SDEIS should provide for coordination with the Coast Guard but leave the final prescription on avoidance to the Coast Guard, which is better suited to evaluate risk.	Section 3.11.1.1 addresses coordination with USCG. The cable route does not pass through any traditional large vessel anchorage, or even transit, areas. Anchoring (specifically large vessel anchoring) is incompatible with standard cable burial depths.
13136-001	As stated in our comments to the 2018 Draft Environmental Impact Statement (DEIS), the Vineyard Wind Project in federal waters off New England, if responsibly developed with care to avoid, minimize, and mitigate potential environmental and economic impacts, will have substantial benefits to society in its urgent transition away from dirty, climate-altering fossil fuels to a clean energy economy. When built, the Project is expected to provide enough electricity to power approximately 400,000 homes.	Thank you for your comment.
13136-002	While our final views on the Project will await our review of its Final Environmental Impact Statement (Final EIS), which is the last step in the environmental review process, we again commend Vineyard Wind for its leadership in protecting right whales and enthusiastically look forward to seeing the Project advance to this stage of the review process.	Thank you for your comment.
13136-003	As states set bold goals to transition from polluting fossil fuels to a clean energy economy, offshore wind provides a tremendous opportunity to fight climate change, reduce local and regional air pollution, and grow a new industry that will support thousands of well-paying jobs in both coastal and inland communities. States from Massachusetts to Virginia have collectively committed to developing approximately 29 gigawatts of offshore wind power and this number is only expected to increase.	Thank you for your comment.
13136-004	The rapid transition to a clean energy economy is of paramount importance. Absent a substantial shift from carbon intensive sources of energy to	Thank you for your comment.

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	solutions like offshore wind, we face climate change that will drive many species of fish, mammals, birds, waterfowl, amphibians, reptiles, and pollinators to extinction in both marine and terrestrial environments.	
13136-005	As recognized by the United Nations Environment Program Convention on the Conservation of Migratory Species of Wild Animals, migratory species, such as migratory marine species, are particularly vulnerable to the impacts of climate change.	Thank you for your comment.
13136-006	Similarly, a recent report by National Audubon found that bird species, already facing threats from habitat loss and other stressors, face significant impacts from climate change that can be ameliorated if we are able to keep warming from reaching higher levels.	Climate change was addressed in the SEIS as an Impact Producing Factor and potential impacts to bird species was discussed in Sections A.8.3.1 and A.8.3.2. As such no change to the FEIS is warranted.
13136-007	Against this backdrop of unprecedented climate change risks and the threat of species extinction and shifts in distribution, it is critical that all offshore wind development activities move forward with strong protections for coastal and marine habitat and wildlife. We can and must develop this resource thoughtfully and responsibly, using science-based measures to avoid, minimize, mitigate, and monitor impacts on valuable and vulnerable wildlife. This must include a specific focus on ensuring sufficient measures are in place to protect our most vulnerable threatened and endangered species.	Mitigation and monitoring requirements are specified in the resource-specific sections within Chapter 3 and Appendix A of the FEIS. Appendix D of the FEIS has been updated and includes a comprehensive list of all monitoring and mitigation measures, including pre-, during, and post-construction monitoring, proposed for the agency-preferred alternative. If the COP is approved or approved with conditions, the ROD will specify the mitigation measures that BOEM and other resource agencies will require. Some of such measures that could become requirements are outlined in Appendix D of the FEIS (updated since the DEIS), although other measures not included, or additional details of those that are, could be included in the ROD.
13136-008	...BOEM should reject alternative F...	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13136-009	BOEM should move forward to prepare a comprehensive Final EIS that fully analyzes the potential impacts and benefits of the Project, including consideration of all measures that Vineyard Wind has proposed implementing to mitigate environmental impacts. That will both help ensure the success of this Project and, more broadly, that the U.S. embarks on the right path forward in the continued, rapid development of offshore wind energy.	Thank you for your comment.
13136-010	In particular, we recommend BOEM move ahead with Alternative D2, with improvements recommended in these comments and the landing site detailed in Alternative B.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13136-011	More broadly, and separate and apart from the specific Vineyard Wind Project, BOEM should adopt our recommendations on how to develop U.S. offshore wind in a sustainable manner.	Thank you for your comment.
13136-012	We note that new NEPA regulations were published in the Federal Register on July 16, 2020. 85 Fed. Reg. 43304 (July 16, 2020). According to the new regulations, “The regulations in this subchapter apply to any NEPA process	The analysis in the FEIS incorporates the DEIS and SEIS analysis and builds upon the assessments presented in those documents to respond to comments received. In addition, the FEIS, as did the SEIS, includes an analysis of the

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	begun after September 14, 2020. An agency may apply the regulations in this subchapter to ongoing activities and environmental documents begun before September 14, 2020.” Id. at 43373 (new regulation 40 C.F.R. § 1506.13). We have written these comments with the assumption that the current effective regulations, promulgated in 1978, apply. We strongly oppose BOEM attempting to apply the forthcoming regulations to this process. Among other concerns, including whether BOEM may retroactively apply the new regulations, is our belief that the new regulations do not comply with NEPA or case law interpreting it. Further, we believe that BOEM’s obligations to evaluate potential effects, including cumulative impacts, and mitigation measures, are required under any interpretation of the statute.	proposed Project’s impact when combined with reasonably foreseeable planned actions.
13136-013	To comply with NEPA, an EIS must, inter alia, include a “full and fair discussion” of direct and indirect environmental impacts, including positive as well as negative impacts, consider the cumulative effects of reasonably foreseeable activities in combination with the proposed action, analyze all reasonable alternatives that would avoid or minimize the action’s adverse impacts, address measures to mitigate those adverse effects, and assess possible conflicts with other federal, regional, state, and local authorities.	The development of the EIS has included a discussion of all potential impacts of the proposed Project based on Vineyard Wind’s utilization of the PDE. The FEIS assesses the impacts of the reasonable range of Project designs that are described in the Vineyard Wind COP and presented in Appendix G by using the “maximum-case scenario” process. Furthermore, the EIS analyzed a reasonable range of alternatives that were developed based on comments received during the scoping process as well as comments on the DEIS. Last, resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-014	Additionally, as we stated in our DEIS comments, fundamental to satisfying NEPA’s requirement of fair and objective review, agencies must ensure the “professional integrity, including scientific integrity,” of the discussions and analyses that appear in environmental impact statements. To this end, they [agencies] must make every attempt to obtain and disclose data necessary to their analysis. The simple assertion that “no information exists” will not suffice. Unless the costs of obtaining the information are exorbitant, NEPA requires that it be obtained.	Where information was incomplete or unavailable for the evaluation of reasonably foreseeable impacts analyzed in this chapter, BOEM identified said information and conducted its analysis in accordance with Section 1502.22 of the CEQ regulations. The findings of this assessment are presented in Appendix H, Analysis of Incomplete or Unavailable Information.
13136-015	Agencies are further required to identify their methodologies, indicate when necessary information is incomplete or unavailable, acknowledge scientific disagreement and data gaps, and evaluate indeterminate adverse impacts based upon approaches or methods “generally accepted in the scientific community.” Such requirements become acutely important in cases where, as	Where information was incomplete or unavailable for the evaluation of reasonably foreseeable impacts analyzed in this chapter, BOEM identified said information and conducted its analysis in accordance with Section 1502.22 of the CEQ regulations. The findings of this assessment are

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	here, so much about an activity’s impacts depend on newly emerging science. Finally, NEPA does not permit agencies to “ignore available information that undermines their environmental impact conclusions.”	presented in Appendix H, Analysis of Incomplete or Unavailable Information.
13136-016	The NEPA process should inform BOEM, stakeholders, and the public about how to responsibly proceed with developing the promising resource of offshore wind power. Several decades of offshore wind development in Europe have shown that offshore wind power can be developed responsibly with regard to local wildlife, provided that all siting and permitting decisions are based on sound science and informed by key experts and stakeholders.	Thank you for your comment.
13136-017	The European experience shows us that avoiding sensitive habitat areas, requiring strong measures to protect wildlife throughout each stage of the development process, and comprehensive monitoring of wildlife and habitat before, during, and after construction are essential for the responsible development of offshore wind energy.	Lessons learned from offshore wind development have been considered in the development of the DEIS, SEIS, and FEIS.
13136-018	However, as stated in our DEIS comments, despite offshore wind’s rapid growth in Europe, U.S. offshore wind remains a new industry, with the nation’s first commercial project – the Block Island Wind Farm (30 MW) – only coming online in December 2016, almost four years ago. As a result, BOEM needs to rigorously review the potential impacts of offshore wind development on marine wildlife and habitat here in the U.S. and develop and adopt appropriate mitigation measures.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-019	Various potential impacts that may be associated with offshore wind construction and operations have the potential to directly, indirectly, and cumulatively impact marine species and habitats in the coastal zone and offshore environment along the coast.	Potential impacts to biological species and habitats were assessed in the DEIS and SEIS, and are presented in Chapter 3 and Appendix A of the FEIS.
13136-020	In addition to a thorough examination of direct and indirect impacts, as well as mitigation measures, assessing cumulative impacts is essential to understanding the impact of offshore wind on species and ecosystems along the coast. This project is a key opportunity to provide a road map to guide future analyses and ensure that new information is gathered and incorporated in the assessment of impacts and the practices to mitigate those impacts as this industry grows.	Potential impacts to biological species and habitats were assessed in the DEIS and SEIS, and are presented in Chapter 3 and Appendix A of the FEIS.
13136-021	Critical to a proper cumulative impacts analysis is its scope. The broader scope of the cumulative impacts analysis in the SEIS is an improvement of the more limited analysis in the DEIS. BOEM’s expansion of the analysis from only projects with construction and operating plans (COPs) submitted or approved (roughly 5.4GW) to the consideration of the state capacity	Since the same approach of the characterizing effects in the SEIS was used in the FEIS, not changes to the FEIS are warranted.

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	planned commitment for existing Atlantic leases (21.8GW) is a more reasonably foreseeable scope for offshore wind development. This is an important improvement, as this SEIS will likely be used as a model for future NEPA reviews of offshore wind projects. This broader scope is welcome and forthcoming NEPA analyses should continue to expand the scope of the cumulative impact analysis as the industry grows and additional development becomes reasonably foreseeable.	
13136-022	Looking at the now ten tiers of potential scope of OSW development set forth in Figure 1.2-1, Scope for Future Possible Development of Offshore Wind of the SEIS (up from five tiers in the DEIS), we agree with BOEM's conclusions that tiers seven through ten (full build out of the wind energy potential (tier 10); technical resources potential of all Atlantic call, wind energy, and lease areas (tier 9); pledged state capacity planned commitment (tier 8); and technical resource potential of existing Atlantic resources (tier 7) need not be included in the current analysis given how speculative they are at present. However, for future projects, it is likely that tiers seven and eight (particularly pledged state capacity planned commitment) may be reasonably foreseeable. Given the on-going climate crisis and the fact that states are increasingly more aggressive in their offshore renewable energy goals it would be reasonable to assume that states will take the efforts necessary to meet, or hopefully exceed, their current goals to develop offshore wind. As such, these tiers will likely become far less speculative.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13136-023	Additionally, it is reasonable to expect that these goals may expand, making additional offshore wind development more likely and thus more foreseeable. BOEM recognizes that the state pledges for offshore wind capacity is currently about 29 GW and is divided among awarded, scheduled, and planned but unscheduled procurements.²⁷ BOEM notes that not all current state commitments for offshore wind development may be met because there may be a lack of available lease area or technical capacity due to certain alternatives being chosen over others.²⁸ BOEM also assumes that the technology available to meet future procurements, although not currently available, may be different in 10 years, which is reasonably foreseeable with the new technology being created on a daily basis and is sufficiently analyzed within the SEIS.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13136-024	The existing state commitments are important to ensure that the United States moves towards a responsibility developed clean energy initiative that will have substantial benefits to society and further steer the U.S. away from fossil fuels, and we urge BOEM to work with the states and stakeholders to address this stated interest.	Information related to potential benefits were included in the SEIS and benefits haven been updated in FEIS, where appropriate.

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13136-025	The commenters agree with BOEM’s note that “[t]he technology available to meet future procurements may be quite different in [ten] or more years than what is available today.” As such, in assessing how future wind sites may be constructed, operated, and sited, it is reasonable to assume that future projects will likely employ higher output turbines that can generate more power with fewer physical turbines of larger size. This could change impacts around hub height, rotor diameter, and total height of turbine for future projects, as well as, inter alia, the number of turbines and the length of interarray cables. Projects, particularly projects further on the time horizon, may have increasing larger turbines that could impact the design and layout of the operation. The SEIS notes that 14 MW turbines could be used. Changes in turbine size could have beneficial impacts (such as fewer turbines spaced further apart) as well as potentially negative impacts (larger rotation zones that could impact certain species like higher flying birds). We urge BOEM to ensure that future cumulative impact models continue to keep pace with technology.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13136-026	As we stated in our comments on the DEIS, the cumulative impact analysis in the SEIS still largely glosses over the consideration of seismic surveys for oil and gas and other development in the Mid- and South Atlantic, failing to give these impacts adequate consideration. This is particularly relevant to the consideration of cumulative impacts to marine mammals...	Currently there are no offshore oil- and gas-related activities ongoing in the Atlantic ocean and few concrete proposals in the foreseeable immediate or long-term future. NOAA has issued five individual harassment authorizations (IHA) under the Marine Mammal Protection Act for planned seismic surveys involving airguns on the Atlantic Outer Continental Shelf (OCS). Those IHAs are currently set to expire in November 2020, and the surveys cannot take place until the Bureau of Ocean Energy Management (BOEM) would issue their own permits for the surveys. There are currently no active oil and gas leases on the Atlantic OCS, so there are currently no drilling or production activities. No Atlantic lease sales are included in the current 2017-2022 National Program. BOEM is in the process of developing the next five-year National Program, which is expected to be completed around the time the current program ends in 2022. The next stage after the National Program is the decision on whether and under what terms to hold a specific lease sale. Even if Atlantic lease sales are included in a future National program, it could be several years before a decision on whether to hold an individual lease sale, as compliance with other laws (e.g., NEPA reviews, CZMA consistency determination, ESA consultation) will be necessary before any sale decision. Once a sale is held and leases issued, the lessee must obtain approval of its exploration plan and then its development and production plan (if it has identified sufficient resources to enter into oil and gas production). After these plans are approved, additional permit approvals are required before any individual exploration or production well can be drilled. Given this multistage process, it would likely be several years after inclusion in a

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		National Program before oil and gas leasing or exploration and production activities, could be expected in the Atlantic. In addition to no oil and gas leasing reasonably expected to occur in the Atlantic, provided the current IHAs are set to expire in November 2020, BOEM does not find these survey activities to be reasonable foreseeable future actions in the Atlantic at this time.
13136-027	It is paramount that BOEM take strong action to advance adaptive management and robust monitoring to assess impacts as offshore wind is developed. As previously noted, offshore wind remains a relatively nascent technology in the U.S. and, as such, it is imperative that we closely monitor the impact of offshore wind operations on marine wildlife and the ocean ecosystem to guide its adaptive management and future development.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-028	It is vital that we gain an understanding of baseline environmental conditions prior to large-scale offshore wind development in the United States. To this end, BOEM must establish and fund a robust, long-term scientific plan to monitor the effects of offshore wind development on marine mammals and other species before, during and after the first large-scale commercial projects are constructed. Without strong monitoring in place, we risk losing the ability to detect and understand potential impacts and set an under-protective precedent for future offshore wind development. Such monitoring must inform and drive future mitigation as well as potential practical changes to existing operations to reduce any potential impacts to natural resources and wildlife.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Post-construction monitoring requirements are being developed with researchers, environmental NGOs, State, and Federal agencies. The results of monitoring could be applied to adaptive requirements if the results show certain actions may be warranted.
13136-029	It is also imperative that BOEM work collaboratively with state efforts (e.g. the New York State Energy and Research Development Authority (NYSERDA) Environmental Technical Working Group (ETWG)), scientists, NGOs, the wind industry, and other stakeholders to use information from monitoring and other research, and evolving practices and technology to inform cumulative impacts analyses moving forward.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of

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		Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-030	The current best management practices listed in Table A-5 are extremely general. It is important these evolve as monitoring informs impacts and the adaptive management practices needed to account for impacts. Likewise, analyses should include more specific information as it becomes available and management practices advance.	Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-031	It is also important that as monitoring informs management practices, that BOEM requires continuing monitoring and that adaptive management practices be employed by offshore wind projects.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-032	While BOEM's discussion of the climate and air quality impacts of the proposed action is directionally correct, BOEM understates the magnitude of the benefits of building out the full 22 GW of offshore wind in the Atlantic and fails to identify the environmental justice implications of the avoided emissions impacts.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13136-033	In addition, BOEM understates the adverse climate and air quality consequences of selecting Alternative F (which would establish a two to four nautical mile transit lane in the Vineyard Wind and other lease areas off of Massachusetts and Rhode Island) or the No Action alternative.	As noted in the SEIS, Alternative F would result in slightly higher emissions due to increased travel routes and distance for construction and maintenance vessels. Section A.8.1 of the FEIS has been updated to state that implementation of Alternative F would have diminished benefits in comparison to other action alternatives. The health and climate benefits associated with Alternative F would be less than Alternative A and result in diminished health and climate benefits and premature deaths avoided commensurate with the reduction in future offshore wind capacity.

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13136-034	BOEM correctly identifies that climate change will result in a wide range of significant adverse environmental impacts in the study area, including to fisheries....[These impacts include:] “reduced growth or decline of some types of coastal habitats, the widespread loss of shoreline habitat from rising seas and erosion, and alterations to ecological relationships”	Thank you for your comment.
13136-035	BOEM correctly identifies that climate change will result in a wide range of significant adverse environmental impacts in the study area, including to fisheries....[These impacts include:] ocean acidification, “contribut[ing] to reduced growth or the decline of reefs and other habitats formed by shells” and to “the reduced growth or decline of invertebrates that have calcareous shells, alterations in migration patterns, and increased disease frequency.”	Thank you for your comment.
13136-036	BOEM correctly identifies that climate change will result in a wide range of significant adverse environmental impacts in the study area, including to fisheries....[These impacts include:] ocean warming “influenc[ing] the distributions and migrations of benthic resources” and “the frequencies of various diseases” and affecting coastal habitats	Thank you for your comment.
13136-037	BOEM correctly identifies that climate change will result in a wide range of significant adverse environmental impacts in the study area, including to fisheries....[These impacts include:] sea level rise affecting coastal habitats	Thank you for your comment.
13136-038	BOEM correctly identifies that climate change will result in a wide range of significant adverse environmental impacts in the study area, including to fisheries....[These impacts include:] cumulative impacts on terrestrial and coastal fauna.	Thank you for your comment.
13136-039	These climate impacts will affect species utilizing coastal and marine ecosystems including marine mammals, turtles, and fish.	The impacts of climate change on marine resources have been considered in Sections 3.3.2, 3.4.2, and 3.5.2, of the FEIS. The commenter has not provided any new information that should be considered to revise the FEIS analysis.
13136-040	BOEM also correctly observes that offshore wind generation is likely to directly displace fossil generation.....Moreover the No Action Alternative without implementation of other future offshore wind projects is likely to delay the retirement of existing fossil fuel generation resources, which are typically even less efficient and more polluting than new fossil resources.	Thank you for your comment.
13136-041	Due to offshore wind’s ability to displace more highly polluting fossil resources, the climate impacts of the proposed offshore wind buildout would be net climate beneficial, as BOEM recognizes in the SEIS.	Thank you for your comment.
13136-042	BOEM notes that “[i]ncreasing energy production from offshore wind projects will likely to decrease GHGs emissions by replacing energy from fossil fuels. This reduction will more than offset the very limited GHG emissions from offshore wind projects.” Consequently, cumulative effects of offshore wind development will result in long-term, low-intensity beneficial	While some beneficial impacts to sea turtles will be realized, as discussed in Section 3.3.8.3 of the DEIS and Sections 3.5.1 and 3.5.2 of the FEIS, the proposed Vineyard Wind 1 Project would also result in temporary to permanent adverse impacts that are expected to range from negligible to moderate.

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	cumulative impacts on marine mammals and sea turtles and long-term beneficial impacts on demographics, employment and economics.	
13136-043	BOEM’s conclusions regarding climate impacts do not appear to be based on a full quantification of emissions benefits, however. A simple calculation shows that the adverse climate impact of the No Action Alternative and failure to move forward with the full 22 GW of Atlantic wind alternative are considerable. BOEM provided an analysis of greenhouse gas (GHG) impacts from 5,939 MW of offshore wind from 593 foundations within its air quality analysis area. For that approximately 6 GW of offshore wind capacity, it found total carbon dioxide (CO2) emissions of around 2 million tons. This 6 GW of offshore wind would displace an equivalent amount of fossil generation. Assuming a 50 percent capacity factor, if this wind were displacing coal, it would displace approximately 24 million metric tons of CO2 annually. Vineyard Wind has a designated lifespan of 30 years. Extrapolating that lifespan to the full 6 GW of offshore wind projects, over a 30-year period these wind turbines operating at a 50 percent capacity factor would displace approximately 716 million metric tons of CO2. To put these numbers in perspective, the Massachusetts Department of Environmental Protection estimates that statewide GHG emissions in 2017 were less than 78 million short tons, so the wind generated over the course of in the study area would have the capability to be could displace approximately 1/3rd of Massachusetts’ total land-based GHG emissions each year.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA’s AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
13136-044	Even if the generation being displaced were exclusively gas, the climate benefits would still be massive. Direct combustion emissions from gas plants in lb CO2/MWh vary greatly, but are roughly half of those for coal plants, indicating a 360 million metric tons of CO2 benefit from the 6 GW of offshore wind over 30 years. But the actual climate benefits of displacing this gas generation would be much greater because combustion emissions represent only a piece of the lifecycle GHG emissions of gas generation. High global warming potential methane (84 times that of CO2 on a 20-year time frame) is leaked into the atmosphere at the point of extraction and in the transmission and compression of gas resulting in far greater lifecycle GHG impacts, closer to those of coal plants.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA’s AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. Additionally, an analysis of extraction, transmission, and compression of gas and its lifecycle greenhouse gas impacts is outside the scope of this NEPA document.
13136-045	Moreover, the climate benefits are far greater when the full 22 GW of offshore wind is considered. Indeed, if the full 22 GW of offshore wind displaced coal generation, over a 30-year period, this would result in a net reduction in CO2 emissions of 2.89 billion tons. ⁵⁷ If it were displacing gas,	The SEIS included a discussion of what projects would overlap with the proposed Project within the geographic analysis area. As noted in the SEIS, the geographic analysis area was defined as the airshed within 15.5 miles (25 kilometers) of each area potentially impacted by the proposed Project, including the lease area, the on-land construction areas, and the mustering

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	it would still be displacing nearly 1.5 billion tons of CO ₂ emissions and, as discussed above, significant methane emissions as well.	port(s). Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
13136-046	These climate benefits can also be monetized using the social cost of carbon to show the relative social cost of the alternatives. The social and environmental costs of GHG emissions are readily quantifiable and BOEM should consider them in evaluating project impacts and impacts of alternatives. For example, the Interagency Working Group on Social Cost of Carbon has produced estimates for the social cost of carbon in order to “allow agencies to incorporate the social benefits of reducing carbon dioxide (CO ₂) emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions.” ⁵⁸ The working group presents values for social costs from 2015 to 2030, assuming discount rates of 5 percent, 3 percent, 2.5 percent and the 95th percentile of the 3 percent discount rate. ⁵⁹ These values range from \$11 to \$212 (in 2007 dollars per metric ton of CO ₂). ⁶⁰ These values could be used to monetize the costs imposed by the net greenhouse gas emissions associated with failing to procure the full 22 GW of offshore wind contemplated by this SEIS. Using the working group values, annual climate costs of procuring electricity from 22 GW of coal rather than 22 GW of offshore wind range (assuming a 50% capacity factor in both cases) ranges from just over \$1 billion/year (in 2007\$) using a 5 percent discount rate and the 2020 social cost of carbon ⁶¹ to more than \$8.3 billion/year (in 2007\$) using a 2.5 percent discount rate and the 2050 social cost of carbon of \$95/ton.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS.
13136-047	Even absent direct quantification through the social cost of carbon, the SEIS correctly identifies adverse economic impacts from climate change—including adverse impacts to commercial fishing—associated with the No Action Alternative. As the SEIS explains, “[c]limate change could have impacts on demographics, employment, and economics.”	Thank you for your comment.
13136-048	These impacts include: Property or infrastructure damage and increased insurance costs and reduced economic viability of coastal communities resulting from sea level rise and increased storm severity/frequency	Section 3.7.1.1 of the SEIS addressed economic impacts of property or infrastructure damage under the Climate Change IPF; therefore, no change to the FEIS is warranted.

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13136-049	[These impacts include:] New taxes or diversion of existing tax revenues required to construct protective barriers and sea walls	Section 3.7.1.1 of the SEIS addressed economic impacts resulting from the need for protective barriers and sea walls under the Climate Change IPF; therefore, no change to the FEIS is warranted.
13136-050	[These impacts include:] Damage to structures, infrastructures, beaches, and coastal land, with numerous economic impacts resulting from erosion and deposition of sediments	Section 3.7.1.1 of the SEIS addressed economic impacts erosion and deposition of sediments under the Climate Change IPF; therefore, no change to the FEIS is warranted.
13136-051	[These impacts include:] Adverse impacts on commercial and for-hire fishing, individual recreational fishing, and sightseeing resulting from ocean acidification, altered habitats, altered migration patterns and increased disease frequency in marine species.	Thank you for your comment.
13136-052	Given the degree to which it would reduce the capacity of offshore wind off the coast of Massachusetts and Rhode Island, Alternative F raises particular concerns from a climate perspective, and the adverse climate impacts of Alternative F are greater than suggested in the SEIS. The addition of all six of the 4-nautical mile transit lanes would reduce the technical capacity of the Rhode Island and Massachusetts Lease Areas by approximately 3,300 MW. ⁶⁵ Losing the ability to displace 3,300 MW of fossil fuel generation with offshore wind would have large adverse climate ramifications. If the 3,300 MW of non-displaced generation were coal, the forgone climate benefit would be nearly 400 million metric tons of CO ₂ over the 30-year lifetime of the wind projects. Moreover, implementation of Alternative F “could further erode project economics and viability.” Consequently, the lost GHG benefits could be even larger if the large vessel lanes preclude swaths of the lease areas from being commercially developed altogether.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13136-053	Air emissions present a similar story to climate emissions, but with the additional dimension of locational benefits to pollution impacts. Air quality impacts associated with offshore wind projects within the air quality Geographic Analysis Area are “anticipated to be small relative to larger emission sources such as fossil fuel facilities.” The largest air quality impacts are anticipated during construction with smaller and more infrequent impacts anticipated during decommissioning, but the cumulative air quality impacts even during those periods are projected to be minor. Moreover, a “net improvement” in air quality is expected on a regional scale as projects come online and offset emissions from fossil fuel-type sources. Due to displacement of fossil fuel generation, the SEIS projects that once Vineyard Wind 1 is operational, that project alone would result in annual avoided emissions of 1,046 tons of nitrogen oxides and 855 tons of sulfur dioxide.	Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. Additionally, the FEIS has been updated to state that, in context of reasonably foreseeable environmental trends, combined emission impacts on air quality from ongoing and planned actions within the geographic analysis area, including Alternative A, would help reduce fossil-fuel emissions and would result in an overall moderate beneficial impact on air quality.

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13136-054	Although the SEIS helpfully quantifies the magnitude of project air emissions and notes the displacement effect of offshore wind, it fails to consider the locational dimension of these emission benefits. Power plants are frequently located in or close to population centers and disproportionately located in or near environmental justice communities. The ability of offshore wind to displace fossil fuel generation thus has a potentially important environmental justice benefit. This is especially true for offshore wind facilities, whose generation often coincides with afternoon peak demand. Offshore wind may be especially helpful in displacing the dirtiest peaking units, providing especially large air quality benefits and benefits to environmental justice communities.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13136-055	Under current regulations, an EIS must “inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” This requirement has been described in regulation as “the heart of the environmental impact statement.” The courts describe the alternatives requirement equally emphatically, citing it as the “linchpin” of the EIS. The agencies must therefore “[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.” Consideration of alternatives is required by (and must conform to the independent terms of) both sections 102(2)(C) and 102(2)(E) of NEPA. In addition, agencies must discuss measures designed to mitigate their action’s impact on the environment. In this Section, our comments further address the concept of the design envelope approach.	In addition to the Proposed Action and the No Action alternative, BOEM has considered a range of other action alternatives as described in Section 2.1 of the FEIS that meet the purpose and need and the screening criteria established. BOEM also considered a range of other alternatives that were not carried forward for detailed analysis. An explanation of those alternatives considered but not analyzed in detail is provided in Section C.5 in Appendix C of the FEIS. Last, resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-056	At the outset, we would like to again reiterate our prior comments to BOEM as a general matter on how to interpret the design envelope approach in the context of NEPA for offshore wind projects as a whole. As background, and as noted herein and in our DEIS comments, as organizations we are eager to see responsibly developed offshore wind power advance in the Atlantic and recognize that a carefully implemented project design envelope (PDE) approach could provide both environmental and economic benefits. Offshore wind energy technology and construction practices are evolving rapidly, and project design and planning takes years. A flexible permitting system that ensures developers can capitalize on new opportunities for environmental impact mitigation or cost reduction is beneficial for both the industry and wildlife. It is critical that project developers not be discouraged from pursuing opportunities to take advantage of technologies and practices currently progressing through the research and development process that	The development of the DEIS, SEIS, and FEIS has been based on Vineyard Wind's utilization of the PDE. The FEIS assesses the impacts of the reasonable range of Project designs that are described in the Vineyard Wind COP and presented in Appendix G by using the “maximum-case scenario” process.

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	could help facilitate the increasingly responsible development of offshore wind energy.	
13136-057	However, to ensure BOEM can perform a sufficient NEPA review of a project, a project's COP must provide enough specifics on each possible configuration covered by the proposed envelope to evaluate impacts on affected species and to fully evaluate the proposal. For example, it would be insufficient to simply identify the total number of turbines that might be built, because the timing of pile driving is also critical to evaluating noise-related impacts to marine mammals and other species. Additionally, to encompass the full range of reasonably foreseeable impacts, BOEM's analysis must include an alternative that combines the most disruptive components for each option included in the envelope. The design envelope alternative also cannot be conceived or analyzed so broadly that it impairs BOEM's duty to effectively "inform decision-makers and the public of the reasonable alternatives which would avoid or minimize impacts," as NEPA requires.	The development of the DEIS, SEIS, and FEIS has been based on Vineyard Wind's utilization of the PDE. The FEIS assesses the impacts of the reasonable range of Project designs that are described in the Vineyard Wind COP and presented in Appendix G by using the "maximum-case scenario" process.
13136-058	We appreciate that the SEIS evaluates the potential impacts for each alternative using the maximum-case scenario. By definition, the maximum design scenario "focus[es] on the design parameters that represent the greatest potential impact to each resource [e.g., marine mammals, fish]." We caution, however, that care be taken to ensure that impacts resulting from eventual construction and operations fall within the maximum design scenario identified in this SEIS. If work entails impacts that extend beyond the full spectrum of this SEIS's maximum design assumptions, then a further supplemental environmental review could be necessary, which would negate the efficiency benefits of the PDE process.	The development of the DEIS, SEIS, and FEIS has been based on Vineyard Wind's utilization of the PDE. The FEIS assesses the impacts of the reasonable range of Project designs that are described in the Vineyard Wind COP and presented in Appendix G by using the "maximum-case scenario" process. After publication of this FEIS, as required by law, there is a minimum 30-day mandatory waiting period during which BOEM is required to pause before issuing a Record of Decision (ROD). The ROD will state clearly whether BOEM intends to approve, approve with conditions, or deny the Vineyard Wind Construction and Operations Plan (COP) for construction, operation, and eventual decommissioning of the proposed Project.
13136-059	As detailed further above, cumulative impact analysis is a critical and legally required part of an EIS, and our comments are provided to make sure that the Vineyard Wind SEIS is robust and complete. We also offer these comments so that the cumulative impact analysis, once updated with the recommendations provided herein, can provide a template for all other offshore wind projects. However, the process by which BOEM arrived at this important analysis was unnecessarily protracted and has delayed the development of offshore wind.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13136-060	BOEM has stated that the basis for developing this SEIS was the need for a "revised cumulative impacts analysis," emphasizing that "this more robust analysis will inform decisions for other offshore wind projects moving forward." We share that hope and expectation. BOEM's recognition that "wind energy is a growing industry" and that "the existing lease areas are sufficient to support development of 22 GW of offshore wind" is appropriate	Thank you for your comment.

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	and overdue. Going forward, a robust cumulative impacts framework should be included at the outset in a draft EIS. If any limitations of these initial analyses subsequently come to light, they should ideally be remedied when finalizing the EIS. Once finalized, the Vineyard Wind EIS will provide a model for more thoroughly assessing the cumulative impacts of reasonably foreseeable Atlantic offshore wind development, and future projects should not be subject to the delays of SEIS preparation simply because of continued adjustments to regional commitments concerning offshore wind.	
13136-061	BOEM did not demonstrate that the other issues newly addressed in this SEIS created an independent need for supplementation. The SEIS analyzes “changes to the proposed Project since the publication of the Draft EIS,” but states that these are “minor changes . . . to allow for the possibility of using WTGs of higher capacity,” resulting only “in slight changes in the possible outcomes under each alternative when compared to the Draft EIS.” We note that minor, slight changes do not trigger the need for an SEIS under NEPA regulations. On the contrary, agencies “need not supplement an EIS every time new information comes to light,” given that “to require otherwise would render agency decision making intractable.”	Thank you for your comment.
13136-062	The SEIS also adds consideration of a “new alternative” for a “transit lane proposed to intersect the Wind Development Area.” As we argue in in Section I.G below, this alternative should be rejected. Moreover, analysis of this alternative arose “in response to the January 3, 2020, Responsible Offshore Development Association (RODA) layout proposal,” submitted months after the August 2019 decision to delay the final EIS and prepare an SEIS.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13136-063	We reiterate the importance of a robust cumulative impact analysis and stress that BOEM should not initiate a protracted SEIS process unless the draft EIS truly cannot be cured in the process of finalizing it. We urge BOEM to follow our recommendations made in these comments, finalize the Project’s Final EIS, and allow the industry to advance using this new cumulative impact analysis, once updated with our recommendations, as a template for future projects.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13136-064	We urge BOEM to reject Alternative F, because: (1) it could preclude Massachusetts, Rhode Island, and New York from achieving the expected generation capacity from offshore wind and the ability of those states to achieve their legislated clean energy goals; (2) it appears that the addition of such transit lanes to the leased areas is unnecessary given the conclusions of the United States Coast Guard’s (USCG) Final Massachusetts and Rhode Island Port Access Route Study (Final MARIPARS Report), dated May 14,	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	2020; and (3), as explained above in Section I.D it would be less effective in reducing climate impacts than other alternatives.	
13136-065	First, Alternative F poses significant challenges to the commercial viability of offshore wind projects off the coast of southern New England and could prevent Massachusetts, Rhode Island, and New York from meeting their renewable energy targets. According to the SEIS, “if all six transit lanes proposed by RODA [Responsible Offshore Development Alliance] were implemented, the technical capacity of offshore wind power generation assumed” by the projects in the leased areas “would not be met.” The transit lanes could result in insufficient “space to develop power generation capacity to meet demand in Massachusetts, Rhode Island, and New York.” The SEIS observed that, while the magnitude of the diminished technical capacity would vary depending on the width of transit lanes, ultimately the transit lanes would result in less clean energy being produced in the region.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13136-066	More specifically, the SEIS noted that if all 6 of the 4-nautical mile transit lanes were implemented, it “would reduce the technical capacity of the Rhode Island and Massachusetts (RI and MA) Lease Areas by approximately 3,300 MW, which is 500 MW less than the current state demand for offshore wind in the area.” Thus, the SEIS determined that “[i]f all the proposed transit lanes were implemented, one or more reasonably foreseeable offshore wind projects may not be able to deliver the expected power generation capacity and/or may no longer be commercially viable because wind turbine generators (WTGs) would not be placed in the area designated by the transit lanes.”	Thank you for your comment.
13136-067	As we’ve stated herein, responsible offshore wind development along the Atlantic seaboard is essential in order to transition to a clean energy economy and combat the deleterious effects of climate change. Alternative F and the incorporation of transit lanes into the Vineyard Wind project and other projects would significantly diminish the expected power generation capacity of offshore wind in southern New England and potentially result in several offshore wind projects no longer being commercially viable.	Thank you for your comment.
13136-068	Additionally, given the findings of the USCG’s Final MARIPARS Report, Alternative F is unnecessary for navigational safety.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13136-069	In establishing its recommendation, the USCG considered the inclusion of six additional transit lanes but concluded that such lanes would be unnecessary if offshore wind developers adopted its recommended layout.	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study.
13136-070	The Draft MARIPARS Report, which preceded the Final MARIPARS Report, contained nearly identical recommendations. Based on the Draft MARIPARS Report, BOEM concluded in the SEIS that the Alternative D2	Section 2.1.3 of the FEIS has been updated to reflect the Final MARIPARS and that Alternative D2 is consistent with the study. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	layout proposed by Vineyard Wind—a 1-by 1-nautical mile layout arranged in east-to-west rows and north-to-south columns, with 0.7-nautical mile transit lanes oriented northwest-southeast—“meets the layout rules set forth in the Draft MARIPARS [R]eport recommendations.” The SEIS also found that Alternative D2 was “consistent” with the USCG’s Draft MARIPARS Report recommendation.⁹⁷ Finally, with respect to Alternative F, BOEM found that the transit lanes could “lead to increased conflict between fishermen due to the orientation of the transit lanes not matching the east-west fishing orientation and increased impacts on vessel movement and navigation by adding choke points and funneling navigation.”⁹⁸ Because the USCG, an authority on navigational safety in coastal waters, concluded that Alternative D2 meets its criteria for navigational safety and that additional transit lanes are unneeded, and BOEM found that transit lanes could, in fact, increase navigational risks, Alternative F is unwarranted.	
13136-071	In sum, because adding transit lanes to the leased areas could reduce the viability of several proposed offshore wind developments, could impede Massachusetts, Rhode Island, and New York from meeting their renewable energy targets and, hence, from mitigating the impacts of climate change, and is not needed for navigational safety purposes, BOEM should reject Alternative F. In general, the provisions of Alternative D2, which best fulfills state commitments for renewable energy development and accommodates commercial fishing, can also be acceptable for addressing impacts to other resources, in accordance with additional suggested improvements discussed in these comments.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. BOEM is evaluating Vineyard Wind's COP and decisions on other projects and whether or not those projects would have transit lanes would be reviewed at that time. The decision for transit lanes would be determined on a COP by COP basis.
13136-072	BOEM has made some improvements to the assessment of impact-producing factors (IPF) in the SEIS relative to the Draft EIS. The definitions of both the negative and positive impact levels (i.e., negligible, minor, moderate, and major) in the DEIS and SEIS are similar in meaning, but the SEIS includes clarifying language that provides minimal guidance on how impacts may be quantified. For example, negative moderate and major impact levels in the SEIS now include “notable and measurable” and “regional or population-level impact,” respectively. In addition, the definitions of negative factors in the SEIS also include language that specifies “habitat” and “species common to the proposed Project area,” which places the impact analyses in an ecosystem context instead of a species-by-species context. For example: “The extent and quality of local habitat for both special-status species and species common to the proposed Project area,” and “The richness or abundance of local species common to the proposed Project area.” The terms “richness” and “abundance” are both quantifiable ecological terms that have been described in decades of ecological literature.	Thank you for your comment.

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13136-073	More transparent information on how the level of an IPF is quantitatively or qualitatively assessed is still needed in the Final EIS. However, as a general matter, the impact analysis should be undertaken in an objective, transparent, and, where possible, quantitative manner. In the absence of available data, BOEM should acknowledge that an IPF is indeterminate and that additional research is needed. Many of the criteria are also hard to measure (e.g., “Improvement in local ecosystem health”). BOEM should provide detail on how IPFs and associated criteria have been quantitatively or qualitatively measured in the Final EIS.	The SEIS included a detailed analysis of potential impacts and included the use of the impact levels applied to the adverse and beneficial impacts. The resource specific sections included information related to the magnitude, duration, geographic extent, and/or frequency of potential impacts, as appropriate, to support impact determinations.
13136-074	The SEIS should not use value-laden terms (e.g., “beneficial”) to describe changes in ecosystems or species. It should instead be objectively described as ecosystem change. For example, the SEIS states: “Recent studies have found increased biomass for benthic fish and invertebrates, and possibly for pelagic fish, marine mammals, and birds as well ... indicating that offshore wind farms can generate beneficial permanent impacts on local ecosystems, translating to increased foraging opportunities for marine mammal species.” Also, the IPF “increase in individuals or populations of species common to the proposed Project area” is considered to be “beneficial.” While we agree that some offshore wind activities may result in a change in the ecosystem and, in some cases, an increase in the abundance of certain species or in overall diversity, we caution against the Supplemental EIS representing these changes as “beneficial,” particularly as it is unclear what implications these changes may have on the wider ecosystem. We recommend that the Supplemental EIS remain objective in language used in its impact analysis (e.g., by using terminology such as “increase,” “decrease,” and “change”).	Thank you for your comment.
13136-075	BOEM should adopt a precautionary approach to account for fundamental gaps in our understanding of species and their behavioral responses and employ the best available scientific methods to monitor and, if necessary, design mitigation strategies. BOEM provides commentary on “incomplete or unavailable information” for each biological resource; however, this assessment does not appear to be carried forward for consideration in the impacts analysis. It is unclear in the SEIS how BOEM reached the conclusion regarding the adequacy of the information when a number of parameters key to carrying out an adequate impact assessment are lacking. We recommend BOEM take a more open approach to the appraisal of data gaps and uncertainties in the Final EIS and carry that forward to the impact assessment.	Appendix C of the SEIS included a discussion on incomplete or unavailable information, in accordance with Section 1502.22 of the CEQ regulations. Appendix H of the FEIS has been updated where appropriate on the incomplete or unavailable information, in accordance with Section 1502.22 of the CEQ regulations.
13136-076	In this vein, as a general matter throughout the development and operation of offshore wind projects, BOEM should ensure the necessary research and monitoring is carried out to address the substantial uncertainties regarding	Appendix C of the SEIS included a discussion on incomplete or unavailable information, in accordance with Section 1502.22 of the CEQ regulations. Appendix H of the FEIS has been updated where appropriate on the

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	offshore wind and wildlife interactions, for instance, interaction of seabirds, shorebirds and migratory songbirds including nocturnal migrants with the turbines, potential turbine interactions of bats, many species of which are facing stressors on land that may make their populations more vulnerable to additional take. Based on this research, mitigation options may be needed to ensure species' health and provide the certainty that will allow for further ramp up of the industry.	incomplete or unavailable information, in accordance with Section 1502.22 of the CEQ regulations.
13136-077	Improved and sustained data compilation before and after construction as well as during operation would also advance understanding of species' occurrence in the Project area and region.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-078	As the U.S. offshore wind industry moves forward, we recommend BOEM support the comprehensive analysis of these baseline data and ongoing data compilation and analyses, and undertake a regional approach to data analysis to enhance collaboration across developers, scientists, managers, and other stakeholders.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-079	Again, as a general matter, BOEM should also take immediate measures to address data uncertainty related to the influence of climate change on coastal and marine species and habitats (e.g., range shifts). While global climate change is acknowledged as a potential cumulative impact in the SEIS, this is not enough. BOEM should act expeditiously to obtain additional empirical data on current shifts in species and habitat distributions and work to improve its predictive modeling of future species distributions and factor this information into offshore wind project siting, construction, and operations to account for uncertainty related to climate-induced dynamic shifts in distribution (e.g., marine mammals, birds, forage fish, and sharks).	Thank you for your comment.
13136-080	BOEM also retains the ability to consider adoption of supplemental mitigation measures if monitoring or the agency's data collection efforts identify an unexpected negative impact. While it would be inappropriate for BOEM to rely on an adaptive management plan to address the environmental	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring

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	considerations highlighted in the SEIS in lieu of necessary mitigation measures, the agency is allowed and encouraged to adopt further adaptive management measures if needed.	measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13136-081	Additionally, Appendix A provides an analysis of incomplete or unavailable information for marine mammals in regard to the Vineyard Wind 1 project. Information regarding the effects of electromagnetic field (EMF) on marine mammals (submarine cables) remains unknown at both the individual level and population level; however BOEM assumes a low risk of impacts because marine mammals are highly mobile and would reduce their exposure to EMF.	Section 3.3.7.3 of the DEIS and Sections 3.5.1 and 3.5.2 of the SEIS discussed the potential impacts of EMF on marine mammals. As discussed, modeled and measured magnetic fields from AC cables buried to a depth of 3 feet would only emit detectable fields up to 82 feet above the cable and 79 feet along the sea floor. Vineyard Wind proposes to bury Project cables to a depth of 5-8 feet, providing greater shielding and reducing field detection distances. Additional discussion of the uncertainty regarding the individual and/or population level impacts of EMF on marine mammals was provided in Appendix H of the SEIS. Given the extremely localized nature of the potential EMF related impacts exposure is expected to be low. Therefore, no change to the FEIS is warranted.
13136-082	There is uncertainty regarding the response of marine mammals to new, large structures, how the structures will affect the development of the cold pool (potential impact to marine mammal prey species), and how elevated turbidity will affect marine mammals.	Section 3.5.1 of the SEIS provided a discussion of the potential impacts of WTG structures on the cold pool formation and the subsequent potential impacts to marine mammals. Additional discussion of the uncertainty around marine mammal response to WTG structures and how the structures would influence development of the cold pool was provided in Appendix H of the SEIS. Section 3.5.1 of the SEIS also discussed the potential impacts of increased turbidity on marine mammals. Therefore, no change to the FEIS is warranted.
13136-083	There is uncertainty about the cumulative acoustic impact associated with pile driving activities on baleen whales. Most of the scientific literature on the effects of pile driving on marine mammals is on harbor porpoises and seals in European waters. It is currently unclear if marine mammals in the Wind Development Area (WDA) will cease feeding, breeding, and/or migrating behaviors in response to pile driving, or if marine mammals do change these behaviors, it is unclear when they might resume normal behaviors.	Section 3.5.1.1 of the SEIS and Section 3.4 of the FEIS provides an overview of impacts to marine mammals from underwater noise associated with pile driving activities and discusses the potential consequences of those impacts. The analysis considers the Level B Harassment guidelines of 160 dB rms provided by NMFS to assess the potential behavioral impacts to baleen whales from pile driving noise. The available literature suggests avoidance of pile driving at offshore wind projects has occurred in some instances, with the duration of avoidance varying greatly, indicating that marine mammal responses to pile driving in the offshore environment are unpredictable and are likely context-dependent. However, pile driving will occur in open ocean areas where marine mammals may freely move away from the sound source; therefore, BOEM does not anticipate situations where individual marine mammals would not be able to escape from disturbing levels of noise. Further, as noted above, minimization and mitigation measures will be implemented which greatly reduces the potential for population level impacts by avoiding impacts, reducing the number of animals exposed, and

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		minimizing the severity of impacts to individuals that may be exposed. The results of monitoring and reporting can be applied to future project assessments as new information may become available. Additional discussion of the uncertainty around the potential for acoustic impacts resulting from pile driving activities was provided in Appendix H of the SEIS. Further details regarding acoustic effects to these species are provided in Appendix F of the FEIS and in the September 11, 2020 BO issued by NMFS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated monitoring and mitigation that has been proposed for the agency-preferred alternative. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13136-084	At least 13 species of cetaceans, including six large and seven small cetaceans, and three species of pinnipeds are thought to regularly occur in the Geographic Analysis Area and are included in the impact analysis. Of the six large whale species, four (NARW, sperm whale, fin whale, and sei whale) are listed as endangered under the Endangered Species Act (ESA) and as depleted and strategic stocks under the Marine Mammal Protection Act (MMPA).....Since 2010, NARW distribution and habitat use has shifted in response to climate change-driven shifts in prey availability. Best available scientific information, including aerial surveys, acoustic detections, stranding data, a series of Dynamic Management Areas (DMAs) declared by NMFS pursuant to ship strike rule, and prey data, indicate that NARWs now heavily rely on the waters within, and in the vicinity of, the Vineyard Wind 1 Project Area (see Figures 1 and 2). In January 2019, an aggregation representing a quarter of the population—100 whales—was seen in this area engaged in both foraging and social activities, demonstrating that it is clearly more than a migratory corridor. Large, seasonally consistent aggregations of NARWs occur within or close to the Vineyard Wind 1 Project Area from at least December through May, resulting in scientists considering the area to be a NARW “hotspot.” NARWs were observed feeding in the vicinity of the	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. Although NARWs may be found year-round, their likelihood of occurrence is greatest during the seasonal restriction on pile driving decreases. During times of year pile driving would be permitted, enhanced mitigation and monitoring measures for NARWs would be required during the entire month of May and anytime a DMA or NARW slow zone is designated in the lease area between June 1 and October 31. At all other times, standard mitigation and monitoring measures for all marine mammals are required. These conditions would be required to adaptively account for the sporadic occurrence of NARWs at any time of the year. A detailed analysis of impacts to ESA listed species of whales that concludes the Vineyard Wind 1 Project may adversely affect, but is not likely to jeopardize their continued existence is provided in the September 11, 2020 Biological Opinion issued by NMFS. Section 3.4.2 and Appendix D in the FEIS discuss all the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW.

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	Vineyard Wind 1 Project Area during the first half of May for the first time in 2017 and were sighted in June and July in 2017 and 2018, indicative of a broader temporal shift in distribution resulting in the occurrence of NARWs at greater densities off Rhode Island and Massachusetts into the summer months. Pregnant females are known to travel through the area in November and December and females of reproductive age are also present in the area in February and March, with April appearing particularly important for mothers and calves. Several scientific data sources demonstrate that right whales use these waters year-round.	
13136-085	Protection of NARWs during foraging, and the protection of their foraging habitat, must be one of BOEM's utmost priorities. NARWs select foraging areas based on a relatively high threshold of copepod density of approximately 3850-4000 organisms per cubic meter. Notably, foraging areas with suitable prey density are limited relative to the overall distribution of NARWs, meaning that unrestricted and undisturbed access to suitable areas, when they exist, is extremely important for the species to maintain its energy budget. Scientific information on NARW functional ecology also shows that the species employs a "high-drag" foraging strategy that enables them to selectively target high-density prey patches, but is energetically expensive. Thus, if access to prey is limited in any way, the ability of the whale to offset its energy expenditure during foraging is jeopardized. In fact, researchers have concluded: "[R]ight whales acquire their energy in a relatively short period of intense foraging; even moderate changes in their feeding behavior or their prey energy density are likely to negatively impact their yearly energy budgets and therefore reduce fitness substantially."	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. A detailed analysis of impacts to ESA listed species is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13136-086	NARWs are already experiencing significant food-stress: juveniles, adults, and lactating females have significantly poorer body condition relative to Southern right whales, and the poor condition of lactating females may cause a reduction in calf growth rates. Undisturbed access to feeding grounds must be ensured to adequately protect the species.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13136-087	Further, ongoing UMEs exist for other whales in the Geographic Analysis Area. There have been UMEs for the Atlantic population of minke whales since January 2017 and humpback whales since January 2016. Alarming, 92 minke whales have stranded between Maine and South Carolina from January 2017 to July 2020. Elevated numbers of humpback whales have also been found stranded along the Atlantic Coast since January 2016 and, in a	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including Minke and humpback whales. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak

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	little over four years, 126 humpback whale mortalities have been recorded (data through July 16, 2020), with strandings occurring in every state along the East Coast. The declaration of these UMEs by the agency in the past few years for three large whale species for which anthropogenic impacts are a significant cause of mortality demonstrates an increasing risk to whales from human activities along the U.S. East Coast.	NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13136-088	Given concerns regarding the health of the region’s whale species, and the critically endangered status of the NARW in particular, BOEM is obligated to protect this species from additional harmful impacts of human activities. The agency is also obligated by NEPA to consider the full range of potential impacts on all marine mammal species, including minke and humpback whales, which are known to utilize the Geographic Analysis Area.	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. A detailed analysis of impacts to ESA listed species, including the NARW, Minke, and humpback whales is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13136-089	Considering the elevated threat to federally protected large whale species and populations in the Atlantic, and emerging evidence of dynamic shifts in the distribution of large whale habitat, BOEM must ensure that any potential stressors posed by the proposed surveys on affected species and stocks are avoided, minimized, mitigated, and monitored to the fullest extent possible.	Section 3.3.7.3 of the DEIS and Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. A detailed analysis of impacts to ESA listed species, including the NARW is provided in the September 11, 2020 Biological Opinion issued by NMFS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13136-090	BOEM has improved the scope of the impact analysis in the SEIS compared to the DEIS. Specifically, the SEIS includes four new IPFs, or subfactors, relevant for marine mammals that were not included in the DEIS:..... However, additional IPFs or considerations still need to be factored into BOEM’s analysis. In particular, it is imperative that BOEM afford more detailed consideration of seismic surveys for oil and gas development in the Final EIS. While it is true that the issuance of permits for these activities by BOEM is still pending at the time of this letter, incidental harassment authorizations have already been issued by the National Marine Fisheries Service and therefore this action should be considered “reasonably foreseeable” by BOEM. While the “addition of possible future oil and gas	Currently there are no offshore oil- and gas-related activities ongoing in the Atlantic ocean and few concrete proposals in the foreseeable immediate or long-term future. NOAA has issued five individual harassment authorizations (IHA) under the Marine Mammal Protection Act for planned seismic surveys involving airguns on the Atlantic Outer Continental Shelf (OCS). Those IHAs are currently set to expire in November 2020, and the surveys cannot take place until the Bureau of Ocean Energy Management (BOEM) issue their own permits for the surveys. There are currently no active oil and gas leases on the Atlantic OCS, so there are currently no drilling or production activities. No Atlantic lease sales are included in the current 2017-2022 National Program. BOEM is in the process of developing the next five-year

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	exploration surveys” is acknowledged in the SEIS, BOEM should more clearly recognize the serious risks posed to NARWs and other marine mammals by seismic surveys and that these surveys would result in a serious additional and long-term stressor for marine mammals and, concerning, for NARWs throughout much of their migratory range, and would interact cumulatively with other stressors, including those potentially arising from offshore wind development.	National Program, which is expected to be completed around the time the current program ends in 2022. The next stage after the National Program is the decision on whether and under what terms to hold a specific lease sale. Even if Atlantic lease sales are included in a future national program, it could be several years before a decision is made on whether to hold an individual lease sale, as compliance with other laws (e.g., NEPA reviews, CZMA consistency determination, ESA consultation) will be necessary before any sale decision. Once a sale is held and leases issued, the lessee must obtain approval of its exploration plan and then its development and production plan (if it has identified sufficient resources to enter into oil and gas production). After these plans are approved, additional permit approvals are required before any individual exploration or production well can be drilled. Given this multistage process, it would likely be several years after inclusion in a National Program before oil and gas leasing or exploration and production activities, could be expected in the Atlantic. In addition to no oil and gas leasing reasonably expected to occur in the Atlantic, provided the current IHAs are set to expire in November 2020, BOEM does not find these survey activities to be reasonable foreseeable future actions in the Atlantic at this time.
13136-091	In addition, the SEIS underestimates the quantity and potential impact of G&G surveys undertaken as part of site assessment and characterization activities, describing them as “infrequent” and concluding their undertaking having “negligible” impact. On the contrary, G&G surveys associated with site assessment and characterization are frequent within the Geographic Analysis Area and multiple offshore wind projects are currently permitted, or projected to seek permits, to carry out these activities. A number of offshore wind projects intend to carry out those surveys over multiple years and in many areas, including in the vicinity of the Vineyard Wind 1 Project Area, multiple offshore wind developers are permitted to carry out surveys in overlapping geographic areas at the same time of year. The cumulative impacts of these survey activities that generate noise potentially harmful to marine mammals need to be carefully assessed by BOEM in the Final EIS.	Section 3.4.3 of the FEIS provides an updated discussion the potential impacts of HRG site assessment and characterization surveys. Additionally, Appendix D of the FEIS provide updated discussion and descriptions of these measures, including but not limited to, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. BOEM is also consulting with the NMFS for all surveys on the Atlantic OCS and implementation of similar measure will be required.
13136-092	We agree with the approach suggested in the SEIS that “identifying the locations and schedules of wind energy G&G and construction/installation activities as well as ongoing and future non-offshore wind G&G surveys could avoid overlapping noise impacts by scheduling activities to avoid cumulative impacts on marine mammals,” and we urge BOEM to undertake this analysis for G&G survey activity associated with offshore wind development and factor the resulting findings into future planning decisions.	Thank you for your comment.

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13136-093	Finally, in the absence of clear regulations on required measures to avoid, minimize, and mitigate noise impacts from G&G on marine mammals, BOEM must not make assumptions that survey protocols and underwater mitigation procedures will be effective in reducing harassment to a level that could be considered “negligible.”	Section 3.4.3 of the FEIS provides an updated discussion the potential impacts of HRG site assessment and characterization surveys. Additionally, Appendix D of the FEIS provides updated discussion and descriptions of these measures, including but not limited to, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. BOEM is also consulting with the NMFS for all surveys on the Atlantic OCS and implementation of similar measure will be required.
13136-094	As discussed above, NEPA requires that BOEM’s review be thorough and abide by the legal standards for fair and objective review. Yet the only quantitative study cited in the SEIS that directly assesses the exposure of development activities for the Vineyard Wind 1 Project Area on marine mammals was first presented in the Construction and Operation Plan and is also cited in the updated Vineyard Wind Offshore Wind Energy Project Biological Assessment, the DEIS, and the SEIS, as Pyć et al. (2018). This study was commissioned to address BOEM’s request for further information on acoustic and non-acoustic IPFs to marine megafauna during Vineyard Wind 1 project construction. The study used a modeling approach to characterize the sound source, determine how the sound propagated in different construction scenarios and in multiple seasons, and quantify the number of baleen whales, sperm whales, and sea turtles that would be exposed to levels above injury exposure criteria and behavioral disruption exposure criteria. The study used abundance and distribution data as well as animal movement modeling scenarios.	The modeling undertaken and reported in the COP was completed in coordination between Vineyard Wind, NOAA, and BOEM. State of the art modeling has been used to quantify the amount of exposure of marine mammals to underwater sound, but is not the only information that is used in the impact assessments completed for the DEIS and SEIS. Therefore, no change to the FEIS is warranted.
13136-095	The marine mammal density estimates (animals/km ²) used in the Pyć et al. (2018) analysis came from the Duke University Marine Geospatial Ecology Laboratory habitat-density model results published in 2016 and for the NARW, an unpublished and updated density model that incorporated additional sightings data from the Atlantic Marine Assessment Program for Protected Species (AMAPPS) 2010–2016, which included some aerial surveys over the MA WEA and MA/RI WEA undertaken by the NOAA Northeast Fisheries Science Center between 2011 and 2016. Density estimates for pinnipeds were calculated using Roberts et al. (2015) density data. The Roberts’ models were assessed with data from visual surveys conducted by BOEM in the Vineyard Wind 1 Project Area between October 2011 and June 2015.	The modeling undertaken and reported in the COP was completed in coordination between Vineyard Wind, NOAA, and BOEM. State of the art modeling has been used to quantify the amount of exposure of marine mammals to underwater sound, but is not the only information that is used in the impact assessments completed for the DEIS and SEIS. Therefore, no change to the FEIS is warranted.
13136-096	The Pyć et al. (2018) study is now outdated and does not reflect the best available scientific information on the potential sound exposure to marine mammal populations in the Vineyard Wind 1 project area. Importantly, the analysis does not incorporate significant new data collected from 2016 onwards, which indicates new year-round habitat use of the area within, and	The commenter has not provided any new information regarding new density estimate for marine mammals that has not been included in the acoustic modeling. Modeling has been completed with best available density estimates for NARWs. BOEM is also aware of other sightings information and DMAs that have been established in waters off Massachusetts and the potential

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	in the vicinity of, the Vineyard Wind 1 Project Area by NARWs. As stated above in Section II.D.1, since 2010, NARW distribution and habitat use has shifted in response to climate change-driven shifts in prey availability. Best available scientific information, including aerial surveys, acoustic detections, stranding data, a series of DMAs declared by NMFS pursuant to ship strike rule, and prey data, indicate that NARWs now rely heavily on the waters within, and in the vicinity of, the Vineyard Wind 1 Project Area year-round (see Figure 1).	occurrence of NARWs year-round. The analysis completed and mitigation measures that would be required accounts for the potential occurrence of NARWs at any time of year. Although climate change may be responsible for these recent changes in distribution, the exact mechanisms driving this occurrence patterns are not well understood yet and no new information has been provided by the Commenter. However, the mitigation and monitoring strategy does account for the potential occurrence of NARWs occurring at any time of year. Section 3.4.1 of the FEIS was updated in coordination with the NMFS and technical discussion regarding acoustic impacts on marine mammals was provided in Appendix F of the FEIS. Further discussion of these impacts was provided in the September 11, 2020 Biological Opinion issued by NMFS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss all the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. As outlined in the updated Appendix D, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13136-097	While further iterations of the Duke University habitat-density model have since been published in 2017 and 2018, and should be included in an updated analysis, these models still exclude data obtained through additional sightings databases (e.g., NOAA Right Whale Sighting Advisory System; NEFSC Monthly DMA analysis), and passive acoustic monitoring (e.g., Robots4Whales detections; NEFSC Acoustic Indicators of Right Whale Occurrence).	The modeling undertaken and reported in the COP was completed in coordination between Vineyard Wind, NOAA, and BOEM. State of the art modeling has been used to quantify the amount of exposure of marine mammals to underwater sound, but is not the only information that is used in the impact assessments completed for the DEIS and SEIS. Therefore, no change to the FEIS is warranted.
13136-098	From February 2017 through June 2018, monthly standardized marine mammal aerial surveys were flown in the Massachusetts and Rhode Island and Massachusetts WEA by the New England Aquarium. Right whales were seen in every season and 14 of the 18 months surveyed. As part of the New England Aquarium Study, a digital acoustic monitoring instrument (DMON) at Nomans Land station detected right whales throughout the sampling period. During the 2018 AMAPPS ship-based surveys, two foraging right whales were sighted within the WEA by NMFS researchers studying the potential linkages between biological and physical oceanography and marine mammal sightings on April 7. Additional sightings in the NARW consortium database document 47 right whales in the WEA from March 18, 2018 to April 11, 2018. A BOEM-funded study using autonomous vehicles for real-	The modeling undertaken and reported in the COP was completed in coordination between Vineyard Wind, NOAA, and BOEM. State of the art modeling has been used to quantify the amount of exposure of marine mammals to underwater sound, but is not the only information that is used in the impact assessments completed. For example, Vineyard Wind has intensive protected species observer data from the WDA and other best information available at the time of that application that is being considered in the Incidental Harassment Authorization under the Marine Mammal Protection Act. The commenter provided information that sightings in the NARW consortium database document 47 right whales in the WEA from March 18, 2018 to April 11, 2018 and a BOEM-funded study detected whales in the area between December and March. The mitigation that would be

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	time monitoring of marine mammals from December 2019 through March 2020 on Cox’s Ledge acoustically detected right whales in all months of the study. These new data highlight the need for the Pyć et al. (2018) study to be reanalyzed with updated data.	required included a seasonal restriction on pile driving from January 1 to April 30 that covers this period. The Commenter has not provided any new information on whale densities that would require the analysis be revised or relevant to the times of year pile driving would be allowed. Section 3.4.2 and Appendix D of the FEIS discuss all the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW at all times of year pile driving is permitted. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. As outlined in the updated Appendix D, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13136-099	Therefore, the Duke University habitat-density models do not fully reflect the current distribution and density of marine mammals for the U.S. East Coast and must not be used as the sole information source when estimating impact. We recognize that a number of the data sources we recommend above are not yet published or publicly available. In light of the rapidly diminishing NARW population, however, BOEM must require that all data are used to ensure that any potential shifts in NARW habitat usage are reflected in Vineyard Wind 1’s sound exposure models. We suggest one approach to achieving this would be to convene all data holders (e.g., New England Aquarium, Northeast Fisheries Science Center, Woods Hole Oceanographic Institution) with the acoustic modeling team (i.e., JASCO in the case of Vineyard Wind 1) to collate an updated data set of best available scientific information in a format compatible with undertaking an updated acoustic impact analyses.	The modeling undertaken and reported in the COP was completed in coordination between Vineyard Wind, NOAA, and BOEM. State of the art modeling has been used to quantify the amount of exposure of marine mammals to underwater sound. The best available density estimates for NARWs have been accepted by BOEM and NMFS under NEPA, the ESA, and the MMPA, but is not the only information that has been considered in the development of mitigation measures. The sightings information referenced by the Commenter does not provide any new substantial density information available that was not already considered in the acoustic modeling. The Commenter suggests the project permitting schedule be delayed while sightings information be analyzed through stakeholder meetings to derive new density information that is not available. This information is unanalyzed and does not represent the best available information since it is unavailable. Modeling has been completed with best available density estimates that were available for NARWs and no new modeling is required. The recent sightings referenced by the Commenter validate information already considered in the FEIS regarding the presence, not density, of NARWs in all seasons. BOEM is aware of other sightings information and DMAs that have been considered in addition to density information and the potential occurrence of NARWs year-round in the WDA. Appendix D of the FEIS discusses all the mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW at all times of year. These measures include, but are not limited to avoidance of peak NARW presence from January 1 to April 30, and when a NARW Slow Zone or DMA overlap the proposed Project area between June 1 and October 31.

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		At all permitted times of year, standard mitigation measures for all marine mammals would be required including use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13136-100	As a general matter, integration of local data sources that collect fine-scale information on marine mammal distribution (e.g. opportunistic sightings data) with those gathered through systematic broad-scale surveys will better reflecting current marine mammal presence, relative abundance and density, and will provide a more accurate impact assessment. BOEM should take steps now, in coordination with NOAA, to collate and integrate these different data sets to more accurately reflect marine mammal presence for future environmental impact statements and other work.	BOEM has funded substantial number of visual and acoustic surveys with the National Marine Fisheries Service (NMFS) through the AMAPPS program and other studies with our partners to conduct surveys and share that information with stakeholder such as the Duke Marine Spatial Ecology Laboratory. BOEM has coordinated and continues to coordinate with NMFS and the scientific community to obtain, analyze, and apply the best available scientific information in its environmental assessments.
13136-101	We also note that Appendix A (Underwater Acoustic Modeling of Construction Noise) and Appendix B (Animal Movement and Exposure Modeling) of Pyć et al. (2018) have been redacted, severely limiting the study’s reproducibility and comparison to other research in this area. To comply with the NEPA standards of “scientific integrity” and the requirement to “evaluate indeterminate adverse impacts based upon approaches or methods “generally accepted in the scientific community,”” we request that the Appendices of Pyć et al. (2018) be published in full in the Final EIS.	The report contains confidential business information at the time of the DEIS, we are currently waiting on a response from Vineyard Wind to determine if the information is publicly discloseable.
13136-102	The measures set forth in the agreement reflect the commitment of Vineyard Wind to undertake these steps, beyond existing federal requirements, to provide additional protections for the NARW. The intent of the agreement is to minimize the disruption of normal feeding, breeding, and migratory behaviors and prevent injury to right whales. Many of the mitigation measures agreed to by the parties have been incorporated into the SEIS impact analysis, as described in Pyć et al. (2018). It is therefore our expectation that the mitigation measures reviewed in the SEIS similarly meet the goal of lowering risk from injury to a level approaching zero and to significantly reduce other effects caused by marine noise.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13136-103	Including the mitigation measures into the impact assessment does not, however, provide the same level of certainty and accountability as would be the case if they were included as requirements in the COP, Final EIS, and other agency permits (e.g., NMFS Incidental Harassment Authorizations). BOEM must include details of these mitigation measures in the “the Final EIS.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Additionally, pile driving activities will be conducted in accordance with a Project Specific

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		IHA to protect NARW during construction. These requirements are reflected in Appendix D.
13136-104	The mitigation measures agreed to by the parties and included in the impact analysis include: 1. Seasonal restriction on pile driving activities between January 1 and April 30 to reflect periods of most likely presence of NARWs. 2. Enhanced mitigation protocol for pile driving and geophysical survey activities scheduled during times of likely presence of NARWs, including: a. An extended clearance zone of 10 km between May 1-May 14 and November 1-December 31; b. Monitoring of the extended clearance zone by continuous passive acoustic monitoring and, from May1-14, aerial or vessel-based surveys prior to pile driving; and c. A 60 minute pre-piling monitoring time period from between May 1 and December 31. 3. Comprehensive monitoring protocol during the construction window using a combination of visual monitoring by protected species observerMNFS'ss and passive acoustic monitoring. 4. Vessel speed restrictions and additional monitoring measures by vessels during periods of likely presence of NARWs and within Dynamic Management Areas (DMA), including: a. A vessel speed limit of 10 knots within the WDA; b. A speed limit of 10 knots for vessels transiting to and from the WDA unless visual or passive acoustic monitoring indicates the transit route is clear of NARWs; and c. A speed limit of 10 knots within DMAs unless visual surveys or passive acoustic monitoring indicates that the transit route within the DMA is clear of NARWs or that the animals can be avoided. 5. Underwater noise reduction and attenuation measures to reduce sound levels by a target of 12 dB.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Additionally, pile driving activities will be conducted in accordance with a Project Specific IHA to protect NARW during construction. These requirements are reflected in Appendix D.
13136-105	In addition, Vineyard Wind has made a \$3 million commitment to support development and demonstration of innovative methods and technologies to enhance marine mammal protection. Since the agreement was signed, Vineyard Wind has partnered with Greentown Labs to support advances in marine mammal monitoring, specifically for data collection and real-time transmission or data analysis, and will be issuing a Request for Proposals for the advancement of a non-invasive permanent and mobile passive acoustic monitoring system for the protection of marine mammals during construction and operation of Vineyard Wind 1.	Thank you for your comment.

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13136-106	While some of the measures in the agreement also convey benefits to other species of endangered and protected large whales, we note the importance of requiring strong mitigation measures to protect all species of marine mammals. This is particularly important in light of recent UMEs, the unpredictable climate-driven shifts in marine mammal habitat use and particularly foraging areas, and the expanding scale of reasonably foreseeable offshore wind development planned for the U.S. East Coast.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Additionally, pile driving activities will be conducted in accordance with a Project Specific IHA to protect NARW during construction. These requirements are reflected in Appendix D and will provide protections for all marine mammals during project construction.
13136-107	On January 31, 2020, Vineyard Wind submitted an update to its project design envelope in an updated COP that increased the maximum WTG size up to 14 MW from 10 MW. This update was transmitted to BOEM and NMFS on May 11, 2020, as supplemental information for the Vineyard Wind 1 Project Biological Assessment. The increase in WTG size resulted in a decrease in the number of pile-driven foundations from 100 under the maximum-case scenario to 57, leading to a 43 percent reduction in takes of federally listed whales and sea turtles. We note our support for the use of larger WTGs as a means to reduce the number of individual pile driving events, which benefits marine mammals and other marine species by: (i) reducing the total number of hours required for Project pile driving; and (ii) increasing the feasibility of limiting the construction window to times when endangered and protected species may be less likely to be present (but see Sections II.F and II.G for concerns for birds and bats).	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13136-108	Notwithstanding the reduction in pile driving events, reduction of underwater noise during pile driving is of critical importance and BOEM should require Vineyard Wind to take every measure to meet the 12 dB noise reduction target.	BOEM reviewed information provided in the COP regarding the effectiveness of sound reduction systems during the pile driving of offshore wind farm foundations. The 6 dB was chosen for the analysis level for the least effective level in order to evaluate the maximum-case scenario impact that may occur. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met.
13136-109	To best account for the impacts of the simultaneous development of multiple lease areas on the North Atlantic right whale, we stress that the agency take steps to prepare a full Programmatic EIS encompassing all U.S. East Coast renewable energy development as soon as possible to inform future offshore wind development. Currently, impact analyses are undertaken, and mitigation	Preparation of a full Programmatic EIS as described is outside of the NEPA process for the proposed Project.

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	measures prescribed, on a project-by-project basis leading to inconsistency and inefficiency. It would be highly beneficial to collectively consider available information on North Atlantic right whales in U.S. Atlantic waters to build a picture of responsible development accounting for the lifespan and migratory movements of the species, which have the potential to overlap with every WEA along the U.S. East Coast on a twice-yearly basis (i.e., northern and southern migration).	
13136-110	A Programmatic EIS is also particularly timely given the climate-driven shifts in North Atlantic right whale habitat use observed over the past decade as well as significant changes in their conservation status and major threats. Such an approach will ensure that alternatives and mitigation measures are considered at the scale at which impacts would occur and may potentially help increase the pace of environmentally responsible offshore wind development along the U.S. East Coast.	Preparation of a full Programmatic EIS as described is outside of the NEPA process for the proposed Project.
13136-111	Vessel collisions remain one of the leading causes of large whale injury and mortality and are a primary driver of the existing UMEs. Serious injury or mortality can occur from a vessel traveling above 10 knots irrespective of its length. The number of recorded vessel collisions on large whales each year is likely to grossly underestimate the actual number of animals struck, as animals struck but not recovered, or not thoroughly examined, cannot be accounted for. NARWs are particularly prone to vessel strike given their slow speeds, their occupation of waters near shipping lanes, and the extended time they spend at or near the water's surface. The agency should therefore act conservatively and implement mitigation measures to prevent any further vessel collisions for other species of large whale currently experiencing an UME (i.e., humpback whales and minke whales), as well as other species such as fin whales, which, in light of the broad distributional shifts observed for multiple species, may be at potential future risk of experiencing an UME.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of PSOs, vessel speed restrictions, injury and mortality reporting, and other measures. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS.
13136-112	BOEM significantly downplays the risk of vessel strike to endangered whales in the SEIS. The agency notes that up to an additional 230 vessels associated with offshore wind development may be operating within the Geographic Analysis Area at the peak of project construction from 2022 to 2023 and acknowledges that “increased collision risk has the potential to result in injury or mortality to individuals” and “the relative risk of vessel strikes from wind industry vessels is dependent upon the stage of development, time of year, number of vessels, and speed of vessels during each stage.” Yet, without further quantitative analysis of relative risk, BOEM states that “[o]ffshore wind development will result in only a small incremental increase in vessel traffic volume relative to ongoing and future non-offshore activities, and no measurable cumulative impacts would be expected as result.” This is	As described in BOEM's National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019a), more than 12,000 vessel calls were made at ports in the North Atlantic. The expected peak of 125-230 vessels associated with offshore wind development, as described in Section 3.5.1 of the SEIS, would represent an approximate 1.0 to 1.9 percent increase in vessel traffic. In reality the increase would be even smaller as the 12,000 vessel calls represent only commercial vessels and does not include recreational vessel trips. In addition, there is currently a high degree of uncertainty regarding the number of vessels, ports to be used, and primary transit routes that future offshore wind developments use. Section 3.4.1 of the FEIS has been updated to reflect this

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	entirely speculative. Data are readily available (e.g., on the Mid-Atlantic Data Portal and the Northeast Ocean Data Portal) to undertake a quantitative analysis of additional vessel strike risk posed by vessels associated with the offshore wind industry (i.e., total number of vessels, proportion of vessels associated with reasonably foreseeable offshore wind activities, locations of the primary route between ports and WEAs, and marine mammal occurrence and density).	information. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS. These measures include, but are not limited to, use of PSOs, PAM, vessel speed restrictions, and other measures
13136-113	Further, BOEM adds support to the no cumulative impact finding by stating that “collision risk would only be expected when Project vessels are transiting to and from the WDAs.” While there is no reason to believe that vessel collisions would only occur during vessel transits, the vessel transits in and of themselves are exceptionally frequent, with scores of vessels potentially undertaking transits on a daily basis for months or years, including throughout the operational period of a wind project. In addition, wind development activities taking place from 2022 to 2023 will primarily occur in the RI/MA and MA wind energy areas, meaning that vessel activity associated with construction, including vessel transits, will be similarly concentrated in that region. As previously discussed (see Section II.D.1), the RI/MA and MA wind energy areas now represent an important year-round foraging and migratory habitat for the NARW, a species for which vessel strike is a leading factor in its trajectory towards extinction. Vessel strikes therefore pose an unacceptable risk and BOEM simply cannot conclude that no measurable cumulative impact would be expected.	As described in BOEM's National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019a), more than 12,000 vessel calls were made at ports in the North Atlantic. The expected peak of 125-230 vessels associated with offshore wind development, as described in Section 3.5.1 of the SEIS, would represent an approximate 1.0 to 1.9 percent increase in vessel traffic. In reality the increase would be even smaller as the 12,000 vessel calls represent only commercial vessels and does not include recreational vessel trips. In addition, there is currently a high degree of uncertainty regarding the number of vessels, ports to be used, and primary transit routes that future offshore wind developments use. Section 3.4.1 of the FEIS has been updated to reflect this information. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of PSOs, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS.
13136-114	Moreover, beyond vessel speed restrictions within SMAs and DMAs, there are currently no federal requirements to reduce the speed of vessels associated with offshore wind development to 10 knots or less. Nor is there currently another example of an agreement between NGOs and an offshore wind developer regarding mitigation of construction impacts (see Section II.D.2.c) that would, by necessity, include enhanced mitigation and monitoring requirements to reduce vessel collision risk (or risks related to noise exposure and other impacts)).	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of PSOs, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a SMA or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine

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		mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS.
13136-115	BOEM acknowledges that, even with mitigation measures in place, increased potential interactions would be expected in lease areas during construction and also operations and decommissioning. As demonstrated by the documented death of a NARW calf in July as a result of multiple vessel strikes and the likely death of a second calf in January, an addition of even a single vessel traveling at speeds over 10 knots poses an unacceptable risk. Vessel speed restrictions and additional mitigation and monitoring measures must therefore be explicitly required as part of the permitting process. In the Final EIS, BOEM should acknowledge the significant risk vessel strikes pose to NARWs and other large whales and require the industry to reduce vessel speeds to 10 knots or less and take further measures to mitigate vessel collision risk.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of PSOs, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a SMA or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS.
13136-116	By adding IPFs and sub-IPFs for long-term avoidance/displacement of marine mammals from the WDAs into the SEIS, BOEM acknowledges the potential hazards of physical structures in the water column to marine mammals. However, BOEM justifies a finding of “minor” and “negligible” impact for this IPF based on the fact there is no data available to carry out a meaningful assessment. BOEM should instead take a precautionary approach and acknowledge that this IPF is not possible to assess at the current time and commit to an explicit monitoring plan that will allow for future assessment (i.e., pre-, during-, and post-construction monitoring).	Section 3.5.1 and Table 3.5-1 of the SEIS discussed the potential impacts on marine mammals due to novel physical structures in the water. Additional discussion of the uncertainty around marine mammal response to WTG structures was provided in Appendix H of the SEIS. Therefore, no change to the FEIS is warranted. Post-construction monitoring requirements are being developed with researchers, environmental NGOs, State, and Federal agencies. The results of monitoring could be applied to adaptive requirements if the results show certain actions may be warranted. Appendix D of the FEIS provides an updated discussion of mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including the Use PAM buoys or autonomous PAM devices to record ambient noise in the lease area (before, during, and immediately (within 2 year of operation) after construction), record marine mammal vocalizations, and monitor Project noise including vessel noise, pile driving, and WTG operation. Results must be provided within 90 days of construction completion and again within 90 days of the 1-year and 2-year anniversary of commissioning.
13136-117	The report, “A framework for studying the effects of offshore wind development on marine mammals and turtles,” outlines detailed recommendations for monitoring the potential impacts of offshore wind on marine mammals, including long-term avoidance/displacement, by the top scientists and experts working in this field.	Appendix D of the FEIS provides and updated discussion of mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including the Use PAM buoys or autonomous PAM devices to record ambient noise in the lease area (before, during, and immediately (within 2 year of operation) after construction), record marine mammal vocalizations, and monitor Project noise including vessel noise, pile driving, and WTG operation. Results must

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13136-118	Given the acute vulnerability of the NARW, it is essential that, at minimum, BOEM conduct a technical, quantitative analysis of the cumulative impacts of offshore wind development, against a baseline of other reasonably foreseeable actions, on the NARW population. This analysis should be incorporated into the agency's NEPA compliance documents. We note that the analysis proposed below is also relevant for other species of large whale found within the Geographic Analysis Area.	be provided within 90 days of construction completion and again within 90 days of the 1-year and 2-year anniversary of commissioning. Section 3.3.7 of the DEIS and Section 3.5.1 of the SEIS analyzed the current NARW baseline and contemplated the potential overall impacts on NARW due to offshore wind development in within the geographic analysis area. A detailed analysis of potential impacts on NARW and other ESA-listed species was provided in the revised BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional information regarding impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Future offshore wind projects will require separate ESA Section 7 consultation, and a cumulative effects analysis will be completed based on the best available information and will include a discussion of all IPFs that could result in impacts to marine mammals. Therefore, no change to the FEIS is warranted.
13136-119	We recommend that the analysis quantify the percentage of the NARW population potentially exposed to conceivable impacts from offshore wind development on an annual basis and, as a worst-case scenario, the potential impact on population viability of a permanent loss of foraging and other habitat within all lease areas expected to be developed. The analysis should also examine the additional energetic expenditure experienced if right whales were to avoid all lease areas expected to be developed during their migration. This is particularly important in light of new scientific information indicating the need for NARWs to undertake efficient and uninterrupted foraging in order to maintain their energy budget. The energetic implications for displacement of pregnant females during their southern migration (e.g., offshore into the Gulf Stream) should also be taken into consideration.	As discussed, in Section 3.5.1.1.3 of the SEIS, the use of bioenergetic models to assess the population-level consequences is available for only a few mysticete species. BOEM currently working on establishing a study to develop a bioenergetic model to look at the potential population level impacts offshore wind may have on NARW. A detailed discussion of current marine mammal distribution and occurrence in and around the Vineyard Wind 1 WDA was provided in Appendix E of the SEIS. A discussion of current marine mammal distribution as well as population size and trends are also provided in the Biological Opinion issued by NMFS on September 11, 2020. A detailed analysis of impacts to ESA listed species, including the NARW, is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional information regarding impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other

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		take of marine mammals, including NARW, is expected to occur as a result of the project. The Biological Opinion also discusses the potential consequences of displacement. In the FEIS, BOEM has considered that the cumulative impacts that may be expected by future offshore wind projects in addition to Vineyard Wind would have similar, but not exactly the same impacts depending on differences in project details, location, and other factors. Additionally, BOEM assumes that future COP approvals will include project-specific mitigation and monitoring measures developed through NEPA, ESA consultations, and ITAs that will be implemented by each future project that will be designed to avoid exposure of individuals to injurious levels of noise and minimize and monitor effects of exposure that would result in behavioral responses.
13136-120	Habitat avoidance may also result in NARWs being displaced into shipping lanes, thereby increasing their risk of vessel strike. The analysis should therefore estimate the additional potential risk that habitat displacement into shipping lanes and the increased vessel traffic resulting from wind development itself may pose in terms of serious injury and mortality along the East Coast and evaluate that risk against that of species extinction. Such an analysis will allow BOEM to determine if existing mitigation measures are adequate or if potential impacts need to be managed as projects are developed concurrently and sequentially. For example, considering vessel collision risk for the entire East Coast may illuminate that more comprehensive vessel speed mitigation measures need to be in place at the project level in order to reduce the overall cumulative risk.	As described in BOEM's National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019a), more than 12,000 vessel calls were made at ports in the North Atlantic. The expected peak of 125-230 vessels associated with offshore wind development, as described in Section 3.5.1 of the SEIS, would represent an approximate 1.0 to 1.9 percent increase in vessel traffic. In reality the increase would be even smaller as the 12,000 vessel calls represent only commercial vessels and does not include recreational vessel trips. In addition, there is currently a high degree of uncertainty regarding the number of vessels, ports to be used, and primary transit routes that future offshore wind developments use. Section 3.4.1 of the FEIS has been updated to reflect this information. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of PSOs, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13136-121	BOEM should conservatively assess the potential loss to the NARW of communication and listening range and assume that any substantial decrement will result in adverse impacts on the species' foraging, mating, or other vital behavior. A conservative approach is justified given the species' extreme vulnerability, where any additional stressor may potentially result in population-level impacts, and the difficulty in obtaining empirical data on population-level impacts on wild animals.	Section 3.5 of the SEIS provided a discussion of acoustic impacts to marine mammal species, including the NARW. Further details regarding acoustic effects to these species is provided in Appendix F of the FEIS and in the BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the

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		NARW. These measures include, but are not limited to avoidance of peak NARW presence, enhanced measures including expanded PAMJ coverage for NARWs during the entire month of May, use of sound attenuation technologies, use of Protected Species Observers (PSOs), Passive Acoustic Monitoring (PAM), soft start procedures, shut down procedures, and other measures.
13136-122	Finally, BOEM acknowledges that “entanglement in fishing gear is a substantial ongoing threat to marine mammals” and is “one of the leading causes of mortality in NARWs (<i>Eubalaena glacialis</i>, NARW), and may be a limiting factor in the species recovery (Knowlton et al. 2012).” However, BOEM’s stance is that: “These ongoing impacts on marine mammals, especially fisheries interactions, would continue regardless of the offshore wind industry.” While this is true, until more scientific information becomes available on the nature of habitat displacement, if any, caused by offshore wind development, BOEM should be precautionary and factor entanglement risk into the impact analysis in the Final EIS. This issue is particularly pertinent to reasonably foreseeable wind projects in the RI/MA and MA wind energy areas, as they directly overlap with or neighbor management areas for the American lobster fishery that pose a significant entanglement risk to NARWs and other large whales. The American lobster fishery is currently the target of new regulations being developed by NOAA to reduce the risk of mortality and serious injury of NARW caused by entanglement.	Section 3.3.7.3 of the DEIS discussed the potential for exclusion of fishing vessels or marine mammals from the Project area. Furthermore, Sections 3.5.1 and 3.5.2 of the SEIS discussed displacement of fishing effort and marine mammals from all wind development areas on the Atlantic OCS. Additional discussion of commercial fisheries displacement was provided in Section 3.4.5 of the DEIS and Section 3.11.1 and 3.11.2 of the SEIS. Therefore, no change to the FEIS is warranted. Sections 3.4.2 and Appendix D of the FEIS discusses mitigation relative to the monitoring and removal of ghost fishing gear in the WDA, which would minimize the risk of entanglement
13136-123	As a general matter and distinct from this particular SEIS, in determining the potential impact of noise from geophysical surveys, and construction and operations activities, BOEM should request new guidelines on thresholds for marine mammal behavioral disturbance from NMFS that are sufficiently protective and consistent with the best available science. Multiple marine species have been observed to exhibit strong, and in some cases lethal, behavioral reactions to sound levels well below the dB threshold defined by NMFS for Level B take, leading to calls from the scientific community for the Agency to revise its guidelines. Acceptance of the current NMFS’ acoustic threshold for Level B take will result in BOEM’s significant underestimation of the impacts to marine mammals and potentially the permitting, recommendation, or prescription of ineffective mitigation measures (e.g., under-protective exclusion zones).	On September 11, 2020, the NMFS issued a Biological Opinion for the construction, operation, maintenance, and decommissioning of the proposed Vineyard Wind 1 Project. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), using the best available science, NMFS has determined that no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. As discussed in the Biological Opinion (NMFS 2020), the consequences of Level A harassment as a result of exposure to pile driving noise would be “minor degradation of hearing capabilities...” and the PTS anticipated is considered a “...minor auditory injury.” Level B harassment is expected to result in “low-level, temporary behavior modifications...” NMFS expects exposures to be brief and that behavior responses would be temporary, with behavior returning to as baseline state after the pile driving stops or the individual swims far enough away to avoid exposure to disturbing levels of noise (NMFS 2020). Further,

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		NMFS (2020) concluded that these behavior responses are not expected to impact individual health, survival, or reproduction.
13136-124	BOEM should re-run its sea turtle regional density estimates and exposure models and update the Final EIS accordingly. The Final EIS should include updated sea turtle density estimates and related acoustic exposure models. As stated in previous comments, the most recent survey data incorporated into the DEIS sea turtle density surface models are from 2009 and do not reflect current knowledge of sea turtle occurrence in the Project Area. Re-running the density models with more recent data collected from the Project Area and immediate vicinity – for example, the Northeast Large Pelagic Survey data conducted from October 2011 through June 2015 and additional regional data (e.g., Atlantic Marine Assessment Program for Protected Species [AMAPPS] data) – would more accurately represent the current status quo and, in turn, provide more accurate estimates of acoustic exposures. We recommend new density surface models and accompanying abundance estimates – which are often easier for public understanding (e.g., 10 loggerhead turtles as opposed to a density of 0.1117 loggerhead turtles per 100 km ²) – be generated and included alongside new acoustic exposure models in the Final EIS.	Section 3.3.8.3 of the DEIS included a discussion of acoustic impacts on sea turtles. A detailed discussion of acoustic impacts to sea turtles was also provided in the revised BA (BOEM 2019b). The BA submitted to NOAA can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . The FEIS was developed with the best available science at the time of publication. Sea turtle density estimates are derived from Strategic Environmental Research and Development (SERDP) Spatial Decision Support System (SDSS) and represent the best data set to be used for animal movement modeling, as agreed to by BOEM and NMFS on July 24, 2018. The referenced reports do not contain density estimates but rather sighting per unit efforts (SPUEs). These data sources were however considered as supplemental information in the DEIS, SEIS, and the BA. Therefore, no change to the FEIS is warranted.
13136-125	Additionally, and similarly as a general matter, fundamental gaps remain in our knowledge of the sensory (e.g., hearing and navigation) ecology of sea turtles. It has been determined that sea turtle hearing sensitivity overlaps with the frequencies and source levels produced by many anthropogenic sources; however, more research is needed to determine the potential physiological and behavioral impacts of these noise sources on sea turtles. Currently, BOEM's standard operating conditions for activities such as pile driving are based on a 180 dB (RMS) re 1 uPa exclusion zone, which is the original generic acoustic threshold for assessing permanent threshold shift onset for cetaceans.	As discussed in the NMFS Biological Opinion, NMFS relied upon the available literature to evaluate the effects of noise on sea turtles. NMFS considers the acoustic thresholds developed by the US Navy to represent the best available data as it they rely upon all available information on sea turtle hearing and thresholds were derived using similar methodology as the NMFS technical guidance for auditory injury of marine mammals (NMFS 2018, 2020). Based upon studies of sea turtle behavioral responses to air gun noise summarized in the Biological Opinion, NFMS expect that sea turtles would exhibit behavioral response when exposed to received levels of 166 dB re 1uPa and significant behavioral disruption and avoidance behavior when exposed to received levels of 175 dB re: 1uPa (rms) and higher. Although the 180 dB (RMS) threshold level was previously recommended by NMFS, it is no longer applicable and not used to determine impacts to sea turtles.
13136-126	As the offshore wind industry advances, studies are needed to determine critical ratios and temporary and permanent threshold shifts so that accurate acoustic threshold limits for anthropogenic sound sources can be added to NMFS's sound exposure guidelines for protected species like sea turtles, and additional monitoring and mitigation protocols can be developed to minimize impacts to sea turtles during offshore wind development and operation and other anthropogenic activities. Experiments are also needed to: (i) spatially separate acoustic pressure and intensity to determine which component(s) of sound sea turtles detect to determine if hearing sensitivity changes under	Section 3.3.8.3 of the DEIS included a discussion of acoustic impacts on sea turtles. A detailed discussion of acoustic impacts to sea turtles was also provided in the revised BA (BOEM 2019b). The BA submitted to NOAA can be found at the following link: <a 476="" 519="" 919="" 939"="" data-label="Page-Footer" href="https://www.boem.gov/Vineyard-Wind-Consultation-Documents/Section 3.5.2 and Appendix D of the FEIS have been updated to include modifications and/or additional mitigation and monitoring measures that could be implemented to avoid, minimize, and mitigate adverse impacts on sea turtles. These measures include, but are not limited to, marine debris training, use of sound attenuation technologies, use</td></tr> </table> </div> <div data-bbox=">K-1116

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	pressure; and, (ii) conduct underwater audiograms of sea turtle species of all age classes, as hearing sensitivity is known to change with age. Given this, not only should monitoring of sea turtle sensory ecology be conducted, but a conservative approach should be adopted in the EIS to guard against impacts to these threatened and endangered species.	of Protected Species Observers (PSOs), Soft Start Procedures, Shut Down procedures, and other measures. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval.
13136-127	The provisions of Alternative D2, which best fulfills state commitments for renewable energy development, can be acceptable for impacted bird species. However, in order to complete a sufficient cumulative impact analysis for the Vineyard Wind project, the Final EIS must evaluate impacts to a broader range of affected avian species, including committing to sufficient monitoring that uses improved technology as it is developed, and application of adaptive management to apply mitigation measures based on this data.	Section A.8.3.1 of the FEIS provides an updated discussion of collision model methods, but does not include all species that may encounter operating WTGs, as many species do not have the required datasets to allow for modeling. While not all species potentially present within the offshore wind lease areas were modeled, the modeling results of those species with sufficiently robust occurrence and behavioral characteristics datasets represent a variety of species with representative behaviors and flight characteristics and illustrate the overall low expected collisions rates. BOEM expects the same outcome from species that were not modeled. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13136-128	In this manner, the Final EIS can account for the reasonably foreseeable impacts of the Vineyard Wind project and commit to addressing those impacts. Further, best management practices and commitments to monitoring and mitigation as part of adaptive management should be included in the cumulative impacts analysis for reasonably foreseeable offshore wind development on the Atlantic OCS in relation to bird species. Incorporating monitoring requirements that will be applied as technology becomes available and providing for mitigation measures to be triggered based on the monitoring results will provide the most accurate approach to the scope of the cumulative impacts analysis contemplated in the SEIS.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13136-129	BOEM must ensure that the Final EIS retains consideration of the full range of potential impacts on all bird species known to forage or rest in or near the	Section A.8.3.1 provides a discussion of collision model methods, but does not include all species that may encounter operating WTGs, as many species

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	Project Area, or migrate through the area, including those species protected under the Migratory Bird Treaty Act (MBTA) and the ESA as well as species of birds covered under obligations for conservation of birds under the Fish and Wildlife Conservation Act as amended in 1988, Executive Order (EO) 13186 “Responsibilities of Federal Agencies to Protect Migratory Birds” (January 17, 2001), North American Waterbird Conservation Plan, the Memorandum of Understanding (MOU) between Department of the Interior U.S. Minerals Management Service and the Department of the Interior U.S. Fish & Wildlife Service (FWS) Regarding implementation of EO 13186 (June 4, 2009) and BOEM, Department of Interior (DOI), FWS, and NOAA membership in the International Union for Conservation of Nature (hereinafter collectively referred to as the “conservation obligations”).	do not have the required datasets to allow for modeling. While not all species potentially present within the offshore wind lease areas were modeled, the modeling results of those species with sufficiently robust occurrence and behavioral characteristics datasets represent a variety of species with representative behaviors and flight characteristics and illustrate the overall low expected collisions rates. BOEM expects the same outcome from species that were not modeled. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13136-130	As we have commented to BOEM before, we are aware that the DOI and the FWS are now relying on a new interpretation of the MBTA that limits the scope of the Act to the purposeful take of birds. Our organizations strongly oppose this interpretation as contrary to the plain language and intent of the law, and we urge BOEM to continue to implement its MBTA responsibilities as all previous administrations have done in the past, with explicit recognition that incidental take is prohibited. This would also be consistent with the memorandum of understanding that BOEM signed with FWS in 2009 to protect migratory bird populations. If DOI’s new interpretation changes BOEM’s analysis and associated requirements for impacts to migratory birds in any way, a detailed description and explanation of such changes must be included in the Final EIS. We note that signatories of these comments (Natural Resources Defense Council, Defenders of Wildlife, and National Audubon Society), together with many other organizations and states, have challenged DOI’s unlawful reinterpretation of the MBTA in court and expect the protections of the MBTA to be restored. The unlawful reinterpretation does not relieve BOEM or FWS from their obligations for conservation of birds under the aforementioned federal laws, EO and MOU, as well as MBTA.	Section A.8.3.1 of the FEIS has been updated with a discussion of the MBTA and includes discussions of measures and Standard Operating Conditions that will be used to ensure that impacts to migratory birds are minimized.

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13136-131	At a minimum, the Final EIS should include analysis of the following priority species for fulfilling BOEM’s conservation obligations: ● Red-throated Loon, Horned Grebe, Great Shearwater, Audubon’s Shearwater, Black Skimmer, Gull-billed Tern, Hudsonian Godwit, Upland Sandpiper, Whimbrel, and Arctic Tern are all FWS Birds of Conservation Concern²¹⁴ under the Fish & Wildlife Conservation Act, 1988 amendment. ● Black-legged Kittiwake, Horned Grebe, Leach’s Storm-petrel, Long-tailed Duck are classified by the International Union for Conservation of Nature (IUCN) as Vulnerable. ● Black Scoter, Common Eider, Razorbill and Sooty Shearwater are classified by IUCN as Near Threatened.	Several of these species (red-throated loon, greater shearwater, black-legged kittiwake, long-tailed duck, black scoter, common eider, razorbill, and sooty shearwater) were analyzed in the COP submitted by Vineyard Wind, and included an assessment of potential exposure to operating WTGs on the Atlantic OCS. All of these species were in the insignificant annual exposure category, with the exception of the razorbill and black-legged kittiwake, which were in the low annual exposure category. These categories represent the relative importance of the Vineyard Wind WDA for these species across an entire annual cycle. Additionally, all of these species were analyzed in Robinson Willmott et al. (2013). Per the COP, a low or insignificant exposure means that the species was predicted to occur at lower densities in WDA than in other areas. Further, the FEIS has been updated to include an analysis of the percentage of a particular species that would be exposed to Vineyard Wind 1 WTGs during each season (FEIS Table A.8.3-7). Section A.8.3.1 includes and updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically.
13136-132	Further, at a minimum the Final EIS should include analysis of the following migratory species of birds that have documented migratory routes through the Atlantic OCS lease areas (see discussion of Collision-risk analyses below, for reference): ● American Golden-Plover ● Bicknell’s Thrush ● Blackpoll Warbler ● Bobolink ● Buff-breasted Sandpiper ● Connecticut Warbler ● Pectoral Sandpiper ● Semipalmated Sandpiper ● Solitary Sandpiper ● Upland Sandpiper ● Whimbrel ● White-rumped Sandpiper	A review of La Sorte and Fink (2017) shows that while the 10 documented species identified by the commenter do cross the Atlantic OCS during migration, only two (Bicknell's thrush and white-rumped sandpiper) would traverse the Vineyard Wind 1 WDA during autumn migration. Additionally a review of La Sorte et al. (2016) shows that of 118 terrestrial species, only 3 population-level migration trajectories crossed the Vineyard Wind 1 WDA, and only during autumn migration. Given this information, BOEM does not expect most of these species to encounter operating WTGs associated with the Vineyard Wind 1 project. Further information regarding these species sensitivity to collision and displacement effects are discussed in Robinson Willmott et al. (2013).

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13136-133	Given that existing survey efforts do not appear to have adequately captured avian use of the Project Area, BOEM should adopt a conservative approach in the Final EIS's avian impact analysis. Modeling issues stemming from recent survey efforts must be addressed. For example, Vineyard Wind's recent aerial and boat surveys off the Massachusetts coastline aggregated many medium-sized tern sightings into a shared "tern species" category, which cannot be parsed out to provide detail on the number of endangered Roseate Terns. Further, the Marine-Life Data and Analysis Team (MDAT) predictive models, while excellent for estimating broad-scale, relative patterns of avian abundance along the Atlantic, are not suitable for estimating range and abundance for a rare and narrowly distributed species like the Roseate Tern. As a result, when these and other data deficiencies are factored into BOEM's impact model, Roseate Tern presence is likely to be underestimated.	There are inherent challenges to surveying for rare species far offshore. The Vineyard Wind 1 WDA was sampled approximate 49 times from 2007 to 2015; 30 of those surveys were conducted by MassCEC. A discussion of the potential for Roseate Terns to encounter operating WTGs is discussed in the Biological Assessment which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. As such, the data used relative to the roseate tern represents the best available science on the distribution and relative abundance of the species, and no change to the FEIS is warranted.
13136-134	Additionally, in 2020, a new Roseate Tern colony formed on Muskeget Island. This places a Roseate Tern breeding colony within 15 miles if the Vineyard Wind lease. The development of a new colony is unusual for this species, and is likely to increase foraging use of the Project Area. The core of the Roseate Tern's breeding range, which overlaps the Project Area, is small and so a conservative approach for this species and others that may be impacted by these surveys is required by the Final EIS.	A revised discussion of the new roseate tern colony on Muskeget Island is provided in the updated BA that was submitted to the USFWS in September 2020. As discussed in the BA, Muskeget Island is in area frequented by foraging and staging roseate terns (see , and for the first time in many decades, 40-50 pairs of roseate terns nested on Muskeget Island. However, those nests failed to produce chicks due to egg predation (S. vonOettingen, Pers. Comm., July 23, 2020). Although roseate terns may attempt to nest on the island in the coming years, "the duration of occupation for 'small' and 'medium' size colonies is short in the majority of cases (the median and mode are 10 and 4 years respectively)" (García-Quismondo et al., 2018). BOEM is currently coordinating with USFWS to monitor the colony site during the 2021 breeding season.
13136-135	The Final EIS should include a collision risk analysis on federally listed species, specifically Roseate Tern, Piping Plover and Red Knot, and the cumulative impacts on these species of the reasonably foreseeable future development of 16 offshore wind projects currently contemplated in the Atlantic OCS, including the risk to the birds as they migrate through the projects. The analysis in the Biological Assessment should be a starting place for this analysis, not an end point and the most recent data must be used.	A detailed analysis of impacts and an analysis of potential collision risk to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area. Project-specific ESA consultations will be required for all future offshore wind developments. BOEM is currently working to USFWS to develop programmatic consultation for future offshore wind development. This consultation will be informed by a currently ongoing BOEM study, which can be found at the following link: https://www.boem.gov/environment/environmental-studies/transparent-modeling-collision-risk-three-federally-listed-bird

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13136-136	The SEIS uses Winship et al, 2018, as a baseline and to compare relative abundance of 47 species of seabirds that may be in the projected cumulative OCS WDA compared to the abundance of a study area that ranges outside the OCS WDA areas to conclude that “Generally, only a small percentage of a species seasonal population would potentially encounter operating WTGs.” The Final EIS must explain how it relies on this conclusion from models in the Winship data. The author reports “[g]enerally speaking, the estimated uncertainty in the model predictions was high, and the study does not include the variables of high concentrations of birds seasonally or in short periods of time. The COP, Volume III recognizes this variability when it states: Petrels and shearwaters that breed in the southern hemisphere visit the northern hemisphere during the austral winter (boreal summer) in vast numbers. These species use the US Atlantic Outer Continental Shelf (“OCS”) region so heavily that, in terms of sheer numbers, they easily swamp the locally breeding species and year-round residents at this time of year (Nisbet et al., 2013).	As described by the author, Winship et al. (2018) provides “broad-scale spatial information” that can be used to inform marine spatial planning on the Atlantic OCS, and represents spatial distributions of birds averaged over time. Further, the project was specifically not designed to predict the actual number of a particular species in a specific location and time, but rather a relative abundance. The DEIS and SEIS used the Winship data as such. Table A.8.3-7 is provided to illustrate that the expected overall low percentage of a particular species that have been historically observed, or would be expected to occur in the Vineyard Wind 1 WDA. BOEM used this data to help avoid areas where there are large numbers of birds. Further, BOEM did not fully rely on Winship models, but also used survey data of the MA WDAs. As shown by Viet et al. (2016) only 25 species have been identified in the MA WDAs during the course of surveys conducted during all seasons between November 2011 and January 2015. Additionally, the mean densities of the 15 most commonly observed species were relatively low (Veit et al. 2016).
13136-137	Additionally, “many species continue to congregate outside the breeding season in areas of high productivity, such as upwellings. Huge flocks of Sooty and Greater Shearwaters have been seen in these areas.” “For most development sites, the statistical variation in the data derived from survey is likely to mask any within-site variations in bird density.” The Final EIS should include this variability of large concentrations of birds even in short periods of time in its analysis of seasonal abundance when calculating risk to birds.	While the comment regarding the potential for large flocks to congregate in areas of high productivity is correct, the Vineyard Wind 1 Project area is not located in one of these areas of no large flocks of birds would be expected. As depicted in Figure A.8.3-1 in the FEIS the lease areas for offshore wind development were selected due to the general absence of bird resources, and areas with higher bird abundance were avoided. This is also depicted at a finer scale in Figures A.8.3-2 and A.8.3-3 in the FEIS. Further, as shown by Viet et al. (2016) only 25 species have been identified in the MA WDAs during the course of surveys conducted during all seasons between November 2011 and January 2015. Additionally, the mean densities of the 15 most commonly observed species were relatively low (Veit et al. 2016).
13136-138	The Final EIS must also explain why BOEM omitted their own analysis of the vulnerability of 177 species of birds that could come into contact with the WTGs in the cumulative OCS WDAs in the foreseeable future and why it reached such an important cumulative impacts conclusion on such a comparatively small group of species.	Section A.8.3.1 includes an updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. As discussed, 177 species of birds may be present on the OCS from the Gulf of Maine to Florida. However, not all of these species would be expected to encounter operating WTGs. As discussed, there are only 55 species of birds that are expected be exposed to WTGs. Further, as shown by Viet et al. (2016) only 25 species have been identified in the MA WDAs during the course of surveys conducted during all seasons between November 2011 and January 2015. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level

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		determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically.
13136-139	The SEIS uses the Band model and the Avian Stochastic Collision Risk Model to conclude:.....However, neither model includes modeling for population level impacts or accounts for variations in concentrations of birds or impacts of wind or wave variations on flight behavior, especially pelagic birds in the summer. The Final EIS must explain why BOEM chose to use the Band model on such a limited sample size of only 12 species when 177 species could potentially come in contact with the cumulative WTGs in the OCS WDAs.	Section A.8.3.1 includes and updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. As discussed, 177 species of birds may be present on the OCS from the Gulf of Maine to Florida. However, not all of these species would be expected to encounter operating WTGs. As discussed, there are only 55 species of birds that are expected be exposed to WTGs. Further, as shown by Viet et al. (2016) only 25 species have been identified in the MA WDAs during the course of surveys conducted during all seasons between November 2011 and January 2015. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically.
13136-140	The Final EIS should also provide the inputs to the Band collision risk model used by BOEM instead of only their outputs for public comment and transparency. Those inputs would show whether BOEM followed the guidance provided by Band in assessing collision risk including their inputs on avoidance behavior, flight height, flight activity, flux rate, corpse detection rate, rotor speed, bird speed, day and night flights, and collision risk for migrants as recommended in Band’s 2012 guidance and model.	Section A.8.3.1 of the FEIS has been updated to include model inputs (see Tables A.8.3-2 through A.8.3-5. For the Vineyard Wind 1 Project, the Biological Assessment has the input and output spreadsheets from the Band model for the ESA species.
13136-141	Importantly, a study by Cook et al. (2014) found that estimations of avoidance and collision risk from Band models were highly sensitive to the flux rate (total number of birds passing through the wind farm), corpse detection rate, rotor speed, and bird speed. Factors such as weather (i.e. wind speed and visibility) and habitat use would also affect the accuracy of these estimates, as such factors would greatly influence avian flight patterns and behavior.	The FEIS has been updated to use the Avian Stochastic Collision Risk Model, which incorporates variability into model inputs and as a result provides collision predictions with estimated variability. The FEIS has also been updated to include all model inputs. As the pointed out by the commenter, there is uncertainty around the output from collision risk modeling. However, modeling represents the best available science to address the potential for birds to collide with operating WTGs on the Atlantic OCS.
13136-142	Additionally, Band himself comments on the sensitivity of the model and the importance to include these elements in the inputs of the model: • “For some species typical flight heights are dependent on the season, and in such a case it will be best to use seasonally dependent typical flight heights in assessing collision risk for each month, rather than average flight heights	The FEIS has been updated to use the Avian Stochastic Collision Risk Model which incorporates variability into model inputs and as a result provides collision predictions with estimated variability around the variables identified by the commenter. The FEIS has also been updated to include all model inputs, including a measure of nocturnal activity (FEIS Table A.8.3-2). The

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	across the year.” “Flight activity estimates should allow both for daytime and night-time activity. Daytime activity should be based on field survey. Night-time flight activity should be based if possible on night-time survey; if not on expert assessment of likely levels of nocturnal activity.” “Figures used in the collision model should take both day and night flights into account. Where there is no night-time survey data available, or other records of nocturnal activity, for the species in question, (or for other sites if not at this site), it should be assumed that the Garthe and Hüplop/ King et al. 1-5 rankings apply. These rankings should then be translated to levels of activity at night which are respectively 0%, 25%, 50%, 75% and 100% of daytime activity. These percentages are a simple way of quantifying the rankings for use in collision modelling, and they may to some extent be precautionary.”	collision risk modeling presented in the FEIS relied upon flight height data from Johnson et al. (2014) that was derived from thousands of observations, likely under varying weather and wind speed conditions, and thereby capturing many of the conditions identified by the commenter. Section A.8.3.1 of the FEIS includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically.
13136-143	Band 2012 provides a spreadsheet for use in calculating this model that shows calculations from inputs to outputs in an open and transparent manner. BOEM should present this spreadsheet as part of the Final EIS to illustrate how BOEM reached its outputs on collision risk, even on only the 12 species on which risk was calculated.	Section A.8.3.1 of the FEIS has been updated to include model inputs (Tables A.8.3-2 through A.8.3-5). For the Vineyard Wind 1 Project, the Biological Assessment has the input and output spreadsheets from the Band model for the ESA species.
13136-144	Additionally, collision risk models are not found to be reliable in predicting mortality: Siting and permitting decisions for many European offshore wind facilities are informed by collision risk models, which have been created to predict the number of avian collisions for offshore wind energy facilities. However, these models are highly sensitive to uncertainties in input data. The few empirical studies at land-based wind facilities that have compared model-estimated collision risk to actual mortality rates found only a weak relationship between the two, and due to logistical difficulties, the accuracy of these models has not been evaluated in the offshore environment.	As the suggested by the commenter, there is uncertainty around the output from collision risk modeling. However, modeling represents the best available science to address the potential for birds to collide with operating WTGs on the Atlantic OCS. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13136-145	The SEIS uses a cumulative estimate of 2,021 WTGs and uses a 6.9 birds/turbine mortality rate from a study by Loss et al., 2013 to conclude that “an estimated 13,945 birds could be killed annually under the build out	As outlined by the commenter, Loss et al. (2013) provides an estimation of Collision mortality as a result of collisions with operating WTGs. The FEIS provides an updated discussion of land based WTG mortality studies and

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	described under the cumulative impact scenario.” But that mortality rate of 6.9 birds/turbine in Loss et al., 2013 is for average turbine capacity of less than 2MW. Loss et al., 2013 in the same table (Table 2, p. 204) calculates the ratio of birds/MW, the standard in the industry, and calculates the mean ratio of annual rate of mortality of birds in the East to be 3.58 birds/MW (Lower bounds of estimate 95 percent confidence interval is 3.05. Upper bounds of estimate 95 percent confidence interval is 4.68). Using the SEIS statistic of 2,021 WTGs of turbines which are expected to have the capacity of 12 or 14 MW that is a cumulative MW of 24,252MW with 12 MW turbines or 28,294MW with 14 MW turbines. Using Loss et al. 2013’s mean estimate of the annual rate of mortality of birds in the Eastern U.S. at onshore wind projects of 3.58 birds/MW/year, an estimated 86,822 birds (under the 12 MW turbine scenario) to 101,292 birds (under the 14 MW turbine scenario) would be killed annually under the buildout of the cumulative impact scenario. Over the thirty-year life of the cumulative impact scenario an estimated 2,604,660 birds would be killed under the 12 MW scenario and an estimated 3,038,760 birds would be killed under the 14MW scenario. The Final EIS must adjust this calculation and consider revising the cumulative impact level on birds from Moderate and the direct and indirect impacts from Negligible to Major.	includes an additional reference (Erickson et al. 2014) that reported similar findings to Loss et al. (2013). These studies represent the best available science for estimating the potential for collision mortality of North American bird species. To date, no studies have addressed the cumulative mortality of North American bird species at operating onshore wind facilities. The analysis in the SEIS, and subsequently in the FEIS, based on the Loss et al. (2013) was provided to illustrate what the potential mortality associated with the full offshore wind build out could be, not what the expected mortality could be. Further, the mortality range provided in the SEIS used values of the number of mortalities per turbine, and not per MW, because there is not a linear relationship between turbine nameplate capacity (MWs) and turbine size, particularly when comparing onshore older onshore WTGs with new, highly efficient offshore WTGs expected to be used on the Atlantic OCS.
13136-146	The DEIS states that “Johnston et al. 2014a has documented that the use of fewer WTGs with higher hub heights is an effective method to reduce avian collision risk.” However, this study used smaller turbines than are planned for Vineyard Wind which anticipates turbines of up to 12 or 14 MW. GE cites statistics on their 12MW Haliade-X turbine as a 220 meter rotor swept area and 260 meter height, making the hub height 40 meters. For their study, Johnson et al. (2014) states, “[t]he outputs of the three turbine designs were 2, 3 and 5 MW, and the diameter of the rotor-swept areas was 80, 90 and 126 m, respectively,” and “to remove the effect of height in the comparison of different designs, the hub heights of each turbine were set such that the lower limit of the rotor-swept area was 20 m above sea level.” The study also provides the caveat that “mitigation by use of larger turbines or higher hubs must also take into account the greater altitudes used by migrating birds (Newton 2010; Krijgsveld et al. 2011), which may experience an increased collision risk as a result of the use of larger turbines.”. Additionally Loss et al. (2013) “found support for an increase in mortality with increasing turbine hub height.” The Final EIS should re-calculate the risk to migrating birds of using larger turbines calculated by altitude of the turbines and total rotor swept area of the turbines and hub height compared to flight height of migratory birds especially during inclement weather, variable wave activity and other elements, and the risk to nocturnal migrants in particular.	As discussed in Section A.8.3.1 in the FEIS, model inputs into the Avian Stochastic Collision Risk Model included WTG parameters, including nameplate capacity (12 MW was used) in addition to rotor radius, blade width, and rotor swept zone height from the top of the water, and tidal offset. Additionally, as suggested by Johnson et al. (2014) and Krijgsveld et al. (2011) flight heights of modeled species were also included as model inputs (Table A.8.3-2). As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014).

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13136-147	La Sorte Fink (2017) document 10 species of migratory birds that migrate over the Atlantic Ocean: “There is evidence at the individual-level (see Table S1, Supporting Information) and broader evidence at the population-level (La Sorte et al., 2016a) that these 10 species cross the Atlantic Ocean during autumn migration.” Those species are American Golden-Plover, Bicknell’s Thrush, Blackpoll Warbler, Bobolink, Buff-breasted Sandpiper, Connecticut Warbler, Pectoral Sandpiper, Semipalmated Sandpiper, Solitary Sandpiper, and White-rumped Sandpiper. Two species classified by FWS as Birds of Conservation Concern—Upland Sandpiper and Whimbrel, also cross the Atlantic Ocean during migration. A fuller picture of migratory pathways of migratory songbirds and shorebirds could be realized with the addition of satellite tracking information from Movebank and NASA’s Icarus project or additional research and tagging of priority species of birds. The Final EIS should use this data to calculate the risk to these migratory birds, especially in regard to the higher turbine height, and provide for tracking these migratory birds during the life of the project and over all the cumulative projects in the Atlantic OCS.	Section A.8.3.1 of the FEIS provides an updated discussion of the potential for avian species to encounter operating offshore wind turbines. As discussed in the FEIS, 75 percent of the documented onshore mortality is composed of groups (small passerines, diurnal raptors, doves, pigeons, and upland game birds) that would not be expected to frequently encounter offshore operating WTGs associated with offshore wind development in large numbers. Second, factors such as landscape features and weather patterns that influence collision risk are different on the OCS compared to onshore wind facilities. Within the Atlantic Flyway, much of the bird activity is concentrated along the coastline concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014).
13136-148	In addition to better accounting for potential avian impacts in the Final EIS, as we have reiterated repeatedly herein, BOEM should require Vineyard Wind to undertake long-term Project monitoring before, during, and after construction for endangered species like Roseate Terns, Red Knots, and Piping Plover, for other species with a suspected high collision risk (such as shearwaters and petrels), for species of conservation obligation and at a minimum for the 10 species of migratory birds that cross the Atlantic through the OCS WDA area.	A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area and no take of these species is anticipated. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. There are currently ongoing, extensive monitoring program for ESA-listed species that will continue

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		outside of the construction of the Vineyard Wind 1 project. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants, including the species identified by the commenter, only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014).
13136-149	Post-construction fatality monitoring onshore is a key component of Tier 4 of the FWS Land-Based Wind Turbine Guidelines and many wind projects onshore conduct post-construction monitoring, especially on public lands managed by Department of Interior’s Bureau of Land Management. The methodology of determining mortality rates at onshore wind projects consists of protocol level surveys around turbines to search for carcasses. The data are adjusted for searcher efficiency and carcass persistence among other extrapolations. While this protocol is challenging at sea for obvious reasons today, that is not reason enough to relieve the offshore wind industry from post-construction fatality monitoring, an obligation that the onshore wind industry has committed to and is required to fulfill. There is ongoing, rapid development of imaging and bird strike technologies used in the European Union and the United Kingdom, and such technologies are also being developed in the United States. Grant funding from the Department of Energy Office of Energy Efficiency and Renewable Energy (EERE), state energy agencies, and others supports technical and economic advancement of offshore and onshore wind. The Department of Energy Wind Energy Technologies Office invests in energy science research and development activities that enable the innovations needed to advance U.S. wind systems, reduce the cost of electricity, and accelerate the deployment of wind power.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13136-150	These [bird strike] technologies are being tested at Block Island Wind Project and other offshore locations in the EU and UK and are making rapid gains in being effective, officially verified, commercially available, and affordable at scale in the near future, possibly at the same time as Vineyard Wind would be ready for construction and operation. The incorporation of these new monitoring technologies, and hopefully a standardized technology, should be a required element in the post-construction monitoring plan for Vineyard Wind, even if it must be phased in when available if not immediately upon operation. BOEM should standardize the methodology of using these new technologies across all projects in the Atlantic OCS in order to feed in mortality data, and possibly displacement data, into ongoing cumulative effects analyses, adaptive management strategies, to validate Collision Risk	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. Vineyard Wind has drafted a framework for their Bird Monitoring Plan which is included in Appendix F of the FEIS. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from

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	Models, and to measure impacts on Endangered-listed species and species of conservation obligation by augmenting tracking data with data from on-site detection technology.	consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process. Additionally, cumulative impact analyses will be completed for each future development project, and updated information will be used.
13136-151	Currently the approved COP promises only that “Vineyard Wind is developing a framework for a post-construction monitoring program for birds. Using a standardized protocol, the Project will document any dead or injured birds found on vessels and structures during the O&M phase.” This is contrary to the standard protocol for post-construction monitoring at onshore wind projects, where a radius from the turbine is proscribed as the search area and includes where birds may be expelled or thrown from the actual turbine structure and blades. The offshore structures anticipated to be installed by Vineyard Wind have very little available structure on which a dead or injured bird could land. Defining the structure as a search area, if it means the turbine base or nacelle (since no injured or dead birds could be found on the blades) is woefully inadequate. Only updated technology will detect bird strikes or mortalities in the appropriate range established by onshore post-construction mortality studies.	As suggested by the commenter, documenting dead birds on Project structures is included as part of the proposed monitoring framework. Vineyard Wind has drafted a framework for their Bird Monitoring Plan which is included in Appendix F of the FEIS. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures that can refine our understanding of impacts arising from the presence of WTGs on the Atlantic OCS. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13136-152	The Final EIS and the Record of Decision (ROD) for Vineyard Wind should specifically include the adoption of these monitoring technologies when they are verified and commercially available as part of the Vineyard Wind monitoring framework and protocol as well as monitoring frameworks for future projects permitted by BOEM, and support and encourage their development and funding for their development and testing beginning at Vineyard. The shared cost of development and implementation of these technologies across all lessees and with BOEM, if standardized, would avoid an undue economic burden on individual projects.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual

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		monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13136-153	Without the data collected at onshore wind projects through mortality monitoring, for instance, BOEM would not be able to make even inexact statements in the SEIS, such as “[i]n the contiguous United States, bird collisions with operating WTGs are a relatively rare event, with an estimated 234,000 birds killed annually by 44,577 onshore turbines” and will not be able to update cumulative impacts analysis for future projects or analyses.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process. Additionally, cumulative impact analyses will be completed for each future development project, and updated information will be used.
13136-154	The Final EIS should also correct the mistaken quote of Loss et al. (2013). The actual citation is “we estimate that between 140,000 and 328,000 (mean = 234,000) birds are killed annually by collisions with monopole turbines in the contiguous U.S.” Additionally, this data is seven years old and followed by rapid growth of the wind industry. We note that the Loss et al. (2013) report also states: “[d]espite measures taken to increase analytical rigor, the studies we used may provide a non-random representation of all data; requiring industry reports to be made publicly available would improve understanding of wind energy impacts.” We support the requirement that industry mortality reports should be made publicly available and this requirement should be incorporated into the Final EIS and ROD.	Section A.8.3.1 of the FEIS includes an updated discussion of Loss et al. (2013). BOEM intends to make the results of the post-construction monitoring available to the public, either by posting monitoring reports on Project-specific websites or making them available upon request.
13136-155	The Final EIS should provide more certainty that Lessees will use adaptive management for birds in the Best Management Practices in Table A-5 and collect “sufficiently robust” data.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of

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		digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13136-156	According to FWS Wind Turbine Guidelines (2012), DOI has adopted the National Research Council’s 2004 definition of adaptive management, which states: Adaptive management promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a ‘trial and error’ process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits. Its true measure is in how well it helps meet environmental, social, and economic goals, increases scientific knowledge, and reduces tensions among stakeholders. Further, the SEIS acknowledges that: Adaptive management could be used for many resources, particularly regulated fisheries and wildlife resources (including birds, benthic resources, finfish, invertebrates, essential fish habitat, marine mammals, and sea turtles), which would be closely monitored for potential impacts. If data collected are sufficiently robust, BOEM or other resource agencies could use the information obtained to support potential regulation changes, or new mitigation measures for future projects. (emphasis added). The Best Management Practice is stated vaguely as, “Lessees and grantees shall develop a monitoring program to ensure that environmental conditions are monitored during construction, operation, and decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential	The referenced FWS Wind Turbine Guidelines are provided for onshore wind turbines and are not applicable to offshore development. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. Vineyard Wind has drafted a framework for their Bird Monitoring Plan which is included in Appendix F of the FEIS. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be finalized prior to Project commissioning. Additionally, annual monitoring reports will be used to assess the need for reasonable adjustments and revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision. BOEM has worked with USFWS to develop standard operating conditions (SOCs) for commercial leases and as terms and conditions of plan approval and are intended to ensure that the potential for adverse impacts on birds is minimized. The SOCs have been analyzed in recent EAs and consultations for lease issuance and site assessment activities, and BOEM’s recent approval of the Coastal Virginia Offshore Wind Technology Advancement Project (CVOW; http://www.boem.gov/Approval-of-VOWTAP-Research-Activities-Plan/). Some of the SOCs originated from Best Management Practices adopted in the Record of Decision for the 2007 Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (Section 2.7). Finally,

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	adverse impacts are mitigated.” Since the DEIS and SEIS are a project level analysis of the Vineyard Wind project, and there will be no other opportunity for the public to comment on the monitoring program methodology, the adaptive management strategies, or the mitigation (avoidance, minimization and compensatory mitigation) of “potential adverse impacts,” the specific methodologies of the frameworks for monitoring, adaptive management and mitigation should all be outlined in the Final EIS.	BOEM and USFWS work with the lessees to develop post-construction plans aimed at monitoring the effectiveness of measures considered necessary to minimize impacts to migratory birds with the flexibility to consider the need for modifications or additions to the measures.
13136-157	The framework for adaptive management should include operational adjustments that are reasonable and cost effective and include advances in detection and avoidance technology. For example, the adaptive management framework should include “smart curtailment” to contain reasonable loss of energy production, seasonal adjustments based on mortality data as needed to compare with defined thresholds, and other operations that are proven to be effective in case of a rare event of mortality of a significant species or number of birds. These are practices used in adaptive management at some onshore wind facilities and in EU offshore wind facilities. Their incorporation into the Final EIS will permit BOEM to require their adoption as new technologies become available.	Given the low expected use of the WDA, the expected level of impacts does not warrant analyzing curtailment as a mitigation measure at this time. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for adjustments or reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision. The monitoring that is being proposed for The Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures such as curtailment for future offshore wind development.
13136-158	Compensatory mitigation is another tool that should be used to offset adverse impacts of the Vineyard Wind project. Given the current technology, there are no viable options for effectively minimizing the impacts of the project to the extent needed to protect birds from harmful and long-term impacts. Furthermore, migratory birds pose significant conservation challenges, as many originate from other regions and actions to increase their populations require significant investment of time and resources to restore equivalent habitat. The breadth of species potentially affected, and the migratory nature of these species will require such environmental compensatory mitigation.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource

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		agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development.
13136-159	As we note above, the SEIS provides an inadequate analysis in quantifying the number of birds likely to be lost in collisions with turbines, and neglects to evaluate such impacts on ESA-listed species and nocturnal migrants. Further, the SEIS does not consider impacts to many of the species occurring in the area that are likely to be affected, resulting in what is likely a gross underestimate of the potential losses of birds. The number of birds affected is uncertain due to the lack of available technology to accurately measure impacts (e.g., collisions) on a species level or the fate of those birds after a collision event (e.g., injury, morbidity, or mortality).	Section A.8.3.1 includes an updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. As discussed, 177 species of birds may be present on the OCS from the Gulf of Maine to Florida. However, not all of these species would be expected to encounter operating WTGs. As discussed, there are only 55 species of birds that are expected to be exposed to WTGs. Further, as shown by Viet et al. (2016) only 25 species have been identified in the MA WDAs during the course of surveys conducted during all seasons between November 2011 and January 2015. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area and no take of these species is anticipated. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014). Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species

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		and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development.
13136-160	We further note that in this interim period where incidental take of bird species protected by the MBTA is not being considered illegal, the agencies still have conservation obligations under frameworks apart from ESA and MBTA, as discussed above. Based on studies of ESA-listed species alone (discussed above), it seems likely that birds protected by federal laws will be killed in collisions with turbines under the currently anticipated industry build-out scenario. As such, compensatory mitigation should be provided for bird mortality resulting from this development, and particularly for species of conservation concern.	A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on migratory birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision. These measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13136-161	Directed mitigation can result in meaningful beneficial outcomes. For example, the Montrose restoration, a \$63 million mitigation package	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not

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	compensated for migratory seabirds in Mexico, efforts in part which led to the recovery and de-listing of Pacific Brown Pelican.	limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
13136-162	Mitigation more effectively compensates for impacts when conducted on a project-species and population-specific basis. This model is encouraged for offshore wind energy development impacts. However, if a project-by-project approach proves difficult to operationalize, a compensatory mitigation fund could be developed and administered by trustees of federal agencies. Following the model of other forms of development, this would most appropriately be funded by the developers whose actions are resulting in the impacts, with funding amounts based on likely or actual impacts (see below).	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
13136-163	Quantifying compensatory mitigation for birds should initially be based on a revised estimate of the number of birds that will be killed in collisions with turbines (i.e., Table A-9 in the SEIS), including ESA-listed species and nocturnal migrants. Evaluating mitigation necessary to effectively compensate for these losses should utilize resource equivalency analysis, which accounts for the fact that birds at different life stages do not functionally equate in conservation importance (e.g., one additional hatchling does not functionally replace a breeding adult bird). This approach has been used extensively for addressing bird losses resulting from losses of birds to oil spills and contaminants in California. For example, under NEPA, the Damage Assessment and Restoration Plan / Environmental Assessment for the Luckenbach Spill called for a number of mitigation projects to compensate for the losses of migratory birds in distant countries where those	Section A.8.3.1 includes and updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . In all

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	species originate, such as Mexico, Canada and New Zealand, in the amount of \$21M. Quantities and supporting analyses should be re-evaluated as collision monitoring data become available and additional mitigation provided as necessary.	cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area and no take of these species is anticipated. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Robinson Willmott and Forcey 2014). Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to validate the collision risk modeling. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
13136-164	Seabirds are long lived, have delayed maturity and low fecundity; these unique life-history traits require substantial and long-term commitment to reach the offset needed. Given that compensatory mitigation is time-consuming from concept to success, we urge the developers and agencies to commit to this, and initiate action as soon as possible.	If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
13136-165	Little data exist on bats and offshore wind energy, although research over the last decade has shown that bat fatalities are common at land-based wind facilities. How bats use the offshore environment is not well understood and therefore BOEM should be conservative in its analysis, as a lack of available information on impacts to bats from offshore wind does not indicate impacts are unlikely. In fact, in Europe, in recognition that continued offshore wind build out in the North Sea has the potential to affect the population of a species of migratory bat (<i>Pipistrellus nathusii</i>), the Dutch Minister of Economic Affairs, in agreement with the Minister of Infrastructure and the Environment, issued a decree that all future wind farms in the Borssele Wind Energy Area must implement bat mitigation measures.	While there is little current literature regarding bat use of the OCS, the best available information, including Hatch et al. (2013), Pelletier et al. (2013), Stantec (2016), and Dowling et al. (2017) was used in the analysis. Further, comparison of the proposed offshore wind development on the Atlantic OCS with offshore wind development in the North Sea is not valid. The North Sea is generally surround by land and bats cross it during migration. However, on the Atlantic OCS, bats must originate from the Atlantic Coast and return to the Atlantic Coast. Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our

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		understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-166	The Vineyard Wind COP and SEIS do not reference the most comprehensive and recent survey of bats offshore in the United States, which was prepared for the Department of Energy (DOE) in 2016. This research found bats present at all surveyed locations in the mid-Atlantic, Gulf of Maine, and Great Lakes, with bats detected up to 130 kilometers from the mainland, though bat activity generally declined with increased distance from shore. BOEM should update their analyses using this research as it contradicts some of the assumptions and statements about bats' use of the offshore environment presented in the SEIS and updated COP.	The referenced publication (cited as Stantec 2016) is used throughout Section A.8.4.1 of the SEIS. As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Therefore, no change to the FEIS is warranted.
13136-167	Vineyard Wind's COP states that the federally endangered Indiana bat (<i>Myotis sodalis</i>) would not be exposed to the Project because it is not found in eastern Massachusetts, and, as such, it is excluded from further analysis in the DEIS and SEIS. However, data submitted to Motus indicates that, in 2015, a tagged Indiana bat was detected on Cape Cod and Nantucket (see Figure 3). Given the proximity of this detection to the Project Area and the cross-water movements made by the tagged bat (between Cape Cod and Nantucket), BOEM should consult with U.S. Fish and Wildlife Service (USFWS) about potential impacts to Indiana bats and these impacts should be analyzed in the Final EIS.	Early coordination with applicable resource agencies, including the USFWS, identified the threatened and endangered species that may be potentially affected by the proposed Vineyard Wind 1 Project. Pursuant to ongoing consultation with the USFWS regarding ESA listed species, Indiana bats were not included in the BA, DEIS, or the SEIS due to a lack of verified occurrences. Therefore, no change to the FEIS is warranted. A detailed analysis of impacts to ESA listed species, including the northern long-eared bat is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ .
13136-168	Assumptions that the COP and SEIS make about bat use of the offshore environment, exposure risk, and avoidance are not based on the best available science and lead to a likely underestimation of risk for bats.	Section A.8.4.1 of the SEIS included a discussion of bat use of offshore habitats and is based on currently available literature. Therefore, no change to the FEIS is warranted.
13136-169	The COP and SEIS describe the risk of turbine strikes for bats as low, with the impacts from Vineyard Wind being negligible, because cave-hibernating bats, such as <i>Myotis</i> species, are generally not observed offshore and have never been observed more than 11.5 km offshore in the mid-Atlantic. This characterization is likely downplaying the risk to cave bats, as they seem to be more commonly found offshore and at further distances from the mainland than described in the COP and SEIS. Bat acoustic survey efforts in the mid-Atlantic identified <i>Myotis</i> calls at 63% of sites surveyed and <i>Myotis</i> species were present at 89% of sites surveyed across the Gulf of Maine, mid-	As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Of the relatively few (372) bat passes recorded at offshore buoys, only 14 (4 percent) were attributed to cave bats (Stantec 2016), confirming the very

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	Atlantic, and Great Lakes. Data in Motus also indicate that Indiana bats, little brown bats (<i>M. lucifugus</i>), and eastern small-footed bats (<i>M. leibii</i>) have made crosswater flights near Cape Cod.	limited use of open water habitats by cave bats. Therefore, no change to the FEIS is warranted.
13136-170	Recent survey efforts on Martha's Vineyard also detected little brown bats making offshore movements, with one bat traveling from Martha's Vineyard to Cape Cod. The presence of the federally threatened northern long-eared bats (<i>M. septentrionalis</i>) on both Martha's Vineyard and Nantucket indicates that this species can cross open water and the species has been tracked making long distance flights over water in the Gulf of Maine. However, citing research by Dr. Dowling, BOEM claims offshore movements of northern long-eared bats have not been detected and so exposure to the project area would be insignificant. Although none of Dr. Dowling's tracked northern long-eared bats were detected making flights between Martha's Vineyard and the mainland, she cautions that "[f]urther study is warranted to determine whether northern long-eared bats are making offshore movements, particularly during late summer and early fall when little brown bats appear to depart the island."	As discussed in Section A.8.4.1 of the SEIS, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Of the relatively few (372) bat passes recorded at offshore buoys, only 14 (4 percent) were attributed to cave bats (Stantec 2016), confirming the very limited use of open water habitats by cave bats. Section A.8.4.1.1 of the FEIS has been updated to include this information. Further, as discussed in Section A.8.4.1 of the SEIS, offshore movements documented by Dowling et al. (2017) were consistent with the migratory chronology of the species, and all movements were towards the mainland and away from the offshore portions of the Vineyard Wind 1 Project area. While Dowling et al. (2007) suggests that further "study is warranted" to detect offshore movements of northern long-eared bats during late summer and early fall, these movements, if any, would be towards shore, and not towards the Vineyard Wind 1 WDA and would change the assessment provided in the FEIS..
13136-171	Furthermore, <i>Myotis</i> calls have been repeatedly detected further offshore than the stated 11.5 km in the mid-Atlantic. Peterson et al. (2016), in the aforementioned research contracted by DOE, identified <i>Myotis</i> calls at three mid-Atlantic survey sites more remote than 11.5 km, including at the Chesapeake Light Tower, 24.8 km from the mainland. In the Gulf of Maine, <i>Myotis</i> calls were repeatedly recorded at the most remote site surveyed, Mount Desert Rock, a 0.8 ha island 41.6 km off the mainland. Not only were <i>Myotis</i> present at the most remote sites monitored, they were less affected by distance from the mainland than eastern red bats (<i>Lasiurus borealis</i>), which are long-distance migrants.	As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Of the relatively few (372) bat passes recorded at offshore buoys, only 14 (4 percent) were attributed to cave bats (Stantec 2016), confirming the very limited use of open water habitats by cave bats. Therefore, no change to the FEIS is warranted.
13136-172	More research is needed to better understand how cave bats are using the offshore environment but the current available science does not support dismissing cave bat exposure to the wind development area.	As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Of the relatively few (372) bat passes recorded at offshore buoys, only 14 (4 percent) were attributed to myotis species (Stantec 2016), confirming the very limited use of open water habitats by cave bats. Therefore, no change to

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		the FEIS is warranted. Further, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-173	Both the COP and the SEIS rely on the seasonal use of the offshore environment by migratory tree bats for their rationale that impacts to these bats would be negligible. The extrapolation that exposure to WTGs being limited to spring and fall migration period means that fatalities would not be significant ignores the best available science on bats and wind energy interactions from both land-based wind energy in North America and from offshore wind energy in Europe. The majority of migratory tree bats fatalities from land-based wind energy occur during the spring and fall migration period. Despite this predominantly seasonal exposure, recent demographic modeling for hoary bats (<i>Lasiurus cinereus</i>), the bat species most frequently killed by land-based wind turbines in North America, shows that the 2014 land-based wind energy build out is sufficient to cause a 90% decline in hoary bat populations over the next 50 years—population-level declines that could occur during the lifetime of Vineyard Wind—and these declines are associated with a 22 percent risk of extinction if widespread mitigation measures are not adopted. Although this research focused on hoary bats, the study authors caution that other migratory tree bats, such as eastern red (<i>Lasiurus borealis</i>) and silver-haired bats (<i>Lasionycteris noctivagans</i>), which also experience high levels of fatalities at land-based wind facilities, might also experience population-level declines. With limited research available on bats offshore, BOEM cannot dismiss the evidence from land-based wind that seasonal interactions with turbines can cause significant impacts on migratory tree bats.	Section A.8.3.1 of the SEIS discussed the use of offshore habitats and is based on currently available literature. Given the limited expected use of offshore habitats and the limited number of individuals that would be expected to encounter operating WTGs, population-level declines would not be expected to occur. Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-174	Although migratory tree bats are less prevalent over the OCS than land and their presence seems to decrease with distance from shore, there is not enough research to support the claims in the SEIS that use of offshore habitat is thought to be limited and “very few individuals would be expected to encounter operating WTGs” and that the “likelihood of collisions is expected	As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected

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	to be low.” In offshore bat surveys of the Great Lakes, Gulf of Maine, and mid-Atlantic, migratory tree bats were widespread, with eastern red bats detected at 97 percent of all surveyed sites (and 100 percent of sites in the mid-Atlantic), including the most remote fixed site (41.6 km from mainland) and potentially on shipboard surveys over 100 km offshore. Eastern red bats alone accounted for 40 percent of all detected bat activity offshore. Hoary bats and silver-haired bats had less total activity offshore but were still widespread, found at 95 percent and 89 percent of all sites, respectively. Data in Motus also indicate eastern red bats and hoary bats have made cross-water flights near Cape Cod. Furthermore, seasonal exposure of Nathusius’s pipistrelle (<i>Pipistrellus nathusii</i>) to expected build out of turbines in the North Sea during their late summer/autumn migration was considered sufficient exposure as to affect Nathusius’s pipistrelle populations, triggering operational curtailment measures between August 15 and October 1. This further belies claims that seasonal exposure of bats precludes significant impacts.	bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-175	The SEIS relies on bats avoiding turbines in their impact analysis, claiming..... This reliance on avoidance to minimize impacts does not reflect the best available science on bats and wind energy interactions from both land-based wind energy in North America and from offshore wind energy in Europe.	Section A.8.4.1 of the FEIS includes an updated discussion and associated citations relating to the lack of landscape features that would serve to funnel bats and increase exposure to operating WTGs. Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional required measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be included in the Record of Decision.
13136-176	The assumption that bats will avoid turbines offshore does not align with their behavior at land-based wind facilities. Bats, especially migratory, tree-roosting species like the eastern red, hoary, and silver-haired bats, are believed to be attracted to land-based wind turbines and have been recorded altering flight paths to approach turbines. Although no scientific consensus exists on why bats are attracted to onshore wind facilities, theories include that bats may perceive turbines as trees to roost in and bats may seek insect prey that congregate near turbines. This attraction behavior puts bats at increased risk for collision with turbine blades and whether such behavior could occur at offshore wind turbines merits careful consideration.	Section A.8.4.1.1 of the FEIS has been updated to include a discussion of bats being attracted to WTGs. As discussed, there appears to be some level of attraction to onshore WTGs, and several authors (e.g. Kunz et al. 2007, Cryan and Barclay 2009, and Cryan et al. 2014) have provided some hypothesis as to why this the case. However, to date, no definitive conclusion regarding this apparent attraction has been documented, despite extensive studies at onshore wind facilities. Section A.8.4.1 of the FEIS includes an updated discussion and associated citations relating to the lack of landscape features that would serve to funnel bats and thereby increase exposure to operating WTGs. Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats,

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		including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional required measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be included in the Record of Decision. The monitoring that is being proposed for the Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures for future offshore wind development.
13136-177	Limited research from Europe suggests that bats may be attracted to offshore wind turbines as foraging and roosting habitat, with the caveat that this research was for nearshore wind facilities and a different suite of bat species. However, the COP dismisses that similar behavior could be observed in the WDA because the turbines are further offshore and not near landing areas, like islands, which means that there are likely fewer bats in the WDA (“no nearby landing areas, e.g. islands, which might otherwise increase the presence of bats in the WDA”). There is no research presented to support this claim and, alternatively, bats could be attracted to these remote turbines from greater distances if they represent a sparse roosting resource or concentrate insect prey.	As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Section A.8.4.1 of the FEIS includes an updated discussion and associated citations relating to the lack of landscape features that would serve to funnel bats and increase exposure to operating WTGs. Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional required measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be included in the Record of Decision. The monitoring that is being proposed for the Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures for future offshore wind development.
13136-178	Although more research is needed to characterize how bats are using areas in the WDA and the OCS, it would be reasonable to assume that bats—particularly migratory, tree-roosting species that seem to be attracted to land-based wind turbines—may experience a similar attraction to turbines offshore and that these turbines might be particularly attractive due to representing sparse resources, which could put bats at increased risk for collision. If offshore wind turbines are attractive to bats, their potential impact to bats may be dramatically underestimated in the COP and SEIS.	Section A.8.4.1.1 of the FEIS has been updated to include a discussion of bats being attracted to WTGs. As discussed, there appears to be some level of attraction to onshore WTGs, and several authors (e.g. Kunz et al. 2007, Cryan and Barclay 2009, Cryan et al. 2014) have provided some hypothesis as to why this the case. However, to date, no definitive conclusion regarding this apparent attraction has been documented, despite extensive studies at onshore wind facilities. Section A.8.4.1 of the FEIS includes an updated discussion and associated citations relating to the lack of landscape features that would serve to funnel bats and increase exposure to operating WTGs.

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		Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional required measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be included in the Record of Decision. The monitoring that is being proposed for the Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures for future offshore wind development.
13136-179	The COP and SEIS do not adequately reflect the risk to bats offshore, given that cave bats are found more often and further offshore than described, seasonal exposure to WTGs does not preclude serious impacts, and that bats may be attracted to offshore wind facilities. Determining risk and adaptively managing to minimize impacts relies on monitoring, but traditional fatality monitoring is not feasible offshore. Given the challenges of conducting fatalities assessments at offshore sites, many dead or injured bats would most likely go unrecorded, either falling into the water or becoming prey to marine scavengers or predators. BOEM's assessment of the impacts to bats should, therefore, be conservative, and employ the best available scientific methods, such as autodetection, acoustic monitoring at nacelle height, targeted tagging of bats, and thermal imaging technology. BOEM should also support research into monitoring methods for bats that are better suited to the offshore environment. (Monitoring and research needs are discussed further herein, see e.g. Section I.C.)	As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-180	The revised project design envelope (PDE) for Vineyard Wind allows for larger 14 MW turbines but the SEIS claims that “[c]hanges to the design capacity of the WTGs proposed in the Vineyard Wind COP (Epsilon 2020) would not alter the maximum-case scenario of potential impacts on bats for the Proposed Action and all other action alternatives because the maximum-case scenario involves the maximum number of WTGs in the PDE”. Although no research has been done on tower height and bat fatalities in the offshore environment, research onshore has shown that bat mortality increases with tower height, meaning that development approaches that favor	Section A.8.4.2 of the FEIS has been updated to acknowledge the uncertainty around the degree to which bat mortality could increase with increasing WTG height. While Barclay et al. (2007) stated that bat mortality increases exponentially with tower height, a recent review by Thompson et al. (2017) found no evidence that turbine height has any effect on bat mortality in a review of 40 studies/wind facilities in the United States. Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat

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	fewer, larger turbines may be detrimental to bats. A study on northwestern European wind facilities found that bat fatalities increased with tower height and rotor diameter and a meta-analysis of North American wind facilities found that bat fatalities increased exponentially with tower height (although this study did not find that rotor diameter affected fatalities). Insufficient data exist to determine where (if any) a tradeoff exists between decreasing the number of towers vs. increasing their height, but current research does not support the claim that Alternative E (discussed in §A.8.4.2.3), changes to the PDE to allow fewer, larger turbines, or cumulative build out scenarios with fewer, larger turbines would have decreased impacts on bats. Therefore the final EIS should note the scientific uncertainty surrounding the degree to which bat mortality may increase with tower height and should adjust the language accordingly regarding bat impacts.	detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-181	Because there is so little research on bats offshore, impacts to bats are often only given cursory consideration. However, bat species on the east coast are facing stressors on land that may make their populations more vulnerable to additional take offshore. The northern long-eared bat and the Indiana bat are listed as threatened and endangered under the Endangered Species Act (ESA) due, in part, to high rates of mortality from white-nose syndrome, a highly pathogenic fungus. A judge recently ruled that the USFWS's decision to list the northern long-eared bat as threatened (rather than endangered) was arbitrary and capricious and failed to consider the best available scientific evidence; that listing decision has been remanded to the agency so the status of the northern long-eared bat could change in the near future.	A detailed analysis of impacts to ESA listed species, including the northern long-eared bat is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additionally, Section A.8.4.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-182	Similarly, numerous other east coast bat species, such as the little brown bat, eastern small-footed bat, big brown bat (<i>Eptesicus fuscus</i>), and tricolored bat (<i>Perimyotis subflavus</i>) are all affected by white-nose syndrome. Due to white-nose syndrome mortality, the USFWS recently issued a positive 90-day finding for the petition to list the tricolored bat and USFWS staff have communicated their intent to assess the little brown bat for potential ESA-listing.	The species identified by the commenter are all cave bat species. As discussed in Section A.8.4.1 and A.8.4.2 of the SEIS these species are not expected to encounter operating WTGs and mortality, if any, would be expected to be negligible based on the expected absence of these species on the Atlantic OCS.
13136-183	The three migratory bat species on the east coast, the silver-haired, eastern red, and hoary bat, are the bat species most highly impacted by land-based wind energy development, representing almost 80% of all bats killed at wind facilities in North America. Recent and ongoing research has implicated wind	As discussed in Sections 3.3.3 of the DEIS, A.8.4 of the SEIS, some possibility of silver-haired, red, Seminole, and hoary bats (all tree bats) encountering operating WTGs on the Atlantic OCS exists. However, as described in these sections, use is expected to be low. Given the limited

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	energy as causing potential population-level declines for hoary bats and eastern red bats, and the two species are expected to be recommended for listing in Canada in the near future. East coast bat species, such as little brown bats, tricolored bats, big brown bats, northern long-eared bats, Seminole bats (<i>Lasiurus seminolus</i>), and Indiana bats have also been documented killed by wind turbines.	expected use of offshore habitats and the limited number of individuals that would be expected to encounter operating WTGs, population-level declines would not be expected to occur. The remaining species identified by the commenter (little brown, tricolored, big brown and northern long-eared bats) are all cave bat species. As discussed in Section A.8.4.1 and A.8.4.2 of the SEIS these species are not expected to encounter operating WTGs and mortality, if any, would be expected to be negligible based on the expected absence of these species on the Atlantic OCS. A detailed analysis of impacts to ESA listed species, including the northern long-eared bat is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additionally, Section A.8.4.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-184	Because of these existing stresses on bat species, accurately accounting for how offshore wind could affect their populations is critical. The cumulative impacts analysis in the SEIS has many of the issues discussed above, including the need to update the analysis to include the best available science, that cave bats are likely more common offshore than the COP and SEIS represent, that seasonal use of the offshore environment by migratory bats does not imply low exposure and low impact, the failure to account for bat attraction to turbines, and that larger turbines may kill more bats than smaller turbines. Accordingly, BOEM should update their cumulative impacts analysis for bats to reflect the issues discussed above in Section II.G.3.	While there is little current literature regarding bat use of the OCS, the best available information, including Hatch et al. (2013), Pelletier et al. (2013), Stantec (2016), and Dowling et al. (2017) was used in the analysis. As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Of the relatively few (372) bat passes recorded at offshore buoys, only 14 (4 percent) were attributed to cave bats (Stantec 2016), confirming the very limited use of open water habitats by cave bats. Section A.8.4.1.1 has been updated to include this information. Section A.8.4.1.1 of the FEIS has been updated to include a discussion of bats being attracted to WTGs. As discussed, there appears to be some level of attraction to onshore WTGs, and several authors (e.g. Kunz et al. 2007, Cryan and Barclay 2009, Cryan et al.

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		2014) have provided some hypothesis as to why this the case. However, to date, no definitive conclusion regarding this apparent attraction has been documented, despite extensive studies at onshore wind facilities. Section A.8.4.1 of the FEIS includes an updated discussion and associated citations relating to the lack of landscape features that would serve to funnel bats and thereby increase exposure to operating WTGs. Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-185	The Geographic Analysis Area for cumulative impacts to bats is defined as 100 mi offshore and 5 mi inland, which was revised down from the cumulative impact scenario provided in the DEIS, which extended 100 mi inland. The rationale provided for this change was that “individuals that would potentially be exposed to the proposed Project during migration would not be expected to utilize habitats far inland, and projects that occur far inland are not expected to affect the same individuals as the proposed Project.” BOEM presents no research in the SEIS to support the assumption that bats found offshore exclusively use near-coast habitat on land to support this more limited geographic scope.	Given that bats typically follow a relatively straight line path from winter hibernacula to summer maternity sites (Roby et al. 2019), BOEM believes it is reasonable to assert that individuals that would potentially be exposed to the proposed Project during migration would not be expected to utilize habitats far inland, and projects that occur far inland are not expected to affect the same individuals as the proposed Project. However, BOEM has reverted the inland geographic scope to 100 miles in FEIS for purposes of providing a more precautionary analysis.
13136-186	Hoary bats, which are capable of long distance flights over water, have been recorded traveling over 1,000 km and are thought capable of migrations in excess of 2,000 km. Furthermore, in addition to little brown bats, data in Motus tracks movements of individual silver-haired bats, eastern red bats, hoary bats, eastern small-footed bats, and Indiana bats from coastal areas on the east coast to areas in excess of 100 mi inland. These movements seem to refute BOEM’s assertion that bats that could be exposed to offshore wind energy projects would not be found far inland (and therefore exposed to land-based wind energy facilities) and instead support that the original geographic scope of 100 mi inland was more appropriate.	Given that bats typically follow a relatively straight line path from winter hibernacula to summer maternity sites (Roby et al. 2019), BOEM believes it is reasonable to assert that individuals that would potentially be exposed to the proposed Project during migration would not be expected to utilize habitats far inland, and projects that occur far inland are not expected to affect the same individuals as the proposed Project. However, BOEM has reverted the inland geographic scope to 100 miles in FEIS for purposes of providing a more precautionary analysis.
13136-187	BOEM should conduct a thorough review of the literature on bat migration and radio- and GPS-tagged bats and select a boundary that better reflects the	Given that bats typically follow a relatively straight line path from winter hibernacula to summer maternity sites (Roby et al. 2019), BOEM believes it

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	potential habitat use of exposed bats. This revised boundary will likely require an updated analysis to reflect that bats exposed to offshore wind projects could not only be exposed to multiple offshore wind facilities but also be exposed to land-based wind energy projects.	is reasonable to assert that individuals that would potentially be exposed to the proposed Project during migration would not be expected to utilize habitats far inland, and projects that occur far inland are not expected to affect the same individuals as the proposed Project. However, BOEM has reverted the inland geographic scope to 100 miles in FEIS for purposes of providing a more precautionary analysis.
13136-188	For the reasons discussed earlier, the cumulative impacts assessment likely seriously underestimates risk to bats. While these comments provide some additional resources on bat movement offshore and bat interactions with wind turbines for BOEM to include in their analysis, there remains insufficient research on bats and offshore wind to accurately assess cumulative risk and impact from the described 22 GW buildout scenario.	While there is little current literature regarding bat use of the OCS, the best available information, including Hatch et al. (2013), Pelletier et al. (2013), Stantec (2016), and Dowling et al. (2017) was used in the analysis. As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Additionally, Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-189	Because of this knowledge gap, it is imperative that BOEM require offshore wind facilities to commit to pre, during, and post-construction monitoring and to integrate novel technology for monitoring as it becomes available. Although we now know that population-level impacts to bats are possible from land-based wind, these impacts to bats from onshore wind energy were not anticipated and were only discovered because of required monitoring for avian impacts. While post-construction monitoring should occur at the project-level, BOEM and their partner agencies should support more programmatic surveys of bat use of the OCS and WEAs. Should further monitoring and research efforts reveal that impacts to bats are non-negligible, BOEM and other agencies should support the development and deployment of minimization strategies and deterrent technologies.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision. The monitoring that is being proposed for the Vineyard Wind 1

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		Project will provide the necessary data to better assess avoidance and minimization measures for future offshore wind development.
13136-190	The following is a list of recommendations for BOEM and its partner agencies to support successful understanding of offshore wind's impact on bats, modified and expanded upon from Peterson et al. (2016). BOEM and its partner agencies should: Support supplemental field surveys for bats on the OCS, using similar methodology as described in Peterson et al. (2016).	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation that would be implemented to avoid, minimize, and mitigate adverse impacts on bats as well as monitoring measures, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision. Data collection and analysis can be conducted similarly to Stantec 2016 (cited as Peterson et al. 2016 in the comment) to allow comparison to previous efforts to determine bat use of the Atlantic OCS and BOEM will consider this during the development of the monitoring plan.
13136-191	[BOEM and its partner agencies should:] BOEM should require acoustic detectors to be placed at nacelle height on a subset of turbines constructed along the Atlantic OCS and require that the data be made publicly available.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation that would be implemented to avoid, minimize, and mitigate adverse impacts on bats as well as monitoring measures, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision. BOEM intends to make the results of the post-construction monitoring available to the public, either by posting monitoring reports on Project-specific websites or making them available upon request.
13136-192	[BOEM and its partner agencies should:] Support research to determine whether it is possible to improve acoustic monitoring to enable better species identifications, such being able to differentiate calls between the ESA-listed northern long-eared bat and other Myotis species.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat

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		collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-193	[BOEM and its partner agencies should:] Support continued advances in radio telemetry equipment, nanotag transmitters, and GPS tags so that more bats can be tracked offshore (e.g. support the development of smaller GPS tags with longer battery lives).	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including telemetry studies to further refine bat use of offshore environments, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-194	[BOEM and its partner agencies should:] Support deploying Motus tower and/or other nanotag receiving towers in the coastal and offshore environment, including on structures in the WDA.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers and/or towers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-195	[BOEM and its partner agencies should:] Support efforts to tag additional individual bats with nanotag transmitters and GPS tags.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the deployment of nametags or gps tags on individual bats, or other measures, could be considered by decision makers and incorporated into the Record of Decision.

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13136-196	[BOEM and its partner agencies should:] Support the development of bat monitoring technology for offshore WTGs, such as strike detection technology and thermal video.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-197	[BOEM and its partner agencies should:] Support research on and testing of bat deterrent devices for offshore WTGs, such as ultraviolet lighting or ultrasonic noise emitters.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use bat deterrent devices, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-198	[BOEM and its partner agencies should:] Require offshore wind projects to support testing and deployment of best available monitoring and deterrent technologies, once developed.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, the use of bat deterrent technologies, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-199	The Final EIS and the ROD for Vineyard Wind should specifically include the adoption of monitoring technologies when they are verified and commercially available as part of the Vineyard Wind monitoring framework and protocol as well as monitoring frameworks for future projects permitted by BOEM, and support and encourage their development and funding for their development and testing beginning at Vineyard. The shared cost of development and implementation of these technologies across all lessees and	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations

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	with BOEM, if standardized, would avoid an undue economic burden on individual projects.	and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-200	Many of the above listed recommendations are aimed at filling in knowledge gaps about bats' use of the offshore environment. These survey efforts will likely provide critical information about bats' use of these WEAs which will be necessary for effective mitigation. However, bat activity in the WEAs prior to turbine construction may not accurately predict bat fatalities during turbine operation: At land-based wind facilities, pre-construction bat activity surveys are poorly correlated with post-construction fatalities. Because of this, the commitment to post-construction monitoring is critical to yielding better understanding about how bats interact with offshore wind turbines. An important component to this will be programmatically supporting the tagging of individual bats, such as through Motus, requiring receiving towers in the WDAs, and requiring installation of acoustic detectors, preferably at nacelle height.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation that would be implemented to avoid, minimize, and mitigate adverse impacts on bats as well as monitoring measures, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-201	Data of bat activity and calls within the rotor-swept zone of offshore WTGs would allow better understanding of which bat species are at risk and during what environmental conditions, which can inform mitigation measures. Because bat activity offshore seems to be predominantly restricted to warm, slow wind speed nights and is highly seasonal, if bat minimization measures are needed and targeted curtailment is shown to be effective in the offshore environment, periods of operational curtailment could be restricted to these highest risk times to decrease loss in energy generation.	While there is little current literature regarding bat use of the OCS, the best available information, including Hatch et al. (2013), Pelletier et al. (2013), Stantec (2016), and Dowling et al. (2017) was used in the analysis. As discussed in Section A.8.4.1 of the SEIS, existing data from meteorological buoys provide the best opportunity to further define bat use of open-water habitat far from shore where Vineyard Wind 1 would site the proposed Project WTGs. Despite significant distance from any suitable terrestrial habitat, all five meteorological buoys in the Gulf of Maine detected bats; however, detection rates were the lowest at these sites and use was sporadic when compared to sites located on offshore islands (Stantec 2016). Given the low expected use of the WDA, the expected level of impacts does not warrant analyzing curtailment as a mitigation measure at this time. As Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation that would be implemented to avoid, minimize, and mitigate adverse impacts on bats as well as monitoring measures, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal cameras to monitor bat collision, installation of radio telemetry receivers, or other measures, could

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		be considered by decision makers and incorporated into the Record of Decision. The monitoring that is being proposed for The Vineyard Wind 1 Project will provide the necessary data to better assess avoidance and minimization measures such as curtailment for future offshore wind development.
13136-202	In addition to operational curtailment, it is possible that deterrent technologies to prevent bats from approaching wind turbines could be useful in minimizing bat fatalities offshore. Deterrent technologies are being developed for land-based turbines, including turbine coatings (to counteract any attraction to smooth surfaces which might be perceived as water), ultraviolet lighting (which many bat species can see), and ultrasonic noise emitters (to possibly ‘jam’ bats’ radars and make wind facilities unappealing to bats). One of the ultrasonic deterrent technologies, NRG Systems, has been commercially deployed at land-based wind facilities. None of these technologies have been assessed yet in the offshore environment nor on turbines with such large swept areas, which may present a challenge for effective deterrent use offshore.	Section A.8.4.2 and Appendix D of the FEIS includes updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on bats, including deployment of acoustic bat detectors on a subset of WTGs and/or ESP, to refine our understanding of bat use of the OCS and WDA. Deployment configuration and number of detectors would be determined in consultation with applicable stakeholders. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of deterrent technologies, such as the ultrasonic deterrent that has been deployed on onshore turbines, or other measures, could be considered by decision makers and incorporated into the Record of Decision.
13136-203	The SEIS determines that the overall cumulative impacts on demographics, employment, and economics from the full development scenario would likely only qualify as “minor and minor beneficial.” The Final EIS should include a more comprehensive accounting of the significant job creation and other economic benefits that will result from the development of offshore wind energy in the U.S.	Section 3.6 of the FEIS has been updated to include additional information from two additional studies projecting offshore wind employment and investment, to provide updates on improvements to port facilities within the geographic analysis area, and to include regional GDP data for comparison. Based on the additional data and analysis, the FEIS concludes that the overall cumulative impacts on employment and economics would be “minor and moderate beneficial.”
13136-204	As has been demonstrated in Europe over 30 years, the construction and operation of offshore wind projects supports tens of thousands of jobs in both coastal and inland communities across the supply chain of this booming industry. To ignore these significant opportunities for the U.S. workforce results in a major underestimation of the positive economic benefits that will flow from launching a local offshore wind industry.	The SEIS and FEIS both acknowledge the positive economic benefits that will result from a local offshore wind energy industry using domestic (U.S.) projections of employment for the east coast offshore wind industry. Additional sources have been cited in the Section 3.6 of the FEIS. As a result of the additional analysis, the FEIS concludes that the Vineyard Wind 1 Project, in the context of other reasonably foreseeable offshore wind projects, would have a moderate beneficial impact on employment and economics within the geographic analysis area.
13136-205	A March 2020 study by the American Wind Energy Association analyzed the economic impacts from offshore wind and found that the industry is expected to invest \$57 billion in offshore wind energy development which is expected to contribute \$25.4 billion in annual economic output and approximately 82,500 jobs by 2030. ³²¹ This is a massive, positive economic benefit that must be included in a robust assessment of the economic impacts that will result from scaling up offshore wind energy in the U.S.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to

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		have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13136-206	We urge BOEM to move forward and issue the Final EIS for the Vineyard Wind Project, incorporating our recommendations in these comments. We also urge BOEM to undertake the broader suite of actions outlined in these comments to ensure that the U.S. offshore wind industry as a whole advances in a sustainable manner. Again, we applaud Vineyard Wind on its commitment to North Atlantic right whale protection and look forward to reviewing the Final EIS.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13138-001	The Alliance remains concerned about future development in Nantucket Sound and is actively pursuing federal legislation to secure permanent protection for this unique body of water. This legislation would designate Nantucket Sound as a National Historic Landmark and improve the consistency of federal and state law with respect to existing requirements of the Commonwealth of Massachusetts under the Act to Promote Energy Diversity and the Massachusetts Ocean Sanctuaries Act. This is critical because Nantucket Sound is divided between federal and state jurisdiction, yet it is one marine ecosystem.	Although this EIS assesses Coastal Habitats (Section 3.1) as defined by the Commonwealth of Massachusetts, all of the proposed Project's potential impacts to the seafloor, water column, and ecosystem of Nantucket Sound are discussed without regard to the state/federal division. Sections 3.3, 3.4, 3.5, and 3.6 of the SEIS discussed the potential impacts of the proposed Project on habitat for marine wildlife. Therefore, no change to the FEIS warranted.
13139-001	This [SEIS] will further the creation of a new maritime industry which will create quality jobs, reinvigorate port communities on the East Coast, work well with neighboring industries; all of which has been done successfully elsewhere in the world. Perhaps most importantly, it will generate vast amounts of clean electricity.	Thank you for your comment.
13141-001	BOEM's decision will set a precedent for achieving these worthy goals in a manner that preserves the ocean environment and minimizes negative impacts on the shipping and commercial fishing industries vital to the health and well-being of Virginia and the Hampton Roads region.	Thank you for your comment.
13141-002	Among the alternatives examined by the subject Supplement, Alternative D2 achieves this objective for reasons well summarized by the U.S. Coast Guard in its Port Access Route Study: The Areas Offshore of Massachusetts and Rhode Island,	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13141-003	The diagonal gap width of 0.707 nautical miles within a 1-nautical-mile square grid is ample to support one-way traffic consistent with international collision regulations (COLREGs), but would not safely support two-way traffic..... Consequently, it may be useful for BOEM to work with the local Coast Guard district and commercial fishing community to devise an agreed-	The Final MARIPARS study (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the International Regulations for Preventing Collisions at Sea 1972 (COLREGS) while transiting through the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report

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	upon method of distinguishing between outbound (NW-to-SE) and inbound (SE-to-NW) fisheries transit routing within the 1-nautical-mile grid	(USCG 2020), which also considered routing measures, including two-way traffic, for possible application to the MA/RI WEA.
13141-004	As diagrammed in Figure 2, below, any vessel traveling NW-to-SE that does not want to transit within the 1-nautical mile grid can travel around the entire Massachusetts lease complex, and this would add only about 5 miles (or ~8%), as compared with a straight diagonal transit through the grid. Perhaps the developer could set aside a fund that would compensate such vessels for their additional time and/or consumption of fuel.	Section 3.11.2 discusses impacts to vessel traffic. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
13142-001	Oceana strongly supports the development of offshore wind when it is done in a way that is environmentally sound and responsibly sited. Done appropriately, offshore wind can and should play an important role in our energy paradigm moving forward.....While Oceana is supportive of offshore wind as a renewable energy source, offshore wind projects must be carefully sited, constructed, operated and decommissioned in a manner that reduces, to the maximum extent possible, the impacts to marine species, including endangered species such as the North Atlantic right whale.	Thank you for your comment.
13142-002	As required by the National Environmental Policy Act (NEPA) and implementing regulations, conduct a thorough environmental assessment, using the best scientific information available, to take a “hard look” at the environmental consequences and to analyze the direct, indirect, and cumulative impacts of each of the planned phases of Vineyard Wind’s proposed project – siting, construction, operation and decommissioning – as well as the cumulative impacts of all other activities in the region on marine species, including North Atlantic right whales	The EIS was developed to include a hard look at consequences and analyzed the potential impacts for each phase of the proposed Project.
13142-003	As required by the Endangered Species Act and implementing regulations, conduct Section 7 consultations and complete a new Biological Opinion, using the best available science, that comprehensively assesses the effects of each of the planned phases of the Vineyard Ward proposed project – siting, construction, operation and decommissioning – on endangered and threatened marine species, including North Atlantic right whales	BOEM has coordinated with numerous agencies and has received a Biological Opinion for NOAA and is in active consultation with USFWS under Section 7 of the ESA.
13142-004	As required by the Marine Mammal Protection Act (MMPA) and implementing regulations, ensure that marine mammal species are protected from harassment, hunting, capture, or killing, using best scientific evidence available, during each of the planned phases of the Vineyard Wind proposed project – siting, construction, operation and decommissioning, including North Atlantic right whales, which are listed as a depleted and strategic stock under the MMPA.	BOEM has coordinated closely with NOAA in assessing potential impacts to right whales.

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13142-005	As required by the National Environmental Policy Act (NEPA) and implementing regulations, BOEM, in coordination with the cooperating agencies, must conduct a thorough environmental assessment, using the best scientific information available, to take a “hard look” at the environmental consequences and to analyze the direct, indirect, and cumulative impacts of each of the planned phases of Vineyard Wind’s proposed project – siting, construction, operation and decommissioning – as well as the cumulative impacts of all other activities in the region on marine species, including North Atlantic right whales. Neither the DEIS nor the SEIS adequately assess impacts of the proposed Vineyard Wind project to marine species, including: coastal fauna; birds, including coastal and seabirds; bottom-dwelling organisms and seafloor habitat (benthic) resources; finfish, invertebrates and essential fish habitat, sea turtles, and marine mammals.	The FEIS includes a discussion of impacts as well as the use of the impact levels applied to the adverse and beneficial impacts. The resource specific sections include information related to the magnitude, duration, geographic extent, and/or frequency of potential impacts, as appropriate, to support impact determinations. BOEM works closely with Cooperating Agencies on each step of the leasing and COP approval process. BOEM recognizes these agencies hold the expertise in each of their representative jurisdictions and BOEM works with them to resolve issues prior to proceeding. In addition, throughout the development of this EIS the Cooperating Agencies have provided concurrence on several steps prior to moving forward in the NEPA review
13142-006	For example, it is implausible that birds, including coastal and seabirds, will experience merely negligible to minor direct and indirect impacts and moderate cumulative impacts from the proposed Vineyard Wind project, when the project is sited squarely within the Atlantic Flyway, a migratory pathway used by many bird species.	Section A.8.3.2 provides an updated discussion of bird use of the Atlantic Flyway along the North American Atlantic Coast. Within the Atlantic Flyway, much of the bird activity is concentrated along the coastline concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). Additionally, as depicted in Figures A.8.3-1 and A.8.3-2 in the SEIS, total avian abundance for species with high collision sensitivity and displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. As such, collision and displacement impacts are expected to be low. Additionally, as cited in the SEIS, many of the species that exhibited high avoidance rates in the Skov et al. (2018) study are same species that were modeled as part of the analysis in the SEIS.
13142-007	Similarly, BOEM’s determination that direct and indirect impacts of the proposed project on finfish, invertebrates and essential fish habitat is negligible to moderate and cumulative impacts are moderate is undermined by the fact that the project is sited in the essential fish habitat of many fish species, including Atlantic cod, winter flounder, Atlantic wolfish and yellowtail flounder.	Section 3.4 of the SEIS discussed the potential impacts on EFH. Furthermore, BOEM has consulted with NMFS on EFH and the EFH Assessment is currently under review. Final results of the EFH consultation may be incorporated into the Record of Decision on the proposed Project.

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13142-008	BOEM’s analysis of impacts to sea turtles is less than scientifically rigorous as it concludes that direct and indirect impacts are negligible to moderate and that cumulative impacts are moderate based, in part, on outdated sea turtle density models and fishery bycatch data that under represents the presence of sea turtles in the area.	The FEIS was developed with the best available science at the time of publication. Sea turtle density estimates are derived from Strategic Environmental Research and Development (SERDP) Spatial Decision Support System (SDSS) and represent the best data set to be used for animal movement modeling, as agreed to by BOEM and NMFS on July 24, 2018. The referenced reports do contain a density estimate for leatherbacks, but otherwise the reports only provide sighting per unit effort for the species (SPUEs). These data sources were however considered as supplemental information in the DEIS, SEIS, and the BA. NMFS provided a correction factor to account region-specific data on sea turtles from the 2016 BOEM-funded study, Northeast Large Pelagic Survey Collaborative Aerial and Acoustic Surveys for Large Whales and Sea Turtles. The analysis provided in the DEIS and SEIS is consistent and is supported by the analysis conducted by NMFS during the course of ESA Section 7 consultation. As discussed in the NMFS Biological Opinion, take of sea turtles due to pile driving activities would be limited to harassment only, and no injury would be expected. Additionally, as described in the Biological Opinion, a total of 39 sea turtles across four listed species could potentially be killed or seriously injured over the life of the proposed Project. Therefore, no change to the FEIS is warranted.
13142-009	With respect to marine mammals, BOEM’s determination that the proposed project poses negligible to moderate direct and indirect impacts and moderate cumulative impacts fails to fully account for the sensitive nature of these species, including the NARW.	As defined in Section 3.1 of the DEIS and Table 3-1 in Appendix B of the SEIS, the described negligible to moderate impact rating determinations are appropriate. Additional discussion of potential impacts to marine mammals, including the NARW is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Therefore, no change to the FEIS is warranted.
13142-010	Neither the DEIS nor the SEIS provided adequate assessments of the proposed project’s cumulative impacts during all planned phases, including over the projected 30 year life span, for vessel strikes, entanglement, or noise. Nor did the DEIS or SEIS fully acknowledge the fact that the proposed project is sited in what is now considered a “hot spot” for North	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. The term "hotspot" has no regulatory definition and recent sightings are not nearly a long enough time series to discern a habitat trend for the species for the future. Protective and adaptive approaches would be required for NARWs to avoid and minimize impacts. Consultation with the NMFS under the ESA has been completed. The NMFS Biological Opinion including all Terms and Conditions and

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	Atlantic right whales.	Reasonable and Prudent Measures concluded that the proposed Project is likely to adversely affect, but will not jeopardize the continued existence of any listed species, including NARWs. All mitigation that would be required is in discussed Section 3.4.2 and Appendix D of the FEIS. These measures include, but are not limited to avoidance of peak NARW presence, enhanced NARW conditions during the month of May and when a NARW Slow Zone or DMA overlap the proposed Project area between June 1 and October 31, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Additionally, BOEM requires the submittal of a decommissioning plan prior to decommissioning activities and additional mitigation could be required. BOEM has fully considered the aggregate impacts of all the project phases and no additional information that could be used for the analysis was provided by the Commenter.
13142-011	As the impacts of proposed project – siting, construction, operation and decommissioning – are likely to be more than “moderate,” BOEM must accurately analyze them in order to devise adequate mitigation measures. While the agreement between Vineyard Wind and certain environmental NGOs requires Vineyard Wind to implement additional mitigation measures to protect NARWs during the construction and operation phases, BOEM must ensure that adequate mitigation measures are also in place during the siting and decommissioning phases to fully address the need to minimize disruption to feeding, breeding, and migration and to prevent injury and mortality to the species.	As defined in Section 3.1 of the DEIS and Table 3-1 in Appendix B of the SEIS, the described negligible to moderate impact rating determinations are appropriate. Therefore, no change to the FEIS is warranted. Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. Appendix D requires all the conditions that would be required including those under an Incidental Take Authorization under the MMPA and the Reasonable and Prudent Measures required under the September 11, 2020 Biological Opinion issued by NMFS under the Endangered Species Act. The Biological Opinion concluded that the proposed Project may adversely affect but is not likely to jeopardize the continued existence of listed species. These measures include, but are not limited to avoidance of peak NARW presence, enhanced NARW measures during the month of May and between June 1 and October 31, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Additionally, BOEM requires the submittal of a decommissioning plan prior to decommissioning activities and additional mitigation could be required.
13142-012	These mitigation measures should include vessel speed restrictions to reduce vessel collisions with the endangered NARW. Mitigation measures should also address entanglement in fishing gear and/or nets.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to, vessel speed restrictions and measures to reduce fisheries gear interactions. Therefore, no change to the FEIS is warranted.
13142-013	And, if, as noted above, ship noise stresses whales, then surveying and pile driving,	Section 3.3.7.3 of the DEIS discussed the potential acoustic impacts to marine mammals during pile driving activities. Further details regarding

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	which are louder and more forceful, will likely stress whales, including the North Atlantic right whale. Noise from survey activities and pile driving during construction phases as well as during decommissioning activities will likely adversely affect the recovery of the endangered North Atlantic right whale population; for that matter, all baleen whales in the area of the proposed Vineyard Wind project in the North Atlantic, including the endangered Blue, Sei, and Fin whales, are likely to be adversely impacted.	acoustic effects to these species are provided in Appendix F of the DEIS and in the September 11, 2020 Biological Opinion issued by NMFS that concluded that the Project may adversely affect but is not likely to jeopardize the continued existence of listed species. Section 3.4.2 and Appendix D of the FEIS discuss updated monitoring and mitigation that has been proposed for the agency-preferred alternative. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. Section 3.4.3 of the FEIS provides an updated discussion the potential impacts of HRG site assessment and characterization surveys. Additionally, Appendix D of the FEIS provide updated discussion and descriptions of these measures, including but not limited to, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. BOEM is also consulting with the NMFS for all surveys on the Atlantic OCS and implementation of similar measure will be required.
13142-014	Monitoring and reporting of mitigation measures are also crucial, yet missing, in both the DEIS and the SEIS. Independent monitoring and reporting of mitigation measures should be added in the final EIS to ensure that Vineyard Wind’s self-imposed and agreed upon mitigation measures as well as any additional BOEM-imposed mitigation measures are indeed implemented over the life span of the project.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13142-015	As required by the Endangered Species Act and implementing regulations, BOEM, in coordination with the National Marine Fisheries Service, must conduct Section 7 consultations and complete a new Biological Opinion, using the best available science, that comprehensively assesses the effects of each of the planned phases of the Vineyard Ward proposed project – siting, construction, operation and decommissioning – on endangered and threatened marine species, including NARWs. As BOEM acknowledges in the DEIS, the existing 2013 Biological Opinion only covers data collection activities and is	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. The NMFS Biological Opinion and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures) are reflected in Section 3.4.2 and Appendix D of the FEIS. Revised HRG survey conditions have been updated with additional consultation with NMFS and are included in Appendix D.

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	outdated in light of new information that has become available.	
13142-016	BOEM transmitted a Biological Assessment to the National Marine Fisheries Service on December 7, 2018, which the agency states “covers the entirety of potential effects on NMFS-listed species and designated critical habitat associated with the proposed Project,” including “construction, operation, maintenance, and decommissioning on marine ESA-listed species.” The National Marine Fisheries Service then initiated formal consultations on the proposed Vineyard Wind project on April 10, 2019. In the new Biological Opinion, the National Marine Fisheries Service must use the best available science to evaluate potential impacts and cumulative effects to endangered and threatened marine species in the region, including NARWs. To meet the best available science standard, determinations must be based on the most recent scientific information, including the aforementioned science supporting the fact that the proposed project area is a “hot spot” for NARWs, which use the area as a feeding ground.	A detailed discussion of current marine mammal distribution and occurrence in and around the Vineyard Wind 1 WDA was provided in Appendix E of the SEIS. A discussion of current marine mammal distribution as well as population size and trends are also provided in the Biological Opinion issued by NMFS on September 11, 2020. A detailed analysis of impacts to ESA listed species, including the NARW, is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additional information regarding impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of PSOs, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13142-017	The National Marine Fisheries Service must determine in a new Biological Opinion whether the entire proposed project – from siting to decommissioning over the course of the next 30 years – is likely to jeopardize the existence of a species listed under the Endangered Species Act or result in the destruction or modification of critical habitat of such species. In light of the dire state of the NARW (and perhaps other listed species as well), a jeopardy or adverse modification determination is expected. Any “reasonable and prudent alternatives” the National Marine Fisheries Service then proposes to avoid jeopardy and/or adverse modification for NARWs must mitigate the proposed project’s adverse impacts, including from vessels strikes, entanglements, and noise.	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. Information regarding impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM,

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		soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13142-018	In the event that the National Marine Fisheries Service determines the proposed project does not result in jeopardy or adverse modification to the NARW (and perhaps other listed species), then any incidental take statement must mandate “reasonable and prudent measures” to minimize the proposed project’s adverse impacts, including from vessel strikes, entanglements, and noise.	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. The NMFS Biological Opinion and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures are discussed Section 3.4.2 and Appendix D of the FEIS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.
13142-019	Moreover, the incidental take of a marine mammal such as the NARW must also be in accordance with the MMPA, which includes terms and conditions to ensure compliance with incidental take under the Endangered Species Act as well as the requisite MMPA authorization.	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. The NMFS Biological Opinion and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures are discussed Section 3.4.2 and Appendix D of the FEIS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.
13142-020	The incidental take statement imposes a duty on the recipient to comply with the terms of the statement. But, the incidental take statement also imposes a duty on the National Marine Fisheries Service to monitor the activity and ensure that incidental take remains within specified bounds; otherwise, the agency must reinitiate Section 7 consultations.	Thank you for your comment.

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13142-021	As required by the Marine Mammal Protection Act (MMPA) and implementing regulations, BOEM, in coordination with the National Marine Fisheries Service, must ensure that marine mammal species are protected from harassment, hunting, capture, or killing, using best scientific evidence available, during each of the planned phases of the Vineyard Wind proposed project—siting, construction, operation and decommissioning, including NARWs, which are listed as a depleted and strategic stock under the MMPA. Vineyard Wind applied for an incidental harassment authorization under the MMPA for the take of marine mammals incidental to the proposed project’s construction on September 7, 2019. The National Marine Fisheries Service published a proposed incidental harassment authorization on April 30, 2019; however, the agency has not yet granted the authorization.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.
13142-022	Separately, the National Marine Fisheries Service issued a one-year authorization allowing Vineyard Wind to harass, but not seriously injure or kill, 14 species of marine mammals, including the NARW, during site characterization surveys of the project using high-resolution geophysical equipment; surveys were expected to begin as of June 1, 2020. As the project has been delayed, Vineyard Wind requested re-issuance of the incidental authorization from June 21, 2020 to June 20, 2021, and the agency summarily granted it. Notably, the operation and decommissioning phases of the proposed project are not included in the scope of either incidental harassment authorization. The National Marine Fisheries Service should not issue any future authorizations without additional significant analysis and mitigation of adverse impacts to marine mammals, including NARWs, from all phases of the proposed project, including adverse impacts from vessel strikes, entanglement, and noise.	Section 3.4.3 of the FEIS provides an updated discussion the potential impacts of HRG site assessment and characterization surveys. Additionally, Appendix D of the FEIS provide an updated discussion and descriptions mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on marine mammals from all proposed activities including HRG surveys associated with the construction, operation, and decommissioning of the Vineyard Wind 1 Project. These measures include, but are not limited to, use of PSOs, PAM, shut down procedures, and other measures to protected marines, particularly NARWs. All the proposed activities were considered in the September 11, 2020 Biological Opinion issued by NMFS that concluded that the Project may adversely affect but is not likely to jeopardize the continued existence of listed species. Appendix D of the FEIS also discusses all the mitigation and monitoring measures that would apply to all project phases.
13142-023	While Oceana is supportive of offshore wind as a renewable energy source, offshore wind projects must be carefully sited, constructed, operated and decommissioned in a manner that reduces, to the maximum extent possible, the impacts to marine species, including endangered species such as the North Atlantic right whale.	Potential impacts to right whales as well as measures to avoid or reduce those effects were discussed in Section 3.5 of the SEIS as well as in Section 3.4 of the FEIS.
13142-024	All marine species affected by the proposed Vineyard Wind project deserve more thorough NEPA analysis than BOEM has provided in the DEIS and SEIS. The inadequacy of NEPA analysis conducted thus far in the DEIS and SEIS is exemplified by the short shrift BOEM has given North Atlantic right whales, an endangered species on the brink of extinction that is protected under both the Endangered Species Act and the MMPA.	The SEIS included a detailed analysis of potential impacts and included the use of the impact levels applied to the adverse and beneficial impacts. The resource specific sections included information related to the magnitude, duration, geographic extent, and/or frequency of potential impacts, as appropriate, to support impact determinations.
13142-025	Similar to other marine species, the North Atlantic right whale has expanded its range into the proposed project area in search of a shifting food source due	Thank you for your comment.

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	to climate change. For this reason, BOEM and the relevant coordinating agencies, including the National Marine Fisheries Service, must invoke broad authorities under NEPA, the Endangered Species Act and the MMPA to protect marine species, including the North Atlantic right whale, from adverse impacts of all phases of the proposed project, which may place their continued existence in jeopardy, and push them closer to extinction as a result of man's activities.	
13147-001	Sustainable wild-harvest commercial fisheries are in themselves an important climate solution. A 2018 University of Washington study found that the harvest of renewable wild seafood has a lower carbon footprint than all other animal protein production methods, including livestock production and aquaculture. Now, we are being asked to put sustainable, regenerative wild-harvest fisheries at risk to give primacy to another climate solution: the buildup of offshore wind projects in East Coast waters at an unprecedented pace and scale. We cannot risk sacrificing one climate solution in order to privilege another.	The potential impacts to commercial and for-hire fisheries were evaluated in the DEIS, SEIS, and the FEIS.
13147-002	We come to the table in good faith imploring you to include all considerations when factoring the consequences of your decisions, concerned that it may set a precedent for future offshore wind siting - including marine ecosystem impacts, the disruptive impacts from the displacement of the commercial fishing sector, and also the serious safety concerns involving all mariners navigating sometimes treacherous seas between hundreds of imposing turbines.	The items referenced in the comment are assessed in the appropriate resources sections in Chapter 3 and Appendix A of the FEIS.
13147-003	There are still very few peer-reviewed scientific studies conducted around the globe on offshore wind impacts to marine ecosystems. Findings from some European studies indicate a wake effect up to 100 km from smaller turbine installations in the North Sea, affecting primary habitat and production outcomes in certain areas. We have yet to see a thorough analysis of the implications of certain siting and development strategies, including project noise effects on marine species and the siting impacts from turbines on migrating marine life.	Section 3.4.1 of the SEIS discussed the potential impacts of wakes, habitat changes productivity changes, noise, and potentially altered migration.
13147-004	In our region, we are projecting thousands of miles of cables installed over the next decade, and we have strong concerns about their disruption to marine habitat, along with the potential effects of electromagnetic fields on the behavior of certain species. As developers continue to blaze forward with planning for offshore wind projects, there remains a lack of data regarding their potential impacts on the marine environment and fisheries.	Sections 3.2 and 3.3 of the FEIS use the best available science on new cable emplacement and EMF. BOEM continues to fund studies to address concerns raised in public comments, including responses of additional species to EMF (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). Sections 3.5.1 and 3.5.2 of the SEIS discussed the potential impacts of EMF on marine mammals. As discussed, modeled and measured magnetic fields from AC cables buried to a depth of 3 feet would emit detectable fields up to 82 feet above the cable and 79 feet along the sea floor.

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		Vineyard Wind proposes to bury Project cables to a depth of 5-8 feet, providing greater shielding and reducing field detection distances. Additional discussion of the uncertainty regarding the individual and/or population level impacts of EMF on marine mammals was provided in Appendix H of the SEIS. Given the extremely localized nature of the potential EMF related impacts exposure is expected to be low. Therefore, no change to the FEIS is warranted.
13147-005	We are additionally concerned about the displacement and disruption that offshore wind projects will have on the commercial fishing sector. Currently, the fisheries economy in the Northeast provides billions in revenue to local communities and tens of thousands of jobs. Our sector also supports a robust local food economy, including some of the most sustainable sources of protein that consumers can have on their dinner plates. As the world enters the second wave of a year forever altered by a global pandemic unlike anything we could have ever imagined, the necessity of investing in resilient local food security has been clearer than ever. Our industry provides significant contributions to keeping food dollars in our region, while offsetting large carbon footprints that would otherwise accrue from the importation of seafood caught elsewhere. The economic projections provided by the offshore wind industry do not include the community benefits and jobs supported by our sector that would most likely be lost as a result.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses displacement and disruption of commercial fisheries from offshore wind development, including the potential revenue exposure on commercial fisheries from future offshore wind developments. Section 3.6, Demographics, Employment and Economics, discusses the impacts on commercial fishing and onshore seafood businesses resulting from offshore wind on community employment and economic activity. Therefore, no change to the FEIS is warranted.
13147-006	As always, safety is our number one priority, and we are worried that irresponsible siting of offshore wind projects may present serious dangers to boat crews. Commercial fishing vessels have unique operational requirements while in transit, such as the need for sea room due to inclement weather and potential crew fatigue. The footprint of a vessel greatly expands, in both length and width, when fishing gear is actively towed and it dramatically reduces the maneuverability of the vessel. Insufficient spacing between turbines greatly increases the risk to fishermen's safety when traveling home during dangerous conditions, including strong winds, high seas, and poor visibility.	The FEIS addresses this comment in Section 3.10.1.1 and 3.11.2. The Final MARIPARS study report (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study report (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report (USCG 2020). The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13147-007	Due to the significant concerns outlined above, we therefore respectfully urge that BOEM:	Thank you for your comment.

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	• Supports RODA/Industry 4nm navigation safety corridor proposal (“Alternative F” as outlined in Appendix A of this letter);	
13147-008	• Establishes specific and robust requirements for baseline scientific data on marine ecosystem impacts and sustained and thorough investment in post-construction monitoring to assess the ecological impacts of development;	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13147-009	• Develops a requirement for wind developers to conduct baseline research two years prior to any geophysical and geotechnical surveys, as these surveys are proven to have environmental impacts;	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13147-010	• Conducts a study on the extent and possible remediation of wind turbine interference with marine radar used on fishing vessels;	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of marine radar. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. Further, the USCG is the leading agency on navigational matters, and BOEM defers to the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.

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13147-011	Continues to exercise special care in conducting analyses and reflecting input from impacted fishing communities, who are currently working in the peak of their summer fishing season.	The FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS.
13147-012	...it is my belief that the expanse of turbines will cause vessel displacement, economic hardship and serious safety concerns. High degree of uncertainties that can lead to degradation of the ecosystem and depletion of fish stocks. The lack of adequate transit corridors (1nm too narrow) for safe vessel transit in their project design will certainly lead to loss of vessel and life. Fishermen's navigational knowledge is enormous and thorough yet has fallen on deaf ears in determining turbine spacing and transit lanes.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses vessel displacement and financial impacts. Section 3.11.2 and 3.13.2 of the SEIS discuss the US Coast Guard's Final MARIPARS and the impact of the proposed Project on vessel maneuverability and transit lane size; therefore, no change to the FEIS is warranted.
13147-013	Offshore wind, developed quickly and on a massive scale, stands to substantially upend offshore marine environments. The economic consequences to the commercial fishing sector in Southern New England will be potentially devastating.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the economic consequences of offshore wind development on the commercial fishing industry; therefore, no change to the FEIS is warranted.
13147-014	Loss of traditional fishing grounds; also I worry about electrical current in water affecting fisheries in an adverse way. Will there be payment for lost income, 10 yrs from now?	Section 3.4 of the SEIS discusses the potential impact of electromagnetic fields on finfish and invertebrates. Section 3.11.2 of the SEIS discusses the voluntary revenue compensation funds established by Vineyard Wind and states that impacts or losses for which claims may be filed include lost revenues related to the Project's interference with fishing activities (if any). Therefore, no change to the FEIS is warranted.
13147-015	Limited access to area and consolidating user groups to smaller areas; navigational hazards after construction.	The SEIS discusses limited access to areas and consolidating user groups in Section 3.11.2 and navigational hazards in Section 3.13.2; therefore, no change to the FEIS is warranted.
13147-016	We are a fish processing company in Gloucester ma. If these projects continue to move forward in the way they have been our company and the jobs that it supports will not survive. We will lose access to the fishing grounds that keep us in business.	Section 3.7 and 3.8 of the SEIS discuss the potential impacts on shoreside fish processors and the Section 3.10.2 of the FEIS has been updated to discuss the potential impacts of disruption of fishing on shoreside fish processors.
13147-017	The millions of dollars of investment in Ma that we have made [as a fish processing company] will have been for nothing and the coastal communities that we help to support will suffer.	Section 3.10.2 of the FEIS was updated to discuss the potential impacts of disruption of fishing on shoreside fish processors and Section 3.7 of the SEIS discusses potential impacts on local economies.
13147-018	As mobile gear fishermen [for herring, mackerel, squid, and menhaden], we will not be able to safely work in these wind farm areas.	Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS discuss that some vessels may choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures, the potential for hanging up on structures, and they have been updated to discuss potential mitigation measures.
13147-019	With all the regulations that we already face that carve up sections of the ocean that we cannot fish in due to habitat considerations, etc., these additional limitations will kill the industry that has thrived and provided food to the nation since its inception.	Sections 3.11.1.1 and 3.11.2 of the SEIS discuss the potential loss of area available for fishing and acknowledge that impacts on management processes would also have short-term or long-term impacts on commercial and for-hire

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		recreational fisheries operations; therefore, no change to the FEIS is warranted.
13147-020	The conversation about where these industrial scale wind developments were going to be placed should have happened with the fishing industry, but once again, the hard working men and women in this industry are being left in the dust again. It's an insult to hard working Americans that they can be run roughshod over by foreign entities that will come in, take what they want, and leave again once they have made their profit at the taxpayers' expense.	The FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS.
13147-021	At the moment, my boats have been fishing [for squid, butterflyfish, whiting, etc.] north of Coxes Ledge and have done so for many years in Deep Hole and Pear Shape . We and some others fish there 4-5 months a year so that is a good 1/3 or more that I and 8 guys that make as a good chunk of our year's income. It's a small area for boats to pass safely while towing and at the moment, there are two wind farm survey ships there drilling samples to see if it is a good spot to put in a turbine. So if the survey boats get in our way, what's gonna happen when wind mills are put in?	The SEIS discusses impacts from the presence of structures and vessel traffic in Section 3.11.2 and 3.13.2; therefore, no change to the FEIS is warranted.
13147-022	Safety is paramount! We [scallop fishermen] traverse this area often under extreme conditions, zero visibility and mountainous seas. WE NEED SAFE TRANSIT LANES!	Thank you for your comment.
13147-023	Seafood producers have been largely excluded from the wind farm industrialization process; adverse impacts have been down-played or not adequately researched, and compensatory proposals have not been reflective of conceivable monetary damages to the industry that has utilized these waters sustainably since the inception of our nation.	Section 3.10.2 of the FEIS discusses the potential impacts of disruption of fishing on shoreside fish processors. Section 3.11.1.1 and 3.11.2 of the SEIS discusses the voluntary revenue compensation funds established by Vineyard Wind and states that companies that support fishing interests would be able to submit claims of direct impacts or losses during any phase of the Project; therefore, no change to the FEIS is warranted.
13147-024	My greatest concern is the loss of economic resiliency. Every fisherman, myself included, has had to change fishing grounds and target species frequently during their career. Whether driven by availability, regulation or markets, fishermen must constantly modify their strategy to remain viable. The fishing industry is already dealing with multiple closures mostly driven by management concerns. Yet, all these closures were scrutinized for cost/benefit consequences under our regulatory policy. The politics of offshore wind offer no such analysis.	The SEIS along with other impact producing factors, addresses the cumulative impacts of fishing regulation and offshore wind development. Any regulations on the fishing industry are subject to the Regulatory Flexibility Act. The proposed action does not include any proposed regulations on the commercial fishing industry.
13147-025	Wind energy is seen as an absolute imperative which can displace any competing use of space without consequence. One consequence not considered in all the debate is food security. The network of small fishing ports populated by often family-operated vessels is fraying. Our supply of seafood is becoming ever more dependent on long, complex and often, international supply chains. In mid- March we saw those supplies disrupted	The Secretary of the Interior will work with the Secretary of the Army, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, other appropriate Federal officials, and appropriate State officials to implement the Executive Order Promoting American Seafood Competitiveness and Economic Growth as described in the Order. FEIS

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	by COVID-19. We quickly discovered that we no longer had the capacity to process and distribute enough seafood to replace them.	Table 3.10-11 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. In addition Tables 3.10-3 and 3.10-7b allow for a comparison of the total volume of seafood landed at affected ports compared to seafood harvested just from the Vineyard Wind Development area.
13147-026	A proper analysis of the impact on fisheries cannot just look at the area covered by a single lease. The mandates for renewable energy adopted by the coastal states will have a profound effect on our ability to obtain renewable supplies of food from the sea. This reality must be factored into the overall discussion of pre-emption of our fishing grounds.	Section 3.11 of the SEIS discusses the potential cumulative impacts from all proposed future wind energy projects in New England and the Mid-Atlantic; therefore, no change to the FEIS is warranted.
13147-027	The entire WEA development has been driven by a process oriented approach. We need a results oriented approach.	Thank you for your comment.
13147-028	Fishermen's lives will be ruined, men will be out of work, environments will be altered forever, endangered right whales will be impacted and the oceans will be controlled by foreign interests.	Section 3.5 and 3.11 of the SEIS discusses impacts from offshore wind development on marine mammals and commercial and for-hire recreational fishing; therefore, no change to the FEIS is warranted.
13147-029	Concerned about the effects of the offshore wind farms on the inshore fisheries. Should not trade wind power at the expense of our fisheries.	Section 3.11 of the SEIS discusses impacts from offshore wind development on commercial and for-hire recreational fishing; therefore, no change to the FEIS is warranted.
13147-030	The wind farms will take away much needed fishing grounds, plus be a navigational hazard.	Section 3.11 and 3.13 of the SEIS discusses impacts from offshore wind development on commercial and for-hire recreational fishing and navigation; therefore, no change to the FEIS is warranted.
13147-031	My family has fished proposed area where windmill lease is proposed to go for 4 generations approaching 100 years. Location of windmills is the problem.	Section 3.11 and 3.13 of the SEIS discusses impacts from offshore wind development on commercial and for-hire recreational fishing and navigation; therefore, no change to the FEIS is warranted.
13147-032	I disagree with the building of the windmills, and the lack of openness and communication with the fishermen.	The NEPA process has allowed for comments of commercial fishermen including the inclusion of three alternatives requested by the fishing industry.
13147-033	I don't agree with the windmills because of its effects on my job and livelihood (scallop fisherman).	Section 3.11 of the SEIS discusses impacts from offshore wind development on commercial and for-hire recreational fishing, including the scallop fishery; therefore, no change to the FEIS is warranted.
13147-034	I am a commercial fisherman and the windmills affect my job (scallop fisherman) and the environment.	Section 3.11 of the SEIS discusses impacts from offshore wind development on commercial and for-hire recreational fishing, including the scallop fishery; therefore, no change to the FEIS is warranted.
13147-035	Wind farms will destroy my livelihood (bottom trawl fisherman).	Section 3.11 of the SEIS discusses impacts from offshore wind development on commercial and for-hire recreational fishing, including bottom trawl fisheries; therefore, no change to the FEIS is warranted.
13149-001	Alternative F creates a new "marine vessel" lane through the Project site. This would result in several turbines being moved from the northern edge of the Project site to the southern edge of the Project site. While this will reduce	Several sections of the SEIS addressed the potential impacts of additional cabling for Alternative F, including increased cabling and sea floor

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	- but not completely avoid - visual impacts, it also will also result in more electrical cabling, and thus more ocean floor disturbances.	disturbance. In particular, these topics were noted in Sections 3.3.4, 3.10.4, and 3.11.4 of the SEIS; therefore, no changes to the FEIS are warranted.
13149-002	BOEM has an obligation under the United Nations Declaration on the Rights of Indigenous Peoples (the "UN Declaration" or "Declaration") to protect the traditional cultural resources and cultural practices of the Tribe and to ensure mitigation or compensation for losses of economic, cultural and natural resources.	The United Nations Declaration on the Rights of Indigenous Peoples is not a part of the regulatory framework that federal agencies such as BOEM follow during the NEPA process. BOEM engages with the public and other National Historic Preservation Act Section 106 consulting parties throughout the NEPA process to assess impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Through the NHPA Section 106 review process, BOEM additionally works to resolve adverse effects to National Register-eligible historic properties through avoidance, minimization, and mitigation. No regulatory obligation exists that requires a particular outcome, decision, or compensation.
13149-003	Consistent with the [UN] Declaration [on the Rights of Indigenous Peoples], BOEM must seek to protect the Tribe's cultural, natural and economic resources pursuant to the following Articles: [11, 25, 26, 29, 31, 32, 39, and 43].	The United Nations Declaration on the Rights of Indigenous Peoples is not a part of the regulatory framework that federal agencies such as BOEM follow during the NEPA process. BOEM engages with the public and other National Historic Preservation Act Section 106 consulting parties throughout the NEPA process to assess impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Through the NHPA Section 106 review process, BOEM additionally works to resolve adverse effects to National Register-eligible historic properties through avoidance, minimization, and mitigation. No regulatory obligation exists that requires a particular outcome, decision, or compensation.
13149-004	As the acknowledged indigenous people of Chappaquiddick Island, the Tribe is entitled to consultation, impacts analysis, mitigation, and compensation that comply with, and live up to, the United States' commitment to the [UN] Declaration [on the Rights of Indigenous Peoples]. The SEIS fails to analyze and define mitigation of the full impacts of the Project on the Tribe's rights as the indigenous peoples of the Island and the Project area.	The United Nations Declaration on the Rights of Indigenous Peoples is not a part of the regulatory framework that federal agencies such as BOEM follow during the NEPA process. BOEM engages with the public and other National Historic Preservation Act Section 106 consulting parties throughout the NEPA process to assess impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Through the NHPA Section 106 review process, BOEM additionally works to resolve adverse effects to National Register-eligible historic properties through avoidance, minimization, and mitigation. No regulatory obligation exists that requires a particular outcome, decision, or compensation.
13149-005	The SEIS Environmental Justice (EJ) Impacts and Analysis is Insufficient as it Does Not Explicitly Include the EJ Impacts on the Tribe.	Sections 3.7.1 and 3.7.2 of the FEIS have been updated to incorporate the following information with respect to environmental justice impacts on Native American tribes: a listing of the tribes consulted regarding the Proposed Action; identification of cultural resources affected by the Proposed

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		Action that hold significance to these tribes; identification of the IPFs that would affect these cultural resources; references to Section 3.8 which provides a detailed discussion of impacts on cultural resources; and impact levels for disproportionate adverse effects on Native American tribes. Section 3.8 concludes that the Proposed Action with mitigations would have potentially moderate impacts on the cultural resources identified as having significance for Native American tribes.
13149-006	The SEIS has slightly expanded the analysis of environmental justice impacts of the Project. This slight expansion is limited to additional analysis of impacts to the low-income and/or minority communities potentially affected by the proposed onshore infrastructure and potential port cities. Importantly, there is no analysis of the environmental justice issues associated with the impacts on the Tribe's cultural practices or subsistence rights (such as clam digging and fishing).	Sections 3.7.1 and 3.7.2 of the FEIS have been updated to incorporate the following information with respect to environmental justice impacts on Native American tribes: a listing of the tribes consulted regarding the proposed action; identification of cultural resources affected by the Proposed Action that hold significance to these tribes; and identification of the IPFs that would affect these cultural resources. In addition, Sections 3.8.1 and 3.8.2 of the SEIS included impacts on environmental justice populations resulting from impacts on subsistence fishing. This has been updated in the same sections of the FEIS to also note that where IPFs would affect subsistence fishing, these factors would also affect cultural practices of Native American tribes related to finfish, shellfish, and marine mammals.
13149-007	While the Draft EIS (DEIS) and the SEIS rely on the state's definition of an "environmental justice community" they also reference the EPA's definition. The standard definition includes low-income (below the median household income) and minority (25-50% of residents are minority) populations, based on US census data. Because of the geographic nature of the definition of community, it is unclear whether the Tribe would be considered a separate minority or low-income community. Nonetheless, the BOEM should treat the Tribe as a separate minority community for purposes of EJ analysis.	Sections 3.7.1 and 3.7.2 of the FEIS have been updated to incorporate additional guidance from the EPA on environmental justice impacts with respect to Native American tribes; to provide a listing of the tribes consulted regarding the Proposed Action; and to identify environmental justice impacts specific to Native American tribes where applicable.
13149-008	In addition, the federal government's EJ strategies - and thus its EJ analysis - are supposed to focus on whether its actions will have "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The SEIS identifies the following for EJ impacts: air emissions, light, new cable placement/infrastructure, noise, port utilization, presences of structures, traffic vessels and land disturbances. But, the analysis generally focuses on the economic impacts of these aspects of the Project on non-tribal populations.	Section 3.7.1 of the FEIS has been revised to discuss the Project-related and cumulative health impacts of fossil fuel consumption and resulting degraded air quality on different racial and income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy. Sections 3.7.1 and 3.7.2 have also been updated to note the impacts on Native American tribes resulting from viewshed impacts, disturbance of submerged landscape features and cultural practices related to fish, shellfish, and marine mammals. The DEIS and SEIS in Section 3.8.1 and 3.8.2 identified environmental impacts on fish and invertebrates that could impact subsistence fishing. No other health or environmental impacts are identified that would disproportionately affect environmental justice populations.
13149-009	Council on Environmental Quality (CEQ) Guidance (CEQ Guidance) requires environmental impact statements to include a component on	Sections 3.7.1 and 3.7.2 of the FEIS have been updated to identify and explain effects of the Proposed Action that would disproportionately impact

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	environmental justice. The CEQ Guidance also requires federal agencies to evaluate any "interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action." Pursuant to this CEQ Guidance, BOEM should also "recognize that the impacts within . . . Indian tribes may be different from impacts on the general population due to a community's distinct cultural practices." CEQ Guidance; see, <i>Standing Rock Sioux Tribe v. Army Corps of Engineers</i> , 2017 WL 2573994 (D.D.C. 2017); see also, <i>Allen v. Nat'l Institutes of Health</i> , 974 F. Supp. 2d 18, 47 (D. Mass. 2013).	certain Native American tribes due to impacts on resources or practices with cultural significance.
13149-010	Contrary to the CEQ Guidance, neither the DEIS nor the SEIS includes an EJ analysis specific to the Tribe. Without such an EJ analysis of the human health and environmental impacts on the Tribe and its tribal members' "distinct cultural practices" or subsistence practices, the EJ analysis in the SEIS is insufficient. BOEM must complete additional analysis to evaluate the cultural, social, occupational and economic impacts of the Project on the Chappaquiddick Island TCP (and thus the Tribe's) and effects on the natural and physical environment.	Sections 3.7.1 and 3.7.2 of the FEIS have been updated to incorporate the following information with respect to environmental justice impacts on Native American tribes: a listing of the tribes consulted in preparing the FEIS; a description of the Chappaquiddick TCP; a description of Chappaquiddick Wampanoag Tribe cultural practices related to the Chappaquiddick TCP; identification of impacts on the TCP resulting from the Proposed Action, based upon the detailed analysis in Section 3.8, Cultural Resources, and additional information on IPFs related to fishing and shellfishing; and assessment of the impact on the Chappaquiddick Wampanoag Tribe resulting from these impacts.
13149-011	Analysis and Mitigation of the Tribe's Cultural Resource Impacts is Insufficient.	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. The description of impacts is located in Sections 3.8.2-3.8.5, and when considered against the criteria determining the intensity of impacts (i.e., whether they are minor, moderate, etc.), located in Section 3.8.6, the impacts are of a moderate nature.
13149-012	The SEIS now includes the Chappaquiddick TCP in the Project's impacts on cultural resources - but does not include specific analysis related to the impacts to the Tribe's cultural or natural resources on the TCP. For the Proposed Action and all alternatives (even the No Action Alternative), BOEM still anticipates "moderate" impacts on the Chappaquiddick TCP and the underwater paleo landforms and marine cultural resources - in other words, no change from the DEIS.	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. The description of impacts is located in Sections 3.8.2-3.8.5, and when considered against the criteria determining the intensity of impacts (i.e., whether they are minor, moderate, etc.), located in Section 3.8.6, the impacts are of a moderate nature.
13149-013	The SEIS now includes the Chappaquiddick TCP in the Project's impacts on cultural resources - but does not include specific analysis related to the impacts to the Tribe's cultural or natural resources on the TCP... The SEIS has determined that visual impacts [on cultural resources] will be minor for	BOEM performed a good faith effort to identify historic properties within all portions of the NHPA Section 106 review Area of Potential Effects or will be performing it as part of a phased identification of historic properties pursuant to 36 CFR 800.4(b)(2). Moreover, BOEM utilized all information provided in

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	all alternatives, due to the change in the project design and other mitigation measures to be taken.	the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Visual impacts are analyzed in Sections 3.9 of the FEIS; impacts to cultural resources are analyzed in Sections 3.8 of the FEIS.
13149-014	As a general matter, BOEM assumes that most aspects of the project will have an impact on archaeological resources, including the paleo landforms and marine cultural resources. It is unclear how BOEM assesses that the impacts on those resources will be "moderate" - as opposed to "major" - when BOEM anticipates the total destruction of at least 16 - 19 of 35 (more than 50%) paleo landforms sites that are located within the Project's construction and operation site (the WDA and OECC). As BOEM describes the direct, indirect and cumulative impacts for all the alternatives: "The damage or destruction of submerged archaeological sites or other underwater cultural resources from these activities would result in the permanent and irreversible loss of scientific or cultural value."	BOEM does not anticipate total destruction of any of the identified paleolandform features. A small area of the total area of 19 of the 31 identified paleolandform features would be impacted by construction; in other words, within these 19 features, only a small fraction of the overall volume of the features would be impacted. As discussed in Section 3.8.2 of the FEIS, this impact is irreversible, thus warranting the conclusion that the impact is "major." Vineyard Wind has committed to working with the consulting parties, Native American Tribes, BOEM, and the MHC to develop a specific treatment plan for mitigating impacts on unavoidable paleolandform features. Implementation of a treatment plan agreed to by all parties would likely reduce the magnitude of impacts on paleolandform features from major to result moderate impacts on paleolandform features. Finally, these features do not represent archaeological sites; no archaeological materials have been identified therein, despite a good faith effort to identify archaeological historic properties. Rather, these features represent a portion of a cultural landscape of importance to many Tribal communities.
13149-015	BOEM continues to defer to the Section 106 process for identifying mitigation measures to avoid or reduce harm to the TCP, paleo landforms, and other identified archaeological and cultural resources. The DEIS, in Appendix D, states that "any archaeological resources or TCPs determined eligible for listing on the National Register (i.e., historic properties) would be avoided or additional mitigations would be required for resolving adverse effects pursuant to 36 CFR § 800.6."	The NHPA Section 106 review process requires BOEM to consider means of avoiding, minimizing, and, where appropriate, mitigating adverse effects, in that order. The final mitigation plan and MOA to resolve adverse effects to historic properties will be finalized as part of the NHPA Section 106 process and will be completed before the Record of Decision is issued.
13149-016	There is almost no evaluation of direct, indirect or cumulative impacts on the TCP, other than visual impacts.	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Visual impacts are analyzed in Sections 3.9 of the FEIS; impacts to cultural resources are analyzed in Sections 3.8 of the FEIS.
13149-017	The Tribe has expressed concern that: Despite the change in project design, the visual impacts of this changes have not yet been fully analyzed with respect to the Tribe and the impact on the Chappaquiddick TCP; Without	BOEM performed a good faith effort to identify historic properties within all portions of the NHPA Section 106 review Area of Potential Effects or will be performing it as part of a phased identification of historic properties pursuant

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	more detailed analysis of the paleo landforms, BOEM and the Project cannot know the full impacts on our ancestral lands, important archaeological sites, potential human remains and burial sites in the marine affected area; In both instances, this lack of in-depth analysis does not give the Tribe the information necessary to effectively participate in the development of mitigation measures that might avoid or minimize the known expected harm and destruction to the Chappaquiddick TCP and the marine archaeological resources.	to 36 CFR 800.4(b)(2). Moreover, BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Visual impacts are analyzed in Sections 3.9 of the FEIS; impacts to cultural resources are analyzed in Sections 3.8 of the FEIS.
13149-018	Notwithstanding the Section 106 process, the SEIS approach to summarily conclude (and assume) that there will be mitigation measures that will avoid impacts - without stating what those measures are, or requiring those measures to be implemented as a condition of the Record of Decision - is deficient. BOEM must further develop impacts on the cultural resources on the Chappaquiddick TPC and its related and connected marine environment, consistent with the Advisory Council on Historic Preservation's 2016 White Paper on Cultural Landscapes [(Understanding and Interpreting Indigenous Places and Landscapes, Advisory Council on Historic Preservation (Oct. 11., 2016))].	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Moreover, BOEM performed a good faith effort to identify historic properties within all portions of the NHPA Section 106 review Area of Potential Effects or will be performing it as part of a phased identification of historic properties pursuant to 36 CFR 800.4(b)(2). The final mitigation plan and MOA to resolve adverse effects to historic properties will be finalized as part of the NHPA Section 106 process and will be completed before the Record of Decision is issued.
13149-019	BOEM has failed to analyze the Project's impacts on the natural resources potential erosion impacts to Chappaquiddick Island TCP - on which the Tribe and its members rely for cultural, social, subsistence and economic purposes.	BOEM has considered the potential for erosion of shorelines and has determined that there is no evidence that the proposed Project would have any influence on this issue. Appendix E of the FEIS has been updated to include additional information regarding the oceanographic environment, including the potential impacts to mean flows near offshore wind foundations. Information related to potential changes in mean flows provides implications for shoreline erosion. Section 3.3.2 of the FEIS explains that background hydrodynamic conditions would exist approximately 328 feet (100 meters) from each monopile foundation. Appendix E Section E.4.4 of the FEIS discusses cable installation and concludes that no increased potential for shoreline erosion is expected. Appendix E Section E.4.4 of the FEIS also discusses the potential for shoreline erosion from vessel wakes.
13149-020	There has been no detailed analysis or study of the impacts on the natural resources we have identified are important to the Tribe and the unique nature of the Chappaquiddick Island TCP and connected and related marine environment. BOEM should complete more in-depth studies of the impacts to the natural environment on the Chappaquiddick TCP, especially as those impacts have a direct effect on the Tribe and its members.	BOEM has considered the potential for erosion of shorelines and has determined that there is no evidence that the proposed Project would have any influence on this issue. Appendix E of the FEIS has been updated to include additional information regarding the oceanographic environment, including the potential impacts to mean flows near offshore wind foundations. Information related to potential changes in mean flows provides implications for shoreline erosion. Section 3.3.2 of the FEIS explains that background hydrodynamic conditions would exist approximately 328 feet (100 meters) from each monopile foundation. Appendix E Section E.4.4 of

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		the FEIS discusses cable installation and concludes that no increased potential for shoreline erosion is expected. Appendix E Section E.4.4 of the FEIS also discusses the potential for shoreline erosion from vessel wakes.
13149-021	There has been ongoing erosion and shifting of the constantly changing canal between Nunnepog (Edgartown) and Chappaquiddick, with ebbing and flowing of pond inlets. This highlights the vulnerability of the Chappaquiddick Island to the natural forces of the Atlantic wind and water. Yet, despite our requests since April of last year, neither BOEM nor Vineyard Wind have conducted a geological review of the OECC near the Chappaquiddick TCP to determine what, if any, erosion risk may occur - direct, indirect, and cumulative - from the dredging, digging, and dumping activities for the construction of export cabling for the Project or future projects. Nor is there any analysis of how potential erosion will be mitigated.	BOEM has considered the potential for erosion of shorelines and has determined that there is no evidence that the proposed Project would have any influence on this issue. Appendix E of the FEIS has been updated to include additional information regarding the oceanographic environment, including the potential impacts to mean flows near offshore wind foundations. Information related to potential changes in mean flows provides implications for shoreline erosion. Section 3.3.2 of the FEIS explains that background hydrodynamic conditions would exist approximately 328 feet (100 meters) from each monopile foundation. Appendix E Section E.4.4 of the FEIS discusses cable installation and concludes that no increased potential for shoreline erosion is expected. Appendix E Section E.4.4 of the FEIS also discusses the potential for shoreline erosion from vessel wakes.
13149-022	Geological studies [should] be completed prior to finalizing the environmental impact statement with regard to the cable installation and operation to properly review and evaluate potential loss or damage to Chappaquiddick Island.	BOEM has considered the potential for erosion of shorelines and has determined that there is no evidence that the proposed Project would have any influence on this issue. Appendix E of the FEIS has been updated to include additional information regarding the oceanographic environment, including the potential impacts to mean flows near offshore wind foundations. Information related to potential changes in mean flows provides implications for shoreline erosion. Section 3.3.2 of the FEIS explains that background hydrodynamic conditions would exist approximately 328 feet (100 meters) from each monopile foundation. Appendix E Section E.4.4 of the FEIS discusses cable installation and concludes that no increased potential for shoreline erosion is expected. Appendix E Section E.4.4 of the FEIS also discusses the potential for shoreline erosion from vessel wakes.
13149-023	The SEIS does not analyze the potential environmental justice issues and impacts on the Tribe and its members. These issues and impacts are not just human health and environmental, but should also include cultural, economic and subsistence practices.	Sections 3.7.1 and 3.7.2 of the FEIS have been updated to incorporate the following with respect to Native American tribes: a listing of the tribes consulted in preparing the FEIS; description of cultural practices; identification of cultural resources affected by the Proposed Action that hold significance to these tribes; identification of the IPFs that would affect cultural resources and practices including fishing and shellfishing; references to Section 3.8 which provides a detailed discussion of impacts on cultural resources; and an assessment of environmental justice impacts on Native American tribes.
13149-024	The SEIS also does not fully describe mitigation measures for the expected destruction of archaeological and marine cultural resources; instead, it defers to the Section 106 process to resolve.	BOEM performed a good faith effort to identify historic properties within all portions of the NHPA Section 106 review Area of Potential Effects or will be performing it as part of a phased identification of historic properties pursuant

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		to 36 CFR 800.4(b)(2). The final mitigation plan and MOA to resolve adverse effects to historic properties will be finalized as part of the NHPA Section 106 process and will be completed before the Record of Decision is issued.
13149-025	The SEIS does not expand and analyze the potential impacts to the TCP itself beyond the potential visual impacts.	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. Visual impacts are analyzed in Sections 3.9 of the FEIS; impacts to cultural resources are analyzed in Sections 3.8 of the FEIS.
13152-001	We also have concerns about the impacts to recreationally important fish species from offshore wind development, which include but are not limited to vibration and noise from piling driving, acoustic surveys, operation of turbines, impacts of cable installation and maintenance, sediment and scour impacts, and interference with larval transport. The continued development of offshore wind turbine must proceed with these concerns and the best available science in mind....We believe the project has largely been a success from the recreational fishing perspective because the developer, Deepwater Wind, (now owned by Ørsted): · Engaged fishing clubs, charter captains and other stakeholders regularly and listened to their input. · Provided financial resources to the charter fishing industry impacted by closures during the construction of the wind farm to assist in marketing. · Committed to and followed-through on fisheries monitoring before, during and after construction of the wind farm. · Generally followed the guidance established by the Rhode Island Ocean Special Area Management Plan produced by the state's Coastal Resources Management Council. These components can and should be replicated to the extent possible in other project developments moving forward.	Section 3.3.2 of the FEIS has been updated to consider higher hammer energies. Sections 3.3 and 3.4 of the SEIS discuss the effect of structure but do not put forth any expectation of the strength of this effect from the foundations versus the scour and cable protection. Therefore, no further revision to Sections 3.3 or 3.9 of the FEIS (i.e., to evaluate the impacts of this noise on recreational fishing) is warranted.
13152-002	The Vineyard 1 and other projects propose to use monopiles as opposed to the jacketed foundations of the BIWF. Monopiles are more of a concern because they require much greater energy during pile driving and provide much less structure to enhance fish habitat.	Section 3.3.2 of the FEIS has been updated to consider higher hammer energies. Sections 3.3 and 3.4 of the SEIS discuss the effect of structure but do not put forth any expectation of the strength of this effect from the foundations versus the scour and cable protection. Therefore, no further revision to the FEIS is warranted.
13152-003	During construction of wind farms, the SEIS states that while mortality impacts from pile driving will be limited to only 250 feet from the activity,	Section 3.4.1 of the SEIS described the potential for spawning behavior disruption and for the same populations or individuals to be affected multiple

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	behavioral impacts can extend up to 5.7 miles – quite a significant distance in a recreational fisheries context. This could include potentially impacting spawning activity in key habitats, such as Cox’s Ledge off of Rhode Island and Massachusetts where multiple windfarms are proposed. While an individual windfarm may have “temporary and localized impacts”, successive years of construction where critical habitats are in overlapping 5.7 mile radiuses around projects could result in multi-year disruption to spawning.	times in 1 year or in sequential years. Therefore, no change to the FEIS is warranted.
13152-004	Operational noise and vibration impacts are likely minimal.	Sections 3.4, 3.5, and A.8.3 of the SEIS discussed the potential impacts of WTG operational noise. Therefore, no change to the FEIS is warranted.
13152-005	Similarly, geological and geophysical survey noise impacts are not likely to rise to fisheries-level impacts and are also temporary and highly local, even as they may harm individual species and localized populations.	Section 3.4 of the SEIS discussed the potential impacts of G&G survey noise on finfish, invertebrates, and EFH. Therefore, no change to the FEIS is warranted.
13152-006	Larval transport is more likely to be impacted by changes in water temperature and salinity than presence of structures.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments, including larval transport modelling at a regional scale (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13152-007	The vast majority of wind turbines will be developed in areas where fishing for highly migratory species is present. The presence of turbine structures will likely attract pelagic species such as tuna, which could enhance fishing opportunities. On the other hand, tuna anglers could have existing fishing grounds covered in potential snags; some anglers are concerned about hook long and hard fighting fish like tuna within .5 miles of a turbine.	Section 3.10.1.1 and 3.10.2 of the FEIS were updated to state that HMS may be attracted to the turbine foundations. As stated in Section 3.11 of the SEIS and FEIS, impacts from the presence of structures on for-hire recreational fishing vessels maneuverability could occur while trolling for fish.
13152-008	The presence of turbine structures acting as artificial reefs will be reduced if monopiles are used and scour pads are basically solid rock structures.	Sections 3.3 and 3.4 of the SEIS discuss the effect of structure but do not put forth any expectation of the strength of this effect from the foundations versus the scour and cable protection. Therefore, no further revision to the FEIS is warranted.
13152-009	The population-level impacts of adding hundreds of artificial reefs over ten years, including shifts in species assemblages and abundance in specific wind farms is unknown, and must be continually monitored.	Section 3.4.1 of the SEIS considered the potential for the reef effect. This is a single-project EIS, not a Programmatic EIS, and complies with the requirements of NEPA. A benthic monitoring plan is included in COP Appendix III-D, and the COP also includes provisions for fisheries monitoring. Therefore, no change to the FEIS is warranted.
13152-010	Specific to the SEIS, we believe that recreational fishing impacts should be considered independently of commercial fishing impacts. Taken as a whole, the SEIS labels the impacts to for-hire recreational fishing and commercial fishing as major. There are certainly significant likely impacts to recreational	While the organization of these two topics is not altered in the FEIS, Section 3.9.2 of the FEIS has been updated to note the findings on for-hire recreational fishing in Section 3.10.2 and discuss the relationship between the impact findings of the two sections.

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	fishing, but they are substantially different. In the current draft, the impacts are conflated at times, especially in reference to gear entanglements. The loss of a very expensive commercial trawl net is not comparable to a recreational angler hanging up while fishing a turbine, yet the SEIS seems to treat them similarly. Likewise, for-hire and personal vessels may have access restricted during construction, but both navigation and fishing will be much easier for these smaller vessels.	
13152-011	Finally, the SEIS possibly understates the impact of the reef effect on recreational fishing as “minor”. While there are not many vessels that can fish these turbines due to their offshore distance, studies show the reef effect is significant and may attract many anglers. Without qualifying whether impact is positive or negative, we believe the reef effect of turbines may be a major impact.	Section 3.4 of the SEIS discussed the reef effect on finfish, and Sections 3.10 and 3.11 discussed that recreational fishing may improve near structures offshore. The SEIS notes that as more offshore wind development is established, recreational fishing practices may change to include a greater volume of trips to wind development areas. Therefore, no change to the FEIS is warranted.
13152-012	The study “Electromagnetic Field (EMF) Impacts on Elasmobranch (shark, rays, and skates) and American Lobster Movement and Migration from Direct Current Cables” conducted by the University of Rhode Island and referenced in the SEIS indicates more research is needed about the impacts of EMF to certain sensitive species. While the existing evidence and angler experience with existing power cables across the Northeast both indicate EMF is not likely to majorly affect fisheries, one of the study’s authors recommended more research to firmly conclude there is no impact, especially as multiple power cables are likely to be concentrated in certain areas.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. BOEM continues to fund studies to address concerns raised in public comments, including responses of additional species to EMF (https://www.boem.gov/environment/environmental-studies/renewable-energy-research).
13152-013	To assess cumulative impacts from wind farms, and to monitor changes in species distribution and abundance at wind farm sites, monitoring of species and fishing activity before, during, and after construction is essential. While we have seen limited studies such as a cod rod and reel survey of Cox’s Ledge executed, and proposed studies for planned developments off the coasts of Massachusetts and Rhode Island, some anglers feel these studies are happening too late in the development process. A few are concerned that acoustic seafloor surveys could already be having impacts to fisheries that surveys beginning now could miss. Future developments must begin monitoring as soon as is feasible to create a legitimate baseline before construction. This is particularly important as the SEIS acknowledges the intersection of proposed projects and highly migratory species, the presence of which in any development area are dependent on forage fish species, ocean currents, salinity and temperature that may be difficult to isolate from development impacts.	The COP includes before-and-after monitoring plans for benthic resources and fisheries. The data used are the best available and reflect the state of the science at the time of publication of the EIS. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research).
13152-014	Create a coordinating body to streamline conversations between the recreational fishing community, developers and agencies. There are state-	It is beyond the scope of this FEIS for the Vineyard Wind 1 project to recommend the suggested coordinated, coastwide engagement between

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	level advisory groups with at least some recreational presence, and developer fisheries liaisons are increasingly developing relationships with key stakeholders. Yet, there is no central body to coordinate coastwide engagement between charter businesses, fishing clubs, marina and tackle shop owners, private recreational anglers and developers. Unlike commercial fisheries, recreational anglers that are not for-hire charter operators see fishing as a pastime, and creating such an entity will require financial commitments from all interested developers.	charter businesses, fishing clubs, marina and tackle shop owners, private recreational anglers and developers.
13152-015	Compensate the recreational fishing sector for any impacts. We know that at the very least, fishing will be restricted during construction. Should impacts to any popular fishing locations be identified, those too should be mitigated by the creation of artificial reefs or other strategies such as further habitat enhancement of the scour pads to be built around each of the turbine bases. Compensation may also include funding a conservation effort through a non-profit entities in the angling community. It may be difficult to identify specific impacts to the recreational fishing industry because of limited trip data to areas of proposed wind farms, so comprehensive support to for-hire vessels including marketing efforts should be included.	While the SEIS found short-term moderate impacts on recreational fishing during construction of Vineyard Wind 1, long term impacts were found to be minor overall. Section 3.9.2 of the FEIS is updated to clarify that that certain impacts on for-hire fishing would be moderate, as stated in Section 3.10.2 of the FEIS, because these enterprises are more likely to be materially affected by displacement, competition for resources and longer transit times in a manner similar to commercial fishing businesses. Certain mitigations established in Appendix D would apply to the for-hire fishing businesses. Therefore, additional mitigation measures are not warranted.
13152-016	Prioritize the use of gravity foundations that minimize the need for pile driving, and consider enhancements that improve their ability to serve as artificial reefs.	Thank you for your comment.
13152-017	Eliminate or minimize successive year-to-year pile driving that overlaps identified critical habitats for recreational fish species, so as to avoid disrupting fisheries and spawning for multiple years.	Section 3.10.2 of the SEIS concluded that during construction of Vineyard Wind 1, recreational marine activities could be affected by only one other offshore wind project that may overlap with the Vineyard Wind 1 project in terms of pile driving, with only short-term, localized impacts. Therefore, no change to the FEIS is warranted.
13152-018	Wherever possible, developers should work with recreational anglers to help with monitoring studies. As an example, before its acquisition Deepwater Wind worked with Rhode Island anglers to participate in a cod rod and reel survey on Cox's Ledge. Recreational anglers have knowledge that could be valuable to any monitoring studies.	It is beyond the scope of this FEIS for the Vineyard Wind 1 project to recommend coordination between offshore wind developers and recreational mariners in surveys and monitoring.
13152-019	Last but not least, developers have reassured the recreational fishing community they have no plans on restricting fishing access to their projects. We have heard the same thing from the United States Coast Guard which would enforce any closures. However, we believe this should be a permit condition from BOEM, or otherwise somehow enshrined in writing to ensure guaranteed fishing access. None of the fishing benefits of the reef effect are worth noting in the SEIS if fishing access is restricted outside of construction.	Section 3.10.2 of the FEIS has been updated to state that while temporary restricted access areas (safety zones) may be set up around active construction areas where applicable, BOEM does not have the authority to restrict vessel access to the WDA during operations. In addition, the USCG has stated that they do not intend to restrict access to the WDA during operations. The USCG's authority to establish safety zones only extends to the boundary of the territorial waters of the United States, which is 12 nautical miles from shore and outside the WDA. BOEM's lack of authority to

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		restrict vessel traffic would apply equally to commercial and recreational vessels.
13153-001	Decisions that will affect multiple sectors of American industry for a generation or more should be based on facts and experience, not conjecture and fear of the unknown. Our United States of America almost always is on the leading edge of technology development. A consequence of being in that enviable position is that the United States is not adept at harvesting lessons learned by other countries that have more experience in an emerging sector of industry. Yet if America wants to develop offshore wind power in a safe and efficient manner, we must look to the examples and lessons learned from other countries that have been leading wind development for decades. I suggest we look to the United Kingdom.	Thank you for your comment.
13153-002	Obviously, it is not possible for all mariners and regulators to gain first-hand experience navigating within a large wind farm. However, there are currently wind farm models under development at two maritime navigation simulators training centers on the East Coast. It is anticipated that these models will provide realistic experience to mariners and simulation data to evaluate wind farm configurations, turbine markings and lighting, as well as provide emergency scenarios for first responders to develop safe search and rescue protocols. These models are scheduled to be available to maritime and regulatory stakeholders late this summer.	Thank you for your comment.
13154-001	Renewable energy is the future for this country, with good Union jobs. Renewable energy is the future for electricity.	Thank you for your comment.
13156-001	The Nature Conservancy believes that the offshore wind industry will be critical for setting us on the path toward decarbonization AND that ensuring proper monitoring, mitigation, and environmental protections are in place will enable projects to be developed in a sustainable manner.....Our staff has supported state legislation to increase the amount of renewable energy for generating electricity. For example, in many states we have supported policies to foster long-term renewable energy contracts. These long-term contracts help states reduce consumer costs, generate jobs, reduce fossil fuel pollution and health impacts in environmental justice communities and help meet clean energy and climate goals.	Thank you for your comment.
13156-002	In addition, our staff serve on every state led offshore wind environmental working group along the Atlantic coast, including here in Massachusetts where we have been engaged in the BOEM process since the RFI in 2010. We have consistently called for a closer examination of cumulative impacts of coastwide wind development, improvements to the public process and the broad application of the mitigation hierarchy (avoid, minimize, mitigate) for	Thank you for your comment.

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	environmental impacts. We appreciate BOEM’s investment in completing this SEIS, which is a large step forward on most of those points.	
13156-003	The SEIS has substantially improved the scope and assessment of cumulative impacts of offshore wind, and these analyses will need updating in subsequent project EISs.	Thank you for your comment.
13156-004	The public would better understand the Final EIS with an articulation of both likely and preferred alternatives.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13156-005	Aggressive monitoring and rapid reporting of construction mitigation efficacy, coupled with rapid agency evaluation, is needed to adaptively manage upcoming projects.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-006	Longer term project monitoring still needs detailed agency guidance for greatest utility.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-007	When mitigating unavoidable impacts developers should aim for additionality where possible, not simply equivalency.	Thank you for your comment.
13156-008	Agencies could better use regional Data Portals for informing the public, and the Nature Conservancy is developing a mapping tool to help with that.	Thank you for your comment.
13156-009	We agree with BOEM in expanding the scope of ‘reasonably foreseeable’ projects from 5.4 GW to 21.8 GW to match the planned state commitments, at this time. The SEIS includes a good description of the uncertainties that could both increase and decrease the potential build out, and we expect most of those assumptions to evolve over time. We recommend that BOEM re-evaluate the potential cumulative build-out scope in each subsequent project EIS.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13156-010	Since the development of the Draft Environmental Impact Statement (DEIS) public statements have been made by the developer and other important parties that appear to have publicly acknowledged the most likely	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Although the developer may make public statements about their preference of alternatives or other agreements related to the project, BOEM is

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	alternatives, yet those are sparsely indicated in the DEIS/SEIS, which may be a disservice to the reader.	tasked with identifying and assessing the potential effects of the proposed Project as defined in the COP as well as a reasonable range of alternatives. Where appropriate, these agreements and COP updates were considered under various alternatives. For example, the developers' 1 x 1 nautical mile layout is considered under Alternative D2.
13156-011	Vineyard Wind announced that turbine manufacturer MHI Vestas Offshore will supply 84 each V164-9.5 megawatt turbines (in Nov 2018) suggesting they are unlikely to select smaller nameplate turbines.	Chapter 2 of the SEIS and FEIS outlines Vineyard Wind's project design envelope. Appendix G provides a summary of the PDE components.
13156-012	Alternative B, the Covell beach landing was publicly agreed to by many parties in March 2019.	Vineyard Wind has updated their COP to remove the New Hampshire Avenue landfall location as they have secured all their necessary state and local permits for Covell's Beach landfall site. Therefore, that landfall location has been removed from the Proposed Action. The FEIS has been updated to reflect this change.
13156-013	Alternative D2, the East/West turbine alignment with 1nm spacing was publicly agreed to by all MA/RI WEA developers in Nov 2019 and was endorsed in the Final US Coast Guard Massachusetts and Rhode Island Port Access Route Study (MARIPARS) study in May 2020.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13156-014	We recognize that until permitted these could change, but most observers of this project would say these are the most likely alternatives at this time. In addition to the lack of description of likely alternatives, this SEIS would benefit from preferred alternatives being indicated by BOEM. Preferred alternatives help the public anticipate likely outcomes.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. While the preferred alternative may be identified in a DEIS, it is required as part of a FEIS, and public comments help to inform BOEM's identification of the preferred alternative.
13156-015	Combining the DEIS and SEIS into a Final EIS (FEIS) that is clear and understandable will be a difficult task, but is particularly important due to the precedent setting nature of this project. There are several areas about mitigation specifically where additional clarity would be useful in the FEIS	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-016	There are several areas about mitigation specifically where additional clarity would be useful in the FEIS, including: A description of agreed upon or required minimizing and mitigating measures should be discussed in each section, in addition to consolidated in an appendix. The impacts scoring of proposed activities are strongly influenced by these mitigation measures, so they should be described inline in the text for easier interpretation.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of

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		Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-017	[There are several areas about mitigation specifically where additional clarity would be useful in the FEIS, including:] There is ambiguity in this document on which mitigation measures will be conditions of the final permit or Record of Decision. For example, the developer has voluntarily agreed to some whale mitigation measures, which have influenced the scoring of impacts. These should be the minimum required mitigation measures.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-018	[There are several areas about mitigation specifically where additional clarity would be useful in the FEIS, including:] The developer has submitted revisions and additions to the COP, including most recently on June 3rd. The FEIS should clearly cite specific COP revisions and be clear which version is being considered.	The SEIS included an analysis of the changes to the COP and identified whether or not this changed the maximum-case scenario analyzed. The FEIS has been updated to state that the specific COP versions and sections referenced throughout the document are available on BOEM's website.
13156-019	[There are several areas about mitigation specifically where additional clarity would be useful in the FEIS, including:] Appendix D (Mitigation and Monitoring) in the DEIS should be updated for the FEIS to include as much detail as possible about what measures will be used, the performance standards they should meet, and how the developer will be evaluated on meeting those standards.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-020	Since this project is the first utility scale offshore wind development in US waters, and the first project to be built in the RI/MA WEAs where many other projects are planned, it is critically important to closely monitor and rapidly report out on successes and challenges of construction and early operation.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-021	The SEIS alludes to this in a few sections with language like “Information gained via monitoring (impacts on marine mammals) ... could also be used to assist other future offshore wind projects in selecting the least impactful method(s).” We agree very strongly with this premise and urge BOEM to develop a proposed methodology and aggressive timeline for the public and	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and

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	BOEM to review these data and analyses and utilize these findings to support an adaptive management approach.	State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-022	Based on the anticipated project construction schedule in Table A-6 there will be between 139 and 311 turbines installed in each year from 2022 through 2025 in the RI/MA WEAs alone. In order to meaningfully inform this rapid progression of projects the developers should be required to report on and analyze construction monitoring data every 6 months for the first three years of the project. This should be a permit condition with penalties assessed for failure to meet the deadlines. This rapid reporting will be a significant burden for the developer, and there should be a similar commitment of time and resource investment by the agencies. Once BOEM receives these monitoring reports, federal agencies would need to conduct a rapid evaluation to determine “If data collected are sufficiently robust, BOEM or other resource agencies could use the information obtained to support potential regulation changes, or new mitigation measures for future projects.” We agree strongly with this statement as well and urge that a process is outlined for these evaluations to take place. New information should also inform regular revisions and updates to the now dated Best Management Practices, which are based on the 2007 BOEM Programmatic EIS.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-023	As indicated repeatedly in the DEIS and SEIS the ocean environment is also changing at a rapid and unprecedented pace due to climate change. This project represents a part of the solution to this crisis by building renewable energy generators, but even with a rapid decarbonization of the global economy there will be continued environmental change thru the life of this project.	Thank you for your comment.
13156-024	Some assumptions that are critical for reducing impacts will need to be frequently updated, particularly for future projects and critically endangered animals like the NARW (NARW). The phenology of seasonal migrations is used to establish pile driving restrictions for example, yet, “over the last several years, NARW distribution and patterns of habitat use have shifted, in some cases dramatically (Pettis et al. 2017)” and the same has been shown for other large whales.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Post-construction monitoring requirements are being developed with researchers, environmental NGOs, State, and Federal agencies. The results of monitoring could be applied to adaptive requirements if the results show certain actions may be warranted.

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13156-025	Climate change is already causing major shifts in fish species distribution which are already impacting commercial and recreational fishermen and coastal communities. The Nature Conservancy is working with regional fisheries management councils across the country to help make fisheries management ‘climate ready’ but that is adapting to change, not slowing it.	Thank you for your comment.
13156-026	While this project will set precedents for future projects in the region, BOEM will need to carefully evaluate the changing conditions for each location and project, in consultation with agency and independent researchers, to determine which monitoring and mitigation measures can be directly transferred and which ones require more evaluation.	This comment does not require edits to the FEIS but will be considered in future NEPA reviews.
13156-027	It is critical that throughout the next decade of rapid offshore wind buildout that we invest in the science needed to stay current, and keep adjusting the best practices and mitigation measures as the research indicates.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-028	We appreciate the language in DEIS Appendix D compelling the developer to conduct ecological monitoring in their lease area, and to contribute funds to both regional fisheries research and long-term regional monitoring of protected species impacts. This scientific research and long-term monitoring to advance understanding of the effects of offshore wind development on marine and coastal resources and ocean uses is essential.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-029	Science should be conducted in a collaborative and transparent manner, utilizing recognized marine experts, engaging relevant stakeholders, and making results publicly available and shared, as appropriate, on the Northeast and Mid-Atlantic Ocean Data Portals and other public platforms.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.

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13156-030	We recognize that evaluating cumulative impacts is a challenging and emerging science, but the large-scale likely development demands an aggressive approach to determining impacts.	Thank you for your comment.
13156-031	We point to a few relevant papers describing the challenges and possible approaches to offshore wind cumulative impact analysis, impacts on avian species specifically, and challenges assessing fisheries impacts.	The FEIS has been updated to include relevant citations from the list of publications provided by the commenter. Furthermore, BOEM's assessment of fisheries impacts was guided by coordinating with NMFS and methods from Kirkpatrick et al. 2017.
13156-032	Impacts for particularly vulnerable species, such as the critically endangered NARW should be prioritized and expedited thru aggressive funding. This species appears to already be in decline ¹⁸ before being impacted by the additional stresses that may result from offshore energy development.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Post-construction monitoring requirements are being developed with researchers, environmental NGOs, State, and Federal agencies. The results of monitoring could be applied to adaptive requirements if the results show certain actions may be warranted.
13156-033	Conducting Ecological monitoring inside the project site is one important component, which is described in the DEIS as “Conduct long-term monitoring to document the changes to the ecological communities on, around, and between WTG foundations and other benthic areas disturbed by the proposed Project, including protected species movement and habitat use.” We have heard anecdotally from many developers that they are willing to do whatever ecological monitoring is required, but someone needs to decide exactly what that is. BOEM needs to create a specific monitoring methodology that all developers can use to allow these data to be compared between projects.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-034	The National Marine Fisheries Service has proposed detailed recommendations on mapping fish habitat which are at the appropriate level of detail and should be developed for as many other ecosystem components as possible. A recent paper describes this approach to develop criteria for each lessee to collect standardized baseline data, and develop standardized monitoring protocols so that future effects and impacts can be measured in a statistically valid manner. Without coordinated monitoring methodologies across the existing lease areas it will be difficult or impossible to identify positive or negative impacts of offshore development. In addition to collecting data it is important for BOEM to set thresholds of impact early on,	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.

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	and then articulate what specific actions would result from reaching or exceeding those thresholds.	
13156-035	Large-scale monitoring is essential to track both environmental and human features of the ecosystem that overlap multiple planning areas and leases. Developers are already coordinating with the entities that have been, or are being, developed to steer and fund regional research which will contribute to regional-scale analyses needed to address questions related to population-level change and cumulative impacts across the geographic range of the NARW and other affected species. The Nature Conservancy has been working closely with state and federal agencies, environmental organizations and offshore wind developers to establish the Regional Wildlife Science Entity (RWSE) to support research and monitoring on wildlife and offshore wind energy. Between the RWSE and the Responsible Offshore Science Alliance, focused on impacts to fisheries, the conversation around regional research has shifted away from BOEM but the agency still has important roles in setting standards, providing funding and ensuring there are no critical gaps to be filled in other ways.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-036	One principle that deserves calling out is that of additionality. Specifically, mitigation “actions that restore, enhance, manage, and/or protect values and functions should be a genuinely new contribution to conservation with a strong probability of success.” In the ocean environment there are few examples of this, but there is new research being conducted looking at how to maximize ecological value of offshore wind scour protection in the North Sea. The focus is on species “that need hiding places, shelter, feeding area or use the area as a nursery area and species that will profit from creating additional smaller and larger crevices”, such as Atlantic cod, loligo squid, crab, lobster, and Eastern oysters, all of which are of interest here in the Northeast. The general approach is to integrate objects like pipes, reef balls, cages and other space producing items into the standard scour protection to improve the beneficial impact that is described in the DEIS/SEIS for this structure.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13156-037	Another approach for enhancing ecological value of structures has been demonstrated by adjusting concrete mixes to increase species richness of encrusting organisms. We would be interested in working with BOEM and developers to experiment with this type of habitat additionality which would benefit certain species, ecological resources, and commercial and recreational fishermen by extension.	Section 3.2 and Appendix D of the FEIS have been updated to discuss the suggested mitigation in the form of nature inclusive designs.
13156-038	The Northeast region developed and had approved two Regional Ocean plans in 2016 which list actions that federal agencies, including BOEM, agreed to	Thank you for your comment.

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	take, within the constraints of existing regulations. Many actions are related to the maintenance and use of spatial data housed by the Mid-Atlantic and Northeast Ocean Data Portals, which collectively represent the best available science for regional scale projects, like the VW 1 project. Regulatory bodies including the EPA and the NEFMC have successfully used the NE Ocean Data Portal to help stakeholders analyze proposed actions. The NE Ocean Plan Action EI-4 links the Portal with environmental reviews specifically like this SEIS, where agencies agreed to “Incorporate Plan maps and data into environmental reviews associated with new offshore energy or submarine cable proposals” and further mentions the use of the Portal specifically for cumulative impacts analysis, given the regional scale of much of the data. We encourage BOEM to better utilize the Portals in the VW FEIS and in future EISs undertaken across the region to enable the public to do their own interpretation of the data.	
13156-039	Recognizing the challenge of sifting through the nearly 10,000 data layers on the Northeast and Mid-Atlantic Data Portals the Nature Conservancy is developing a wind energy mapping tool to help interested parties query, visualize, synthesize and interpret these data in a simpler, but no less rigorous way. To achieve this goal, we are reviewing, updating and modifying available marine-life, habitat and oceanographic regional data layers; determining the best metrics to characterize the ecosystem, especially given its variability; and analyzing and interpreting data layers in the context of wind-energy development. This tool, which will cover the waters from Maine to North Carolina, is being developed with input from state, federal and academic partners and is scheduled for completion in winter 2020 for public release.	Thank you for your comment.
13158-001	We also have concerns about the impacts to recreationally important fish species from offshore wind development, which include but are not limited to vibration and noise from piling driving, acoustic surveys, operation of turbines, impacts of cable installation and maintenance, sediment and scour impacts, and interference with larval transport. The continued development of offshore wind turbine must proceed with these concerns and the best available science in mind.	Section 3.4 of the SEIS discussed the potential impacts of noise, new cable emplacement/maintenance, sedimentation, and alteration of local water movements. Therefore, no change to the FEIS is warranted.
13158-002	The Block Island Wind Farm ... became operational in 2016... Since then, the results have largely been positive – with numerous species including black sea bass, fluke, cod, scup and many others caught regularly in the wind farm area from both individual and for-hire charter boats. The charter industry has also seen a significant increase in bookings from tourists whom want to see the turbines up close and personally.	Section 3.10.2 of the FEIS has been updated to include information about this comment from a survey conducted by the University of Rhode Island which found that recreational fishing increased in the vicinity of the wind turbines.

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13158-003	We also have concerns about the impacts to recreationally important fish species from offshore wind development, which include but are not limited to vibration and noise from piling driving, acoustic surveys, operation of turbines, impacts of cable installation and maintenance, sediment and scour impacts, and interference with larval transport. The continued development of offshore wind turbine must proceed with these concerns and the best available science in mind....We believe the project has largely been a success from the recreational fishing perspective because the developer, Deepwater Wind, (now owned by Ørsted): · Engaged fishing clubs, charter captains and other stakeholders regularly and listened to their input. · Provided financial resources to the charter fishing industry impacted by closures during the construction of the wind farm to assist in marketing. · Committed to and followed-through on fisheries monitoring before, during and after construction of the wind farm. · Generally followed the guidance established by the Rhode Island Ocean Special Area Management Plan produced by the state’s Coastal Resources Management Council. These components can and should be replicated to the extent possible in other project developments moving forward.	Section 3.3.2 of the FEIS has been updated to consider higher hammer energies. Sections 3.3 and 3.4 of the SEIS discuss the effect of structure but do not put forth any expectation of the strength of this effect from the foundations versus the scour and cable protection. Therefore, no further revision to Sections 3.3 or 3.9 of the FEIS (i.e., to evaluate the impacts of this noise on recreational fishing) is warranted.
13158-004	The Vineyard 1 and other projects propose to use monopiles as opposed to the jacketed foundations of the BIWF. Monopiles are more of a concern because they require much greater energy during pile driving and provide much less structure to enhance fish habitat.	Section 3.3.2 of the FEIS has been updated to consider higher hammer energies. Sections 3.3 and 3.4 of the SEIS discuss the effect of structure but do not put forth any expectation of the strength of this effect from the foundations versus the scour and cable protection. Therefore, no further revision to the FEIS is warranted.
13158-005	During construction of wind farms, the SEIS states that while mortality impacts from pile driving will be limited to only 250 feet from the activity, behavioral impacts can extend up to 5.7 miles – quite a significant distance in a recreational fisheries context. This could include potentially impacting spawning activity in key habitats, such as Cox’s Ledge off of Rhode Island and Massachusetts where multiple windfarms are proposed. While an individual windfarm may have “temporary and localized impacts”, successive years of construction where critical habitats are in overlapping 5.7 mile radiuses around projects could result in multi-year disruption to spawning.	Section 3.4.1 of the SEIS described the potential for spawning behavior disruption and for the same populations or individuals to be affected multiple times in 1 year or in sequential years. Therefore, no change to the FEIS is warranted.
13158-006	Operational noise and vibration impacts are likely minimal.	Sections 3.4, 3.5, and A.8.3 of the SEIS discussed the potential impacts of WTG operational noise. Therefore, no change to the FEIS is warranted.

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13158-007	geological and geophysical survey noise impacts are not likely to rise to fisheries-level impacts and are also temporary and highly local, even as they may harm individual species and localized populations.	Section 3.4 of the SEIS discussed the potential impacts of G&G survey noise on finfish, invertebrates, and EFH. Therefore, no change to the FEIS is warranted.
13158-008	Larval transport is more likely to be impacted by changes in water temperature and salinity than presence of structures.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments, including larval transport modelling at a regional scale (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13158-009	The vast majority of wind turbines will be developed in areas where fishing for highly migratory species is present. The presence of turbine structures will likely attract pelagic species such as tuna, which could enhance fishing opportunities. On the other hand, tuna anglers could have existing fishing grounds covered in potential snags; some anglers are concerned about hook long and hard fighting fish like tuna within .5 miles of a turbine.	The revised Sections 3.9.1.1 and 3.9.2, as well as Sections 3.10.1.1 and 3.10.2 of the FEIS, which already discussed this subject and did not require further revisions on the matter, discuss fishing for highly migratory species and how such fishing could be affected by offshore wind energy development, with the presence of foundations potentially being incompatible with certain fishing methods, as well as increasing the risk of fishing gear loss.
13158-010	The presence of turbine structures acting as artificial reefs will be reduced if monopiles are used and scour pads are basically solid rock structures.	Sections 3.3 and 3.4 of the SEIS discuss the effect of structure but do not put forth any expectation of the strength of this effect from the foundations versus the scour and cable protection. Therefore, no further revision to the FEIS is warranted.
13158-011	The population-level impacts of adding hundreds of artificial reefs over ten years, including shifts in species assemblages and abundance in specific wind farms is unknown, and must be continually monitored.	Section 3.4.1 of the SEIS considered the potential for the reef effect. This is a single-project EIS, not a Programmatic EIS, and complies with the requirements of NEPA. A benthic monitoring plan is included in COP Appendix III-D, and the COP also includes provisions for fisheries monitoring. Therefore, no change to the FEIS is warranted.
13158-012	Specific to the SEIS, we believe that recreational fishing impacts should be considered independently of commercial fishing impacts. Taken as a whole, the SEIS labels the impacts to for-hire recreational fishing and commercial fishing as major. There are certainly significant likely impacts to recreational fishing, but they are substantially different. In the current draft, the impacts are conflated at times, especially in reference to gear entanglements. The loss of a very expensive commercial trawl net is not comparable to a recreational angler hanging up while fishing a turbine, yet the SEIS seems to treat them similarly. Likewise, for-hire and personal vessels may have access restricted during construction, but both navigation and fishing will be much easier for these smaller vessels.	While the organization of these two topics is not altered in the FEIS, Section 3.9.2 of the FEIS has been updated to note the findings on for-hire recreational fishing in Section 3.10.2 and discuss the relationship between the impact findings of the two. In Section 3.10.2, the FEIS has been updated to make several distinctions between for-hire and commercial fishing when there are expected differences, such as maneuverability within the WDA or increased opportunities from a greater abundance of structure-oriented species being present near the structures. Additionally, some of the impact ratings for the IPFs and sub-IPFs differ between commercial fisheries and for-hire recreational fishing (e.g. space use conflicts). For-hire (charter) fishing businesses share certain characteristics with commercial fishing (e.g. the impact on earnings resulting from factors such as increased trip length and disruption of access to certain locations).

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13158-013	Finally, the SEIS possibly understates the impact of the reef effect on recreational fishing as “minor”. While there are not many vessels that can fish these turbines due to their offshore distance, studies show the reef effect is significant and may attract many anglers. Without qualifying whether impact is positive or negative, we believe the reef effect of turbines may be a major impact.	Section 3.4 of the SEIS discussed the reef effect on finfish, and Sections 3.10 and 3.10 discussed that recreational fishing may improve near structures offshore. Therefore, no change to the FEIS is warranted. The SEIS notes that as more offshore wind development is established, recreational fishing practices may change to include a greater volume of trips to wind development areas. Therefore, no change to the FEIS is warranted.
13158-014	The study “Electromagnetic Field (EMF) Impacts on Elasmobranch (shark, rays, and skates) and American Lobster Movement and Migration from Direct Current Cables” conducted by the University of Rhode Island and referenced in the SEIS indicates more research is needed about the impacts of EMF to certain sensitive species. While the existing evidence and angler experience with existing power cables across the Northeast both indicate EMF is not likely to majorly affect fisheries, one of the study’s authors recommended more research to firmly conclude there is no impact, especially as multiple power cables are likely to be concentrated in certain areas.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. BOEM continues to fund studies to address concerns raised in public comments, including responses of additional species to EMF (https://www.boem.gov/environment/environmental-studies/renewable-energy-research).
13158-015	To assess cumulative impacts from wind farms, and to monitor changes in species distribution and abundance at wind farm sites, monitoring of species and fishing activity before, during, and after construction is essential. While we have seen limited studies such as a cod rod and reel survey of Cox’s Ledge executed, and proposed studies for planned developments off the coasts of Massachusetts and Rhode Island, some anglers feel these studies are happening too late in the development process. A few are concerned that acoustic seafloor surveys could already be having impacts to fisheries that surveys beginning now could miss. Future developments must begin monitoring as soon as is feasible to create a legitimate baseline before construction. This is particularly important as the SEIS acknowledges the intersection of proposed projects and highly migratory species, the presence of which in any development area are dependent on forage fish species, ocean currents, salinity and temperature that may be difficult to isolate from development impacts.	The COP includes before-and-after monitoring plans for benthic resources and fisheries. The data used are the best available and reflect the state of the science at the time of publication of the EIS. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research).
13158-016	Create a coordinating body to streamline conversations between the recreational fishing community, developers and agencies. There are state-level advisory groups with at least some recreational presence, and developer fisheries liaisons are increasingly developing relationships with key stakeholders. Yet, there is no central body to coordinate coastwide engagement between charter businesses, fishing clubs, marina and tackle shop owners, private recreational anglers and developers. Unlike commercial fisheries, recreational anglers that are not for-hire charter operators see fishing as a pastime, and creating such an entity will require financial commitments from all interested developers.	It is beyond the scope of this FEIS for the Vineyard Wind 1 project to recommend the suggested coordinated, coastwide engagement between charter businesses, fishing clubs, marina and tackle shop owners, private recreational anglers and developers

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13158-017	Compensate the recreational fishing sector for any impacts. We know that at the very least, fishing will be restricted during construction. Should impacts to any popular fishing locations be identified, those too should be mitigated by the creation of artificial reefs or other strategies such as further habitat enhancement of the scour pads to be built around each of the turbine bases. Compensation may also include funding a conservation effort through a non-profit entities in the angling community. It may be difficult to identify specific impacts to the recreational fishing industry because of limited trip data to areas of proposed wind farms, so comprehensive support to for-hire vessels including marketing efforts should be included.	While the SEIS found short-term moderate impacts on recreational fishing during construction of Vineyard Wind 1, long term impacts were found to be minor overall. Section 3.9.2 of the FEIS is updated to clarify that that certain impacts on for-hire fishing would be moderate, as stated in Section 3.10.2, because these enterprises are more likely to be materially affected by displacement, competition for resources and longer transit times in a manner similar to commercial fishing businesses. Certain mitigations established in Appendix D would apply to the for-hire fishing businesses. Therefore, additional mitigation measures are not warranted.
13158-018	Prioritize the use of gravity foundations that minimize the need for pile driving, and consider enhancements that improve their ability to serve as artificial reefs.	Thank you for your comment.
13158-019	Eliminate or minimize successive year-to-year pile driving that overlaps identified critical habitats for recreational fish species, so as to avoid disrupting fisheries and spawning for multiple years.	Section 3.10.2 of the SEIS concluded that during construction of Vineyard Wind 1, recreational marine activities could be affected by only one other offshore wind project that may overlap with the Vineyard Wind 1 project in terms of pile driving, with only short-term, localized impacts. Therefore, no change to the FEIS is warranted.
13158-020	Wherever possible, developers should work with recreational anglers to help with monitoring studies. As an example, before its acquisition Deepwater Wind worked with Rhode Island anglers to participate in a cod rod and reel survey on Cox's Ledge. Recreational anglers have knowledge that could be valuable to any monitoring studies.	It is beyond the scope of this FEIS for the Vineyard Wind 1 project to recommend coordination between offshore wind developers and recreational mariners in surveys and monitoring.
13158-021	Last but not least, developers have reassured the recreational fishing community they have no plans on restricting fishing access to their projects. We have heard the same thing from the United States Coast Guard which would enforce any closures. However, we believe this should be a permit condition from BOEM, or otherwise somehow enshrined in writing to ensure guaranteed fishing access. None of the fishing benefits of the reef effect are worth noting in the SEIS if fishing access is restricted outside of construction.	Section 3.10.2 of the FEIS has been updated to state that while temporary restricted access areas (safety zones) may be set up around active construction areas where applicable, BOEM does not have the authority to restrict vessel access to the WDA during operations. In addition, the USCG has stated that they do not intend to restrict access to the WDA during operations. The USCG's authority to establish safety zones only extends to the boundary of the territorial waters of the United States, which is 12 nautical miles from shore and outside the WDA. BOEM's lack of authority to restrict vessel traffic would apply equally to commercial and recreational vessels.
13159-001	BOEM, Dept of Interior and the Trump Administration has a real opportunity to green light a clean home-grown industry. Please consider early approval (well before November 3rd) of the "Record of Decision" for the Vineyard Wind 1 project.	Thank you for your comment.
13159-002	INM spacing instead of transit lanes is better. Commercial fishermen need to stay out of the BOEM lease blocks, as there is plenty of ocean elsewhere, in	Section 3.4 of the SEIS discusses the "reef effect" and the potential benefits to finfish and invertebrates. Section 3.10 and 3.11 discuss the potential for

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	fact a UK study showed that Off Shore Wind (OSW) creates mini artificial reefs at the base of each turbine foundation.	increased recreational, commercial, and for-hire fishing opportunities; therefore, no change to the FEIS is warranted.
13159-003	Approximately 4 years ago DOE stated that the east coast could support 86GW of offshore wind, and I agree with this. Currently we see about 27GW of planned build out in the northeast. We also see old inefficient coal, oil and nuke power plants closing down and this offshore wind industry is the smartest plan to replace this electricity production. Yes, we will still need the natural gas co-gen plants, but these gas power plants are mostly new and highly efficient and clean. OSW is a merchant funded clean power industry, not requiring tax dollars but does require your support and approval.	Thank you for your comment.
13161-001	Therefore, we are left with no options but to strongly demand that the permitting process be stopped until either the developers layout the wind farms to allow large fishing and clam vessels to operate efficiently and safely with enough space between the turbines.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13161-002	In addition, to provide adequate turbine spacing that allows the National Marine Fisheries Service's research vessels to conduct finfish, scallop, and clam surveys within the leases areas. The clam survey had been ongoing since mid-1960s and will not be possible if the current turbine spacing is the final layout. If the developers will not make concessions then they need to compensate these vessel and ITQ owners for the clams that they have exclusive rights to harvest and that they will not be available for them to harvest.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13161-003	The clam industry would like to point out the obvious, if Vineyard Wind is allowed to proceed with construction of their wind farm as currently proposed, that will set a precedent that will undermine every fishery in New England and the Mid Atlantic. The long-term effect is going to have, as BOEM put it, a <u>MAJOR</u> negative impact on the U.S. fishing industry and is a violation of the idea that the U.S. needs food security.	Thank you for your comment.
13161-004	With the proposed 1X 1nautical mile separation of the turbines in both direction, there will be no large fishing vessels operation within the lease areas. That is a violation of the entire Magnuson / Steven Fisheries Conservation and Management Act, (MSFCMA) which provides the authority over fishing and Essential Fish Habitat (EFH) within the EEZ to the regional fishery management councils.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13161-005	A complete disregard by the developers is managed under Individual Transferable Quotas (ITQ). ITQs are a fishery management tool that gives the ITQ owners the exclusive rights to the clam biomass. However, if the clams are in an area that has become controlled by some other entity other than the regional councils then the clam fishery cannot fish there for non-	Section 3.10 and Appendix D of the FEIS discuss the details of the voluntary revenue compensation funds. Vineyard Wind has established voluntary gear loss and revenue compensation funds for fishing interests based in Rhode Island and Massachusetts, which includes owners and operators of vessels, vessel crews, shoreside processors, vessel supplier and support services, and

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	fishery management reasons, the restricting party must be responsible for the harm that they causes. Clam ITQs are a valuable commodity.	other entities that can demonstrate losses directly related to the Vineyard Wind 1 Project.
13161-006	The surfclam and ocean quahog fishery represented by this office strongly demands that BOEM not issue any additional permits to any of the wind developers until a fair and reasonable set of rules are put together by all ocean users and BOEM incorporates them into the final COP for every ocean wind project in the north east Unites States.	Thank you for your comment.
13161-007	The developers say that one by one mile layout is safe to transit even when approaching another ship going in opposite direction or meeting in a crossing pattern. The fishing industry strongly disagrees. While some of the other fisheries wanted four NM transit lanes the clam industry suggested that the turbines be spaced in the same pattern but Two X Two NM apart. In that, way vessel can safely transit the area most of the time and fishing for clams and other fisheries may be possible for the smaller vessel under favorable conditions.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13161-008	But, the larger vessel's captains, even in good weather are going to be very reluctant to steam through the [proposed 1x1 NM] array and in bad weather, fog and dark, no skipper in their right mind would put their crew and vessel in such a dangerous situation. To make the situation worse the interference from the turbines on the ship's radar makes that tool almost useless when it is needed most. Therefore, all vessels that must steam many miles to navigate around this large wind array in time lost and extra fuel burned and under the worst circumstances. This is very harmful for fishing vessels that fish on days at sea regulations. Steaming many extra hours cost them time that is only an extra expense and reduced fishing time that equates in less income. So steaming around the wind farms is more expensive and cause lost income, which is a double loss.	Section 3.10 of the FEIS addresses impacts to commercial fisheries, including the potential impacts to vessel operators that chose to avoid the proposed Project area. Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13161-009	However, we know that if they are developed as design it will cause substantial damage to the fishing industry for loss of fishing ground especially for those that fish for shellfish that do not move. The need for better baselines science information of the lease area is necessary so that the changes that take place as the areas become more populated with turbines and cables can be monitored as changes take place.	Section 3.10.2 of the FEIS was updated to discuss the proposed Project's plan for biological fisheries monitoring, which could provide an understanding of the effects of offshore wind development, benefit future management of commercial and for-hire fisheries, and inform planning of other offshore developments. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).
13161-010	There is no justification for significant changes of the ecosystem in the area for a group of wind farms that only provide electricity 35 percent of the time. In addition, they are the most effective in the winter when demand is low and	Thank you for your comment.

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	produce very little electric power in the summer when electric demand is highest.	
13161-011	There are many sample stations within the lease area for fisheries and protected species but because of the turbine, spacing the NOAA research vessels will not be able to do their surveys in the areas leave big holes in the data that has been collected for years on most of the species that are found in the area. Because fisheries is managed under a precautionary approach, if data is not validated on a regular basis then it must be assumed the species is not there, which reduces the biomass estimate which then reduces in fin fish or shellfish quotas.	The SEIS discusses these issues throughout Section 3.14 (Other Uses, Scientific Research and Surveys), and Section 3.14.2.5 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07). Existing voluntary compensation packages details are in Appendix D, including voluntary compensation packages that Vineyard Wind proposes for the life of the project. Therefore, no change to the FEIS is warranted.
13161-012	The developers are conning the Governors and the state legislators with the idea that they are going to provide high paying jobs to their state and billions of dollars in income. That is not possible for the near future because the U.S. has neither the equipment nor the skilled workers to build the turbines or install them. While the U.S. could build and install them, it would require a design of all the components parts for the turbines, cables, at sea substations and construction ships. The supply chain here in the U.S. does not exist and there is a great risk in building the construction ship because the developers want to install the largest turbines possible but it is very expensive to build a ship that can construct a 12 MW turbine and then use it to build an 8 MW array.	Economics and employment effects are addressed in Section 3.6 of the FEIS. Additionally, Chapter 1 of the FEIS has been updated to acknowledge that approval of the proposed Project would encourage support and investment in other offshore wind projects and the creation of a domestic supply chain for the industry.
13161-013	The point is that most of the turbines that are going to be installed here will come from Europe for at least years while U.S. yards gear up to build the components.	Economics and employment effects are addressed in Section 3.6 of the FEIS. Additionally, Chapter 1 of the FEIS has been updated to acknowledge that approval of the proposed Project would encourage support and investment in other offshore wind projects and the creation of a domestic supply chain for the industry.
13161-014	There is a lot of hype about wind farms having a near zero carbon footprint. That is not the case; ... All of [the turbine] components require energy generated from mostly fossil fuels to make the steel and then installing the turbines, substations and cables. Decommissioning the wind farms requires removing the turbines, cables, and substations will require large amount of energy to transport then melting down the steel and finding a place to bury the cables that will last for a thousand years and the blades, which will also last for hundreds if not thousands of years. In the case of the blades, there is	Greenhouse gas emissions, climate change, and air quality were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information. In addition, Section 2.1.1.3 of the FEIS specifies that Vineyard Wind would reuse, recycle, or responsibly dispose of all materials removed during decommissioning. Vineyard Wind has submitted a conceptual decommissioning plan as part of the COP, and the final plan would outline Vineyard Wind's process for managing waste and recycling proposed Project components.

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	no materials that can be recycled. The cables material separation will cost more than they could sell the components. Therefore, they would put them in a landfill or dump them in the deep ocean. Alternatively, leave them on the bottom in the lease area. The developers intend to cut the tower off just below the bottom. They may attempt to leave the tower foundation and the cables where they are if they can get away with it.	
13161-015	The conventional power plants using natural gas, coal, or nuclear fuel to carry the load most of the time. Therefore, the questions is, if you build these wind arrays, have you reduced the carbon footprint? The answer is there is a very small amount of carbon reduction. Nuclear power plants are much more reliable and cleaner with a low carbon overall footprint while providing power to the customer 100 percent of the time.	Thank you for your comment.
13161-016	If the turbines are spaced as currently designed at one X one NM apart, the [NMFS biomass] survey vessel will not be able to sample the area. If survey station cannot be sampled the [clam] population of the area is counted as zero. Therefore, the population is lowered and then so is the quota. Is the federal government going to allow the clam fishermen that invested millions to purchasing clam ITQs to have them taken away by European companies free? The developers have two options, install much larger turbines spread out to two X two NM or pay the ITQ holders for the loss of their valuable assets.	The potential impacts to NMFS survey efforts are addressed in 3.12 of the FEIS. Additionally, resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13162-001	I am writing to express support for the proposed Vineyard Wind 1 project and encourage BOEM to reject Alternative F, adopt Alternative D2 and proceed along its published schedule to issue a final EIS in November and a Record of Decision approving the project.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13162-002	While not in our region, decisions made about the Vineyard Wind 1 project will have ripple effects that will influence wind projects off the shores of our region now and into the future. RPA believes that the proliferation of offshore wind is critical for our region's environmental and economic success and for the health and well-being of our communities.	Thank you for your comment.
13165-001	Specifically, the economic development and workforce opportunities of this industry are now more important than ever as many people have found themselves unemployed. There is urgency for approval with greater awareness of the need to retool and educate for the new opportunities connected with this project and renewable energy.	Thank you for your comment.
13165-002	In addition, having followed the Trump Administration's "Pledge to America's Workers," we encourage consideration of the turbine layout to minimize the need for additional transit lanes within the lease area. We	Thank you for your comment.

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	recognize that increasing the transit lanes increases the distance of undersea cabling between fewer turbines, generating less clean energy, and ultimately creating fewer jobs for our communities.	
13166-001	The development of offshore wind facilities is a significant opportunity for the U.S. government to address climate change, meet society's needs for reliable and affordable energy, and most importantly to provide another tool to boost the economy.	Thank you for your comment.
13166-002	The VW 1 Project Draft SEIS Should Inform and Provide Greater Certainty Regarding Future Offshore Wind Permitting Decisions....Shell acknowledges that the intent of E.O. 13807 was satisfied in regard to the draft SEIS process....The draft SEIS's detailed analysis demonstrates that BOEM has taken a "hard look" at the pertinent issues, including the potential cumulative impacts of reasonably foreseeable future projects.	Thank you for your comment.
13166-003	It is critical that BOEM proceeds in an objective and balanced manner and finalizes the SEIS process in a manner consistent with its statutory obligations.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP.
13166-004	Initial [offshore wind] projects [such as VW] will likely select export cable routes and shore landings that may limit future projects' route selections, culminating in a potentially higher cumulative resource impact. Ensuring the cumulative scenario framework also accounts for co-existence between foreseeable projects, BOEM can initiate project collaboration as a potential opportunity to reduce cumulative impacts during development.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13166-005	BOEM has to consider how a preferred alternative for the VW 1 Project may impact the cumulative scenario framework, specifically the consequences of proposed alternatives on future projects....Shell recommends the agency consider the time for building out the full 21.8 GW offshore wind capacity is far from certain and that BOEM, or the Department of Interior, should not make a preferred alternative decision that impacts the viability of the current proposed project and future projects.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13166-006	Shell encourages BOEM to rely on the reasonable opinions and interpretations of qualified experts, including those within the Office of Renewable Energy Programs and across the agency, to make informed decisions based on the best available science, including data generated from BOEM's robust oil and gas program, environmental analyses of past and current offshore wind activities in the U.S. and overseas, and from globally-applied monitoring and research activities specific to the offshore wind industry.	BOEM's experienced subject matter experts oversee the NEPA review process.
13166-007	The designations of potential impact levels did not adequately account for reasonably foreseeable mitigation that could be applied at a project level or at	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation

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	a regional level. While Shell generally agrees with some impact ratings in the draft SEIS, other resource areas were rated higher than is appropriate and did not account for the best available science and the evolving types of mitigation measures.	measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13166-008	We encourage BOEM to recognize, in the final EIS, these early efforts in research, monitoring, and data collection, the adoption of best management practices for data sharing and public-private collaborations and the value that such efforts generate. These are important tools and should guide BOEM, the consulting agencies, offshore wind industry, and other stakeholders as they consider the steps that may be taken to mitigate any adverse environmental impacts.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13166-009	...BOEM's analysis of the No Action Alternative states that "the proposed Project would not be built and hence would have no impact on commercial fisheries and for-hire recreational fishing" (pp. 3-94). This statement disregards other BOEM analyses in the document that recognize states' positions concerning the positive benefits or ancillary positive benefits that could result from offshore wind development, role of Fisheries Representatives and other opportunities for fishermen to collaborate with the D10 offshore wind industry, including partnering on cooperative science and monitoring that provides increased data and knowledge of fisheries and their habitats in and around the lease areas. In this sense, the no action alternative results in negative outcomes for the fisheries community and this should be acknowledged.	Section 3.10.2 of the FEIS discusses the proposed Project's plan for biological fisheries monitoring, which could provide an understanding of the effects of offshore wind development, benefit future management of commercial and for-hire fisheries, and inform planning of other offshore developments. However, the FEIS states that other ongoing and future surveys could still provide similar data to support similar goals. Therefore, no change to the FEIS is warranted.

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13166-010	Shell recommends that BOEM clearly identify where data and literature supports a direct or indirect finding of impact and clearly identify where BOEM’s direct and indirect impact analyses are predictive, speculative, qualitative, and/or subjective. BOEM should also require the same rigor from the data, information and assessments provided by consulting agencies. BOEM is also responsible for balancing consulting agency feedback with its own assessment of the strength of information to a ‘best science’ principle.	The FEIS includes a discussion of impacts as well as the use of the impact levels applied to the adverse and beneficial impacts. The resource specific sections include information related to the magnitude, duration, geographic extent, and/or frequency of potential impacts, as appropriate, to support impact determinations.
13166-011	For analyses that are predictive or speculative, the agency should reference actions and/or activities by the agency and consulting agencies, the industry, and the specific project under review that will help adapt and refine the cumulative scenario framework over time, as individual projects are built and monitored and more information can be provided to inform decision making.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13166-012	In the cumulative impacts scenario assessment, BOEM considers ‘maximum-case’ impact scenarios for some resources and minimum cases for other resource impacts. BOEM also conflates impacts where all projects, in the reasonably foreseeable future, are considered equal, when mitigation actions (e.g. impacts to fisheries resources) and consultations (e.g. Department of Defense) will be variable across the projects and specific to the individual PDE choices of those projects. This establishes a precedent that does not create fair and equitable development for lease areas under OCSLA, that projects may be able to adequately mitigate the impacts in their lease areas or with their PDEs, and that potential advances in technologies (e.g. navigation safety, turbines, foundations, cables, mitigation monitoring) may serve to reduce potential impacts.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative. The impact analysis prepared for the proposed Project implemented a maximum-case scenario for all resources so that BOEM's decision makers understand the most impactful scenario.
13166-013	BOEM should adopt a consistent approach in analyzing how impact scenarios, and the assumptions informing the analysis will likely change over the timeframe proposed with reasonably foreseeable projects that complies with the agency’s statutory responsibilities under OCSLA. Resources and the impacts to those resources – adverse and positive – should be equally weighed to bring necessary balance to the analysis and BOEM’s statutory responsibilities.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative. The expanded planned action scenario utilized for the proposed Project will be a model future reviews and the scenario will be updated as necessary or as new information becomes available.
13166-014	BOEM should clearly delineate and define where and how project-specific actions can mitigate risks and identify where the combination of project-specific and fit-for-purpose mitigation strategies across foreseeable future scenarios may collectively reduce cumulative impacts.	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for

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		future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13166-015	BOEM's draft SEIS concludes that future offshore wind development will only result in minor economic benefits to the region. This is counter to the draft SEIS's recognition of significant new investments in workforce development, job creation, infrastructure development (ports and harbors), and the supporting manufacturing and supply chain. Further, BOEM's 'No Action' alternative does not consider benefits lost if the project is not built.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS. The No Action Alternative analysis for the SEIS and the FEIS assume that if the Proposed Action is not built, development of other east coast offshore wind projects would nevertheless continue; therefore, loss of the Proposed Action would delay but not prevent the beneficial economic outcomes of the No Action Alternative. In addition, Section 3.6.2 of the FEIS has been updated to acknowledge industry comments on the importance of Proposed Action implementation to support continued investment in offshore wind.
13166-016	The final EIS should include a more accurate and robust analysis of investments for projects with executed PPAs, white papers, peer-review literature and projections by economists and the U.S. Energy Information Administration that clearly document provide data points that indicate the trajectory for the rise and growth of the U.S. supply chain and ocean industries that will support offshore wind and recognize that the positive economic impacts are greater than originally presented in the draft SEIS....BOEM should clearly articulate the justification and process for translating clearly quantitative-derived value to impact determinations, as it has done with other resources analyzed in the draft SEIS.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS. Additional specific data and analysis is not warranted to support the conclusions for the geographic analysis area.

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13166-017	BOEM’s draft SEIS (Section 3:13, pp. 110 – 114) describes impacts to navigation to be ‘major’, but the analysis discounts the effectiveness of navigational aids to mitigate the risks of allisions and collisions.	Even with mitigation, overall, the impacts of Alternative A alone on navigation and vessel traffic would likely be major, due primarily to Alternative A’s structures and layout (i.e., lacking 1 x 1 nautical mile spacing and not being aligned in east-west rows and north-south columns), which could make it more difficult for SAR aircraft to perform operations in the lease area, leading to less effective search patterns or earlier abandonment of searches. This could lead to increased possibility for loss of life due to maritime incidents, which would produce significant local and possibly regional disruptions for ocean users in the RI and MA Lease Areas.
13166-018	Transit lanes and spacing between wind turbines should be assessed at a project-level and, i.e. for adjoining lease areas, and should not be prematurely based on one project’s NEPA analysis for a different and distant geographic location.	Thank you for your comment.
13166-019	The agency process in determining how best to address spacing and the need for transit lanes should be a transparent and interactive process between the respective project proponent and the impacted stakeholders. BOEM should take care to avoid overstepping its authority and should coordinate closely with other federal agencies to ascertain who has the requisite authority to address spacing and transit lanes and defer to that agency’s recommendations and decisions for navigation safety.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13166-020	Shell agrees with the draft SEIS conclusion, as it applies to the Massachusetts – Rhode Island Wind Energy Area (MA-RI WEA), that broad transit lanes transecting offshore wind projects would have negative impacts that would outweigh any minimal positive benefits from their implementation.	Thank you for your comment.
13166-021	For Massachusetts – Rhode Island Wind Energy Area, Alternative D2 is Preferred.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13166-022	Alternative D2 does account for navigational safety for all types of mariners in the buildout of the MA-RI WEA and this has been confirmed by the U.S. Coast Guard’s recently released final report, The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study (MARIPARS), advising BOEM that larger transit lanes are not necessary for safe navigation and, in fact, explaining that they could lead to increased navigational impacts.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13166-023	With how the cumulative scenarios are designated in the draft SEIS, BOEM must consider how the VW 1 Project ROD will impact reasonably foreseeable projects. BOEM’s analysis in the draft SEIS, supplemented with the U.S. Coast Guard MARIPARS findings, satisfies the “hard look” requirement of NEPA. Shell supports Mayflower Wind Energy LLC’s comments regarding project-level impacts of the transit lane alternative	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative. Section 2.1.3 and Section 3.11 of the FEIS incorporate, where appropriate, the Final MARIPARS. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	(Alternative F) in the draft SEIS and AWEA's comments and analysis of Alternatives D2 and F.	
13166-024	Shell recommends the following two actions by BOEM: 1. BOEM incorporate the final Final MARIPARS when finalizing the SEIS, and 2. BOEM reject Alternative F, and select Alternative D2 as the preferred alternative, in the final SEIS based on the findings of the U.S. Coast Guard MARIPARS findings and that the technical, operational and economic challenges outweigh the benefits provided by transit lanes.	Findings and recommendations of the Final MARIPARS study report are included in Section 3.11 of the FEIS. Section 3.11.5 of the FEIS includes a discussion of potential effects of Alternative F. The Preferred Alternative in discussed in Section 3.11.6 of the FEIS.
13166-025	For other Atlantic Wind Energy Areas, the final SEIS should not assume uniform spacing, layout, and inclusion of transit lanes outside of the Massachusetts – Rhode Island WEA. These areas have specific, and often individual, requirements, geography, stakeholders, and conditions uniquely representative of the areas, in which the MA-RI WEA proposed layout is not designed to address. BOEM should rely on the U.S. Coast Guard process and statutory authority to determine what is appropriate for those lease areas specific to spacing between wind turbines and for the inclusion of transit lanes.	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted. Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13166-026	Shell supports AWEA's further explanation of impact designations relative to the processes and statutes that direct this existing cooperation between [Department of the Interior, Department of Defense and the offshore energy industry] and recommends that BOEM re-evaluate [the current process used by these agencies to assess any potential conflicts between military activities and energy operations, evaluate potential ways to minimize conflicts, and establish effective mitigation measures to alleviate any concerns] in the cumulative scenario impacts on military and national security issues for reasonably foreseeable projects.	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional

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		mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information. Impacts on military and national security are addressed in the FEIS in Section 3.12.
13166-027	Shell suggests that the fisheries impact assessments of the draft SEIS may be oversimplified. We concur with published studies that multi-disciplinary research and monitoring of holistic development impacts are needed in order to better understand development impacts and their relationship with impacts from changing natural conditions and human behaviors and have been on forefront to establish structure (e.g. ROSA) to conduct the needed research and monitoring.	Section 3.10.2 of the FEIS has been updated to discuss the proposed Project's plan for biological fisheries monitoring, which could provide an understanding of the effects of offshore wind development, benefit future management of commercial and for-hire fisheries, and inform planning of other offshore developments. Although regional research and monitoring is something that BOEM fully supports, there are many challenges to requiring financial support to a regional research and monitoring program that may not be tied to specific project impacts. As a result, BOEM's preference remains voluntary, self-identified monitoring strategies that can be approved and enforced through Construction and Operation Plan approval. It should further be noted that, along with other offshore wind developers, Vineyard Wind is an active participant in both the Responsible Offshore Development Alliance and the Regional Wildlife Science Entity, which will likely be the vehicles to achieve the regional studies for many of the marine resources of concern. BOEM looks forward to continued participation with these groups as well.
13166-028	Shell recommends that BOEM rely on the rich literature on the ecological and fisheries impacts of oil and gas infrastructure to guide predictions of the impacts from wind infrastructure. BOEM should carefully consider parallel data points that indicate fisheries – demersal, benthic and migratory - can benefit from structures in the shallow Gulf of Mexico and California, in combination with the data on fishing activity at Block Island and consider the potential impacts to the commercial and recreational (for-hire and private angler) community, in conjunction with studies from other areas of the world.	Sections 3.2, 3.3, and 3.10 of the FEIS have been updated to consider a new reference describing the impacts of structures on marine communities in the Gulf of Mexico.
13166-029	Alternatives D1 and D2, combined with the artificial reef effects of the structures could alleviate short term impacts to the commercial industry. Evidence from Europe and in the Gulf of Mexico and California indicate that BOEM may be prematurely underestimating the positive impacts anticipated. Shell recommends that BOEM's analysis in the draft SEIS not aggregate all types of fishing activity and species together, but rather parse out impacts and benefits for individual species or fisheries complexes.	Sections 3.2 and 3.3 of the FEIS have been updated to consider a new reference describing the impacts of structures on marine communities in the Gulf of Mexico. Sections 3.2 and 3.3 of the FEIS discuss potential positive and negative impacts to various species, but a stock-specific assessment is beyond the scope of this EIS. Sections 3.9 and 3.10 of the FEIS discuss how impacts may differ across recreational fishing, for-hire fishing, and commercial fishing groups.
13166-030	Shell requests that BOEM move expeditiously to finalize the VW 1 Project NEPA process and to select Alternative D2 as the preferred alternative. BOEM should recognize that under the proposed cumulative scenario framework, the selection of D2 should only apply to adjoining leases inside	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Spacing and orientation layouts and transit lanes for other regions will be determined through future analysis and coordination with USCG. USCG's Final MARIPARS report evaluated vessel traffic through the lease

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	the MA-RI WEA and should not set a precedent for any other wind development projects in the Atlantic seaboard.	areas and recommended all surface structures be aligned in a 1 x 1 nautical mile grid, such that vessels anywhere in the RI and MA Lease Areas would have approximately 1 nautical mile wide lanes available when traveling north-south or east-west, and 0.6 to 0.8 nautical mile wide lanes when traveling northwest-southeast or northeast-southwest.
13166-031	Shell recommends that BOEM also amend the cumulative scenario analysis to address the overall balance between the potential negative effects with the realized potential positive environmental and economic benefits that a fully scaled offshore wind industry can provide.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13166-032	Shell further requests that BOEM remove alternatives from the final SEIS that are determined to be infeasible, not consistent with the agency's purpose and need, not incrementally beneficial, as a standalone alternative, or in combination with other alternatives, as indicated by BOEM (e.g. Alternative F, pp. 3 -103).	BOEM assessed alternatives in the DEIS, the SEIS, and the FEIS based on their ability to meet the purpose and need as well as the screening criteria outlined in Section C.5 in Appendix C of the FEIS including: consistency with law and regulations; operational, technical, and economic feasibility; environmental impact; and geographical considerations. While Alternative F has technical and practical challenges as noted in Section 2.1.5, it was determined to be feasible, therefore, carried forward to the FEIS.
13167-001	First, we appreciate the Administration's decision to postpone approval of the Vineyard Wind COP pending further analysis and publication of the SEIS. There is no question that construction of wind development areas ("WDA") like Vineyard Wind will have significant and irreversible impacts on FSF's fishing interests and navigational safety.	Potential impacts to fishing interests and navigational safety are addressed in Chapter 3 of the FEIS.
13167-002	While we remain adamant that each WDA should be analyzed and developed on an individual basis, with close consideration of the unique nature and circumstances of each area, it is likely that the initial construction of a WDA will have bearing on future developments. Moreover, the development of a WDA cannot be considered in a vacuum. As we have stated in the past, and as described in greater detail below, any environmental review of a WDA must assess the cumulative effects of developing these wind lease areas. Therefore, it is paramount that the Vineyard Wind COP receive significant attention and consideration, and should only progress on an appropriate timeline that ensures impacts to all interests are fully mitigated.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13167-003	That said, the SEIS makes several determinations that are likely in violation of the Administrative Procedure Act ("APA"). The APA allows the courts to invalidate any agency action that is "arbitrary, capricious, an abuse of	BOEM is aware of its obligations under the APA and continuously strives to conduct its NEPA process in compliance with that and all other applicable

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	discretion, or otherwise not in accordance with law.” Agency actions will be considered “arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.”	statues. Lacking specific details, this comment does not require edits to the FEIS.
13167-004	We continue to hold several concerns with the construction of Vineyard Wind that arise from a number of assumptions and unverified predictions BOEM makes regarding future activities in this WDA, all of which appear to overlook or directly ignore important evidence related to the potential impacts of wind turbine development on fishing vessels. Specifically, there are unanswered questions that remain regarding navigational safety, impacts to fishing grounds, and effects on local ecosystems.	The FEIS addresses navigational safety in Sections 3.10.1 and 3.11.2, impacts to fishing grounds in Sections 3.10.1 and 3.10.2, and effects on local ecosystems in Sections 3.2 and 3.3.
13167-005	We are also concerned with the lack of stakeholder involvement throughout the development process, especially regarding analysis of the economic and environmental impacts on commercial fishing interests.	Please refer to Chapter 1 and Appendix C of the FEIS for a discussion on stakeholder involvement.
13167-006	Until such time that these concerns can be addressed in full, FSF requests that BOEM opt to postpone issuance of the Vineyard Wind COP. Each of these concerns, detailed below, carry potential devastating consequences for FSF and similar commercial fishing interests that cannot be mitigated away once construction of the WDA begins.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP.
13167-007	One of the most fundamental aspects of developing any offshore wind site is the protection of safe and navigable transit lanes through the turbine array. FSF members (and scallop vessels generally) transit on geographic diagonals to and from our fishing grounds. FSF supports the development of a series of transit lanes through the Vineyard WDA that run on geographic diagonals. However, we remain concerned with both the proposed width of the transit lanes as well as the methodology used to develop them. For instance, the SEIS refers to the Coast Guard’s Massachusetts/Rhode Island Port Access Route Study (“MARIPARS”) several times in discussing the appropriate width of transit lanes. However, the MARIPARS draft report proposes reduced transit lane widths despite acknowledgement that the lack of additional spacing poses a safety risk to vessels by reducing the setbacks from turbines, limiting the space for unplanned and emergency anchoring, and removing the additional buffering from turbines in inclement weather.	The FEIS addresses this comment in Section 3.10.1.1 and 3.11.2. The Final MARIPARS study report (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report (USCG 2020). The data relied upon for the FEIS is adequate to support analyses and conclusions.
13167-008	It is unfortunate and worrisome that the Coast Guard would move forward with the proposed reduced transit lane width of 0.6 to 0.8 nautical miles (“NM”) while simultaneously acknowledging that their absence equates to a	The FEIS addresses this comment in Section 3.10 and 3.11 of the FEIS. The Final MARIPARS (USCG 2020) states that vessel transit lanes that are 0.6 to 0.8 nautical mile wide lanes are wide enough to allow vessels the ability to

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	reduction in safety for vessels operating in these lanes. That said, it is up to BOEM to ultimately determine the appropriate transit lane spacing. FSF would therefore request that BOEM disregard the Coast Guard recommendation of 0.6 to 0.8 NM transit lane spacing (as it likely violates the APA arbitrary and capricious standards) and instead adopt the proposal made by the Responsible Offshore Development Alliance (“RODA”) for 4 NM spacings to allow for safe passage of vessels.	maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the RI and MA Lease Areas. Additionally, the Final MARIPARS (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the RI and MA Lease Areas. Additional rationale is provided in the Final MARIPARS (USCG 2020). The USCG is a cooperating agency to the EIS who is the leading agency on navigational matters; and, therefore, BOEM relies on - and does not question - the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13167-009	Further, FSF members do not support the proposal for 1 NM spacing between turbines. We conduct fishing operations on contours based on depth of the water column. Our vessels are approximately 80 to 100 feet in length and operate with gear that extends several times the depth of the ocean at a given location, with length extending relatively longer as the water column deepens. It is therefore not foreseeable that a spacing of 1 NM between turbines will allow scallop vessels to operate and conduct safe fishing activities in these areas.	Section 3.10 of the FEIS addresses scallop vessel operations. Figures are included that show sea scallop fishing vessel densities within the WDA and OECC as well as their trends for transiting.
13167-010	Despite recommending smaller spatial requirements for fishing vessels to operate their gear, the MARIPARS performed no technical analysis to posit such a recommendation, and therefore provides no foundation for BOEM to rely upon in rendering a final decision on spacing. Categorization of these reduced spacings as anything other than “major” downplays the importance of navigational safety in these WDAs. It also infringes on commercial fisheries’ federally mandated responsibility to achieve optimum yield of the resource and provide highly valuable domestic nutrition to the country.	The FEIS addresses this comment in Section 3.10.1.1 and 3.11.2. The Final MARIPARS study report (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study report (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report (USCG 2020). The USCG is a cooperating agency to the EIS, and is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13167-011	We are also concerned with the inadequacy of review related to wind turbine interactions with marine radar systems, as one of the most vital protections fishermen have at-sea is the ability to identify oncoming vessels and obstacles such as wind turbines, especially in dark or foggy conditions, by relying on their radar. Indeed, members of FSF recently traveled to England to meet with local fishermen regarding their experiences with the proliferation of offshore wind turbines. We were alarmed to discover that these turbines could prevent a vessel radar system (similar to those used by FSF participants) from detecting a freighter transiting on the far side of the wind farm due to the radar scatter the turbines created.	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of marine radar. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain

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		constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. Further, the concerns conveyed are in connection to another project(s) in Europe and fails to explain why the impacts will be similar for the proposed project.
13167-012	Implementing larger spacings between turbines, as well as in transit lanes, would better mitigate this potential marine radar interference. Although the impacts of turbines on marine radar are still being researched, the current lack of knowledge on how these turbine arrays will interfere with marine radar should dictate erring on the side of caution. Notably, the SEIS acknowledges that the proposed action “would interfere with marine radars.” Therefore, any methodology utilized to determine spacing within the Vineyard WDA should account for the inability of vessels to detect oncoming traffic and create additional buffer zones to accommodate these increased navigational risks.	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of marine radar. The discussion of potential impacts to marine radar has been expanded in Section 3.11.1. Offshore wind projects would increase navigational complexity and ocean space use conflicts, including potential interfere with marine radars (although other navigation tools are available to ship captains). As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13167-013	As BOEM has acknowledged, offshore wind development activities in the Atlantic will have negative impacts on the region’s fisheries, especially benthic species that are less mobile. Yet BOEM’s categorization of these impacts as “minor” is simply inaccurate.	The SEIS found that the impacts on benthic resources (Section 3.3), finfish, invertebrates, and EFH (Section 3.4), and commercial fisheries (Section 3.11) of Alternatives A, C, D, E, or F alone would be moderate and in context of reasonably foreseeable factors would also be moderate.
13167-014	Adult scallops are sessile, attaching to the seabed and filtering plankton from water as it moves past. As such, they can only survive in areas with firm sand, gravel, or cobble substrate and low levels of inorganic suspended particulates. Scallops will therefore disappear from areas in which the substrate is replaced with concrete and rock mattresses to bury export cables to the sea floor. Construction activities will also modify the water column itself, creating excessive sedimentation clouds in these areas for extensive durations. Moreover, any foreign object at or near the seafloor will create turbulence and eddies, which influence scallop spat settlement and the viability of scallop beds as a whole.	Section 3.4 of the SEIS discussed the potential impacts to sessile species, including sedimentation; therefore, no change to the FEIS is warranted.

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13167-015	Scallop larvae are planktonic, and thus are suspended in the water column during the early stage of their lives. Although planktonic scallops travel with currents, these larvae generally settle in similar places from year to year, as they mature into spat. Spatfall (the settling of larval scallops to the bottom), and the period immediately following, is thought to be particularly important in the formation of scallop beds and in determining year class size. There is no evidence of mass migrations by scallops after spatfall. The movements of sea scallops are usually localized, and random or current-assisted. Once aggregations of adults are formed, they remain essentially stationary. Changes to an existing scallop bed's benthic environment and the currents that larval scallops rely on to be transported to that bed, therefore, pose significant risks to future scallop generations and the scallop resource as a whole.	Section 3.4 of the SEIS discussed the potential impacts on planktonic larvae, scallops, and currents, and Section 3.3 of the SEIS discussed the potential impacts on benthic resources; therefore, no change to the FEIS is warranted.
13167-016	Beyond the impacts to existing scallop habitat, the effects of WDA construction will have significant impacts on scallop growth and maturity. Recent studies demonstrate that scallop larvae exposed to excessive anthropogenic noise, such as seismic pulses and pile driving, show significant development delays and abnormalities. It is therefore imperative that BOEM reclassify and reconsider these risks to resource recruitment in making its final assessment of the Vineyard Wind COP, as construction of these facilities could cripple the most profitable fishery in the Eastern United States.	Section 3.3 of the FEIS has been updated to consider the effect of noise on scallops, as well as benthic disturbances.
13167-017	It is well documented that manmade noises in the marine environment, such as pile driving, can have detrimental impacts on whales and other cetaceans. Wind farm construction, on both a site-specific and cumulative basis, will result in significant ongoing marine noise. Yet the SEIS disregards many of the associated activities involved in construction of these facilities, and even goes so far as to suggest that the Vineyard Wind COP may actually result in "moderate beneficial" impacts for marine mammals by creating new structures in the water column for foraging. Such findings are wholly in opposition with known effects.	Section 3.5 of the SEIS provides a discussion of acoustic impacts to marine mammal species. Further details regarding acoustic effects to these species is provided in Appendix F of the FEIS and in the BA submitted to NOAA which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13167-018	The proposed siting for Vineyard Wind and several other WDAs are directly in known feeding grounds of critically endangered right whale pods that inhabit these areas year-round. Indeed, several offshore wind developers have	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. This

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	recently hired acoustic researchers to examine these effects, as well as those associated with long-term operations, such as vibrations produced by turbines. Therefore, we would request that BOEM withhold determinations on the potential impacts to marine mammals until such studies are completed and peer-reviewed.	includes the Reasonable and Prudent Measures required in the September 11, 2020 Biological Opinion issued by NMFS that concluded that the Project may adversely affect but is not likely to jeopardize the continued existence of listed species. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. Additionally, as required in the September 11, 2020 Biological Opinion and included in Appendix D, enhanced detection and mitigation measures are required throughout the month of May and when a right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31. With all the mitigations proposed and required by the Biological Opinion, NMFS has concluded that the proposed Vineyard Wind 1 Project may adversely affect but is not likely to jeopardize the continued existence of NARWs.
13167-019	We are also concerned with how potential takings by offshore wind developers will be accounted for. Fisheries are subject to strict regulations under the Endangered Species Act (“ESA”) and Marine Mammal Protection Act (“MMPA”). Wind farm development should not be treated differently. Yet there is no current ESA-mandated Biological Opinion (“BiOp”), nor is there an approved incidental take statement under the MMPA, for offshore wind developers to account for windfarm development and operation’s potential impacts to endangered species and marine mammals. Consequently, it is unclear how any potential takings will be categorized, much less how past activities, such as G&G surveys and project-specific fisheries monitoring efforts, have already been accounted for. For instance, if a developer performs a gillnet research study in the WDA and entangles a right whale, because the developers are not subject to a BiOp or incidental take statement, it is possible that the taking would be required to count towards the gillnet fishery. The potential for such results are both alarming and absurd. As such, further research and analysis regarding offshore wind development’s potential impacts on right whale populations is needed before any COP is approved. BOEM should also postpone approval of the COP until such time that offshore wind developers are subject to a BiOp and incidental take statement as required by the ESA and MMPA, respectively.	Consultation with NMFS under the ESA and MMPA for Vineyard Wind has been completed. The NMFS Biological Opinion and Incidental Take Statement (including all Terms and Conditions and Reasonable and Prudent Measures are discussed Section 3.4.2 and Appendix D of the FEIS. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss comprehensive mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS.
13167-020	Finally, we urge BOEM to reconsider several aspects of the SEIS assessment for the Vineyard Wind COP, as well as improve stakeholder consultation in all WDA developments in the future. We continue to have concerns with the nature in which fisheries experts are consulted in the wind leasing process. For instance, BOEM indicates that “VTR information was merged with data collected by at-sea fisheries observers” to determine the expected revenue	The FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Sections 3.10.1 and 3.10.2 of the FEIS utilize VMS information among other sources. BOEM is working closely with NMFS on this analysis and others, and looks forward to continued engagement with NMFS and with the fishing industry.

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	impacts to commercial fisheries from offshore wind energy development. However, VTR and at-sea observations are not the best available information for making such assessments, and more involvement from fisheries stakeholders would reveal that these estimates are inaccurate. VMS information is a more data-rich source for demonstrating where fishing operations take place, and NMFS has made VMS information available to BOEM...We believe that, as users of the resource, fishermen should be more involved in the data collection phase to ensure that BOEM is utilizing the most detailed, best available information in its decision-making process.	
13167-021	Moreover, there appear to be several instances in the SEIS where BOEM relies on strictly qualitative data in making its determinations, such as the findings on marine mammal impacts, despite numerous quantitative research findings from the European Union on effects of windfarms on cetaceans.	Section 3.3.7.3 in the DEIS and Section 3.5.1 of the SEIS relied upon existing data on impacts to marine mammals at operating wind facilities in Europe. As described in these sections, the available information on impacts on marine mammals from pile driving associated with offshore wind is primarily limited to information on harbor porpoises and seals, as the vast majority of this research has occurred at European offshore wind projects where large whales are uncommon. Additional discussion of the uncertainty around marine mammal response to WTG structures was provided in Appendix H of the SEIS. Therefore, no change to the FEIS is warranted.
13167-022	We would also reemphasize that any determinations made in the Vineyard Wind COP decision apply solely to that WDA. As previously stated, the construction of these facilities carry unique properties from site-to-site, and analysis of vital aspects such as proposed turbine spacings, navigational transit route sizes and quantities, and other relevant environmental and economic considerations for any one WDA should not constitute any form of precedent for other WDAs. Each lease site will carry its own site-specific activities, oceanic and current conditions, traffic patterns, adjacent ports, benthic topography, fishery abundances, and other relevant factors that must receive individualized attention. As well, each project will contribute in its own unique way to the cumulative effects from development of the offshore wind resource in the New England and Mid-Atlantic areas.	The development of the DEIS, SEIS, and FEIS has been based on Vineyard Wind's utilization of the PDE. Each Applicant for a lease area is required to submit their own COP which triggers an NEPA analysis. BOEM believes that the information provided by Vineyard Wind in their COP is accurate.
13168-001	Vineyard Wind 1 would also help the region reach its ambitious greenhouse gas emissions targets. Vineyard Wind estimates that the annual avoided CO ₂ emissions will be roughly equivalent to having 325,000 fewer cars on the road. In addition, the loss of nuclear plants in the region means that Connecticut will be losing significant zero-carbon electricity generation, highlighting the need for projects like Park City Wind to provide carbon-free electricity to the grid while providing savings for ratepayers.	Thank you for your comment.
13169-001	Key Issue 1: Evaluation of the Totality of impact across the Mid-Atlantic region...The SEIS briefly describes the overall plan, but then most of the	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will

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	details, those that exist, do not appear to be comprehensive. Powell et al. (2003) provide a good example of mission creep in evaluating the influence of the Texas Water Plan in its entirety on the health of Galveston Bay... In the case of the present SEIS, one cannot evaluate the total impact of the proposed development of the Mid- Atlantic Bight as insufficient attention is paid to the impact beyond the Vineyard Wind project, whereas the cumulative impact is the issue of greatest concern. This issue is exemplified by the absence at the Mid-Atlantic scale of an evaluation of the basic siting plan for wind turbine field development. One does not know if the present profile is optimal in the sense of minimizing ecological and economic damage relative to cost and energy production potential. As a consequence, evaluation of the present plan must be conducted in a vacuum, when alternatives would provide important comparability.	require an analysis of impacts and the selection of the preferred alternative. Please note that the NEPA process for the proposed Project is not intended to be a programmatic EIS evaluation. Instead, the impact analysis focused on Vineyard Wind's potential contribution to impacts on the various resources assessed.
13169-002	In general, the additional content in this SEIS now includes considerations of impacts to the cold pool....Given this focus on the impacts during peak stratification in the summer, the SEIS gives less attention to the seasonality of the cold pool beyond a statement that broadly summarizes its formation in spring and ultimate breakdown each fall. During the spring when the cold pool forms and again in the fall when it breaks down, the stratification is reduced (Bigelow 1933; Houghton et al. 1982; Castelao et al. 2010) and perhaps more susceptible to changes in hydrodynamics due to the presence of structures. Of particular sensitivity is the timing and rate of breakdown of the cold pool in the fall. The length of time that bottom water temperature remains high before the winter cooling sets in directly controls the inshore boundary of the boreal community.	Section 3.4 of the SEIS discussed the cold pool and potential effects of offshore wind development. Therefore, no change to the FEIS is warranted. How the rate of cold pool breakdown is influenced by external factors such as weather and future offshore wind facilities is not well known.
13169-003	The SEIS references studies of hydrodynamic effects of offshore wind turbines on seasonal stratification in the German Bight (Carpenter et al. 2016; Schultze et al. 2020). It should be noted that the seasonal stratification over the summer considered in these German Bight studies is much less than the peak stratification seen in the summer over the Mid-Atlantic Bight. It is much more representative of relatively weaker stratification seen during the formation and breakdown of the cold pool in the spring and fall. Therefore, the results characterizing potential impacts of offshore wind facilities in the German Bight are likely more representative of impacts we might expect from offshore wind facilities during the relatively weaker stratified time periods during the spring and fall rather than the highly-stratified summer months... Carpenter et al. (2016) conducted an analysis of the impact of increased mixing in the water column due to the presence of offshore structures on the seasonal stratification of the German Bight. They offer a conclusion that the current build out of offshore facilities planned in the	Section 3.4 of the SEIS discussed the cold pool and potential effects of offshore wind development. Therefore, no change to the FEIS is warranted. Potential impacts on the cold pool are dominated by factors other than the Proposed Action; nevertheless, the FEIS considers impacts of reasonably foreseeable environmental trends and planned actions, including the Proposed Action.

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	German Bight is unlikely to alter seasonal stratification dynamics in the region, but could impact the seasonal stratification if the area is developed to a point that it significantly covers the stratified shelf. The amount of overlap to reach this threshold was not defined. A critical need exists to understand the influence of large offshore turbines 10s of meters above the sea surface on the wind stress at the ocean surface.	
13169-004	The cross-shelf temperature gradient, exemplified by the cold pool, is important to many species in the region (Munroe et al. 2013, 2016; Narváez et al. 2015; Sullivan et al. 2000, 2003, 2005, 2006)... The weakening of the cold pool supports the potential of generating the most catastrophic ecological event on the continental shelf the world has ever seen. Given the gravity of a catastrophic shift in cold pool dynamics, great care should be taken to show at high probability that the chance of an impact is vanishingly small. Adequate science leading to that evaluation is not presented in the SEIS and is probably not yet available. This science need is critical.	Section 3.4 of the SEIS discussed the cold pool and potential effects of offshore wind development. Therefore, no change to the FEIS is warranted. Potential impacts on the cold pool are dominated by factors other than the Proposed Action; nevertheless, the FEIS considers impacts of reasonably foreseeable environmental trends and planned actions, including the Proposed Action.
13169-005	The SEIS future impacts of climate change and the earlier statement that “The current state of terrestrial and coastal fauna resources is generally stable” reflects an inadequate integration of the present state of community reorganization going on within the Mid-Atlantic and northeastern U.S. continental shelves. Evaluation of ecological and economic impacts and impacts on threatened and endangered species based on the assumption that present-day species distribution patterns and the distribution of fishing fleets responding thereto are permanent fixtures is unlikely to be sufficient. Evaluation of impact should consider the 25-year lifetime of wind turbines and the likely dimensions of climate change over that time frame. Projections of the effects of climate change on species distribution and models to evaluate range and distribution shifts of living marine resources in the context of these do exist but do not often consider changes in population dynamics over the lifetime of climate projections in addition to possible species distribution. What can be stated with high probability is that the possibility that a benthic habitat map of today will be valid in ten years is vanishingly small.	Section 3.4.1 of the SEIS discussed distribution shifts as a result of climate change. Species-specific assessments are beyond the scope of this EIS. Such analyses are not essential to a reasoned choice among alternatives. Therefore, no change to the FEIS is warranted.
13169-006	The report suggests that mussel abundance will be high and cites two sources to support increases in mussel presence. One is a social science paper (ten Brink & Dalton 2018) that surveyed fishers about their impressions of the Block Island wind farm. ten Brink & Dalton (2018) report that 9 survey responses noted mussels on the piles, and one spearfisher noted ‘lots’ of mussels. The second source is a report (HDR 2019) that again simply notes an increase in mussel presence (not abundance estimates) on turbines relative to controls. Neither of these sources provide numerical estimates of	Section 3.4 of the SEIS discussed the possibility of mussels colonizing locations where mussels are currently not prominent. Analyses of abundance, biomass, or filtration capacity are not essential to a reasoned choice among alternatives. Therefore, no change to the FEIS is warranted.

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	abundance or biomass of mussels, values that are necessary to estimate filtration capacity of a population of filter feeding mussels (Riisgård 2001; Riisgård et al. 2014) in an array of wind turbines.	
13169-007	The SEIS further cites Slavik et al. (2019) to support the claim that mussels on pilings would have a filtration capacity sufficient to eliminate any possible increases in primary productivity that resulted from enhanced mixing due to pilings. Slavik et al. (2019) used coupled modeling to evaluate impacts of wind farms on primary productivity. They estimated that wind farms add 45% to the regional mussel biomass, and those mussels only marginally impact phytoplankton. Net annual primary production was reduced in their study by only ~8%. Certainly, mussels will filter plankton and other particles from the water, but environmental conditions (temperature, salinity, dissolved oxygen, seston quality and quantity) are known to alter filtration rates (Riisgård et al. 2001; Li et al. 2012). Likewise, refiltration whereby mussels in high density populations filter the same water repeatedly (Yu & Culver 1999; Jones et al. 2011) leads to overestimates of filtration capacity of highly dense populations. Finally, it is common to see local reduction in phytoplankton at a mussel bed, with increases in primary productivity downstream of the mussel population (Norén et al. 1999; Schröder et al. 2014), a process that could be enhanced by turbulence in the wake of a monopile. All of these conditions make it very complicated to estimate the true filtration impacts of a population of bivalves in a natural system (Cranford et al. 2011).	Section 3.4 of the SEIS discussed the possibility of mussels capturing possible increases in primary productivity near structures; it is not conclusive. Analyses of filtration capacity are not essential to a reasoned choice among alternatives. Therefore, no change to the FEIS is warranted.
13169-008	The SEIS is silent on the likelihood that mussels will still be present in the Mid-Atlantic in 25 years, but Powell et al. (2019) suggest that continued northward movement will limit distribution south of Cape Cod.	Section 3.4.1 of the SEIS discussed range shifts as a result of climate change but did not assess particular species. Powell et al. (2019) speculate on future range shifts for mussels, but do not provide strong evidence. Species-specific analyses are beyond the scope of this EIS. Therefore, no change to the FEIS is warranted.
13169-009	In particular, the SEIS states “Most exposures are expected to last for minutes, not hours, and the affected area would represent only a tiny portion of the available habitat for most migratory species, many of which travel several miles in a day (CSA Ocean Sciences, Inc. and Exponent 2019).” EMF effects on fish behavior is considered on an area basis, not a blocking basis as in a hurdle to cross during migration. Supporting data are not yet available.	Section 3.3.1 of the FEIS has been updated to state that EMF does not appear to constitute a barrier to migration.
13169-010	Effects of scale on fish ecology with respect to the density/spacing of turbines is an issue. Turbine pylons and their rock scour revetments will create reefs on what is predominantly a soft-bottom benthic ecosystem. To some fishers, this will be a welcome extension of ongoing efforts to increase production and/or concentration of reef-oriented species such as black sea	Section 3.4.1 of the SEIS assessed potential impacts of habitat conversion by the presence of structures. It describes black sea bass as structure-oriented and preferring hard-bottom habitat, but does not in any way conflict with this comment. Therefore, no change to the FEIS is warranted.

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	bass and tautog, and seasonally structure-attracted midwater species such as jacks. A cautionary consideration is that some ‘structure oriented’ fish may not be as reliant on these structures as sometimes thought, and thus positive effects of increases in reef habitat may be uncertain. For example, Fabrizio et al (2013, 2014) found that black sea bass have large home ranges for a “reef” species, and may spend substantial time away from structure, with some exhibiting home ranges up to 4.8 square km. Nieland and Shepherd (2011) found that catches of black sea bass in the NEFSC inshore trawl survey were greater over open bottom than around structure.	
13169-011	So, at what point do individual small pylon footprints move from a fractured landscape of scattered reefs to a reef complex with interaction effects? This question is important but little considered in the plans for spacing in the original and alternative models of the SEIS, which appear to be constrained by navigation and efficiency (cable length and routing, wind extraction efficiency). The fact that it matters has been shown in an existing (Alpha Ventus) wind turbine farm in Sheringham Shoal, UK, by telemetry of foraging seals that created a grid-like pattern of direct movement from turbine to turbine as a foraging strategy (Russell et al. 2014). A high density of Fish-Aggregating Devices (FADs), simple floating buoys and lines used to concentrate pelagic thermophilic fishes for easier harvest, has also been demonstrated to substantially change the distribution and abundance of jacks in the Mediterranean Sea (Sinpoli et al. 2019). Monopile reef density effects should at least be modeled based on parameters of fish and mammal movements extracted from a synthesis of telemetry data.	Section 3.4.1 of the SEIS considered the potential for fish aggregation and the reef effect, and reflected reports of the reef effect extending usually 30 to 60 meters, but possibly up to 600 meters (0.32 nautical miles) from a structure. Please note that the studies cited in the comment focused on structures spaced 0.4 nautical miles apart, as opposed to the minimum of 0.75 nautical miles in the COP of the 1 nautical mile in the offshore wind developers' agreement. This is a single-project EIS, not a Programmatic EIS. Therefore, no change to the FEIS is warranted.
13169-012	The SEIS discusses impacts to the benthos from wind energy installations. In their evaluation of what the changes and impacts to the benthic community might be from wind farms, the SEIS references only 2 studies that focus on the epibenthic community, not true benthic fauna, or are from ecosystems very different than the U.S. continental shelf... Kerckhof et al. (2019) focuses on epibenthic (fouling) communities, and does not consider the benthic community, despite reference to it in the SEIS to support no change in benthic community in soft sediments over 5 years since turbine foundations are put in... A preceding chapter in that peer-reviewed report (Lefaible et al. 2019) did address changes in the benthic community due to the presence of wind turbines. Lefaible et al. (2019), and references therein, indicate changes in the sedimentary habitat (fining of sediments) and an overall shift in the benthic community towards a lower energy community, from what was previously a well-flushed higher energy community. Likewise, the Lefaible et al (2019) report notes changes in the benthos due to increased	Section 3.2 of the FEIS has been updated to include the sources of Lefaible et al. 2019 and Hemery 2020, to discuss potential impacts of the presence of structures on sediment near foundations, and to distinguish epifauna from infauna. The current benthic monitoring plan (COP Volume III, Appendix D; Epsilon 2020c) is posted on BOEM's website.

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	biodeposition from the increased fouling community (including mussels) on the turbine foundations, a finding also noted in a number of other studies (Miller et al. 2013; Causon & Gill 2018; Dannheim et al. 2020; Lu et al. 2020). These studies collectively also note that the benthos is a highly understudied ecosystem component and impacts from wind energy installations are therefore highly uncertain, and recommends increased effort to study benthic impacts.	
13169-013	The section references the work of Guida et al. (2017) and Green et al. (2010). These are wholly inadequate to describe the biota of the region for the following reasons. 1) The datasets are out of date as substantive changes in faunal distributions have happened since the first half of the 2010 decade. This is discussed in more detail in the previous section on climate change. 2) Unfortunately, studies of the benthos in high energy continental shelf habitats in general have tended to use grab samples to attempt to assess the biological community in the bottom (for example, Lefaible et al. 2019 used a van Veen grab). Neither Guida et al. (2017) nor Green et al. (2010) used gear that adequately sampled the biomass dominants of the continental shelf. Most samples came from grabs. Relatively small grab samplers or even boxcores are insufficient for sampling the majority of large macrobenthic species, particularly those of known commercial importance along the U.S. Atlantic continental shelf (namely surfclams and ocean quahogs). Powell and Mann (2016) and Powell et al. (2017) provide details.	These data are the best available sources for assessing impacts. Section 3.2 of the FEIS also was updated to discuss the large mollusks that are not represented well in grab samples. Sections 3.3 and 3.10 of the FEIS were updated to discuss additional information and analysis of commercially important species, including scallop, ocean quahog, and surfclam, using additional data sources, including fishing effort.
13169-014	In the case of surfclams and ocean quahogs, which are very large-bodied clams and make up the majority of the benthic biomass on the shelf (despite the fact that there may be numerically more worms or other small macrobenthos present), the tools typically used to evaluate the benthic community simply do not adequately account for these species. It has been demonstrated that even a boxcore, which samples to 20 inches depth, is insufficient to assess the clam (both surfclam and ocean quahog) abundance and biomass along the Mid-Atlantic shelf... As an example, Powell and Mann (2016) evaluated the efficacy of a boxcore for sampling the large infaunal clams on the shelf, relative to more appropriate methods like dredge sampling and found that boxcores vastly underestimate the abundance of large-bodied and patchy clams. In the case of surfclams, one of the important commercial species, the chance of a grab sample-based survey, at normal sampling densities, encountering even a single clam is vanishingly small, even though present in commercial quantities... The lack of studies directly addressing impacts of wind farms on benthos, particularly the biomass dominants, combined with the trend towards underestimation of the large-bodied and commercially important macrobenthos because of inadequate	These data are the best available sources for assessing impacts. Section 3.2 of the FEIS also was updated to discuss the large mollusks that are not represented well in grab samples. Sections 3.3 and 3.10 of the FEIS were updated to discuss additional information and analysis of commercially important species, including scallop, ocean quahog, and surfclam, using additional data sources, including fishing effort.

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	sampling methods, means that little information is available with which to evaluate the baseline and potential impacts of wind energy on benthic structure.	
13169-015	...the SEIS contains no anchorage plan for supporting vessels. The impact of the biota is in part determined by the number and distributions of supporting vessels and their anchorages, as is the possible deployment of fishing gear...	Section 3.2 of the FEIS was updated to discuss the potential impacts associated with anchoring from the proposed Project. BOEM has included a measure in Appendix D of the FEIS that was require Vineyard Wind to develop and implement an anchoring plan to make sure impacts to sensitive habitats are avoided during construction to the maximum extent practicable. Appendix D of the FEIS is a summary of all proposed mitigation considered and has been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval.
13169-016	The SEIS discusses the potential impact of wind energy areas on larval dispersal only briefly, despite the great importance of this process in structuring and maintaining marine biological communities. In terms of anticipated impacts of wind energy installations on larval dispersal, the SEIS cites Chen et al. (2016) noting the report’s findings relative to impacts of wind energy areas on scallop larvae dispersal (SEIS 3rd paragraph page 3-23; SEIS page B-22). The SEIS characterizes the impacts of wind farms in southern New England on scallop larval dispersal as increasing the dispersion of the larval field, but that the wind farms “never... trap or block larvae from settling in habitat previously occupied” and generally are not expected to alter larval dispersal. Unfortunately, the simulations described in the Chen et al. (2016) report are insufficient to evaluate the potential impacts of wind farms on scallop larval dispersal. Rather the particle tracking simulations should be considered a representation of bulk flow and not larval dispersal.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments, including larval transport modelling at a regional scale (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13169-017	Given that the SEIS bases its conclusions about potential impacts of wind energy installations on larval dispersal on one single report from a study that was not designed to evaluate larval dispersal impacts (Chen et al. 2016), the conclusions reached in the SEIS in this respect must be tentative at best. Future research should focus on commercially important species that extends beyond just scallops, such as other shellfish stocks and fish species that may demonstrate even more complex larval behavior. To this point, wind turbine fields, like oil platforms and forests, redirect flow. Scales vary from large (e.g., Gardiner et al. 2019) to small (e.g., Jumars & Nowell 1984), but the principal of bottom boundary layer effects and primary flow routes within and around structures are comparable. The issue is the degree of influence of	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments, including larval transport modelling at a regional scale (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.

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	these structures and flows on larval transport and setting potential, which would ultimately result in a proportional increase or decrease of community component species, leading to unknown consequences beyond the turbine arrays. Some may overcome Allee effects and produce spawn to influence community structure far downstream (e.g., Hart et al. 2020). Some may be unable to recruit at all due to increased bypassing flow. An expanded evaluation of the impact of wind turbine development on the benthos is clearly warranted.	
13169-018	The SEIS does not consider the recovery time of the long-lived biomass dominants....The SEIS provides little evaluation concerning the potential permanence, in normal human life span scales of time, of the impact of wind energy development. Centuries long impacts may be anticipated in some regions. Long-lived sedentary or sessile biota are not biomass dominants everywhere and a thorough review of benthic habitats in the Mid-Atlantic would be illuminating. Given these permanent impacts, every effort should be made to develop areas that do not now and are not expected in the future to support biomass dominants with vicennial or greater life spans. Such siting evaluations are not available. The SEIS considers that decommissioning and removal at the end of the project life span will occur. Such has not always been the case as exemplified for example, by Gulf of Mexico oil platforms. These case studies should be reviewed and if applicable, the SEIS should evaluate the influence of wind energy development if decommissioning and removal does not occur.	Section 3.2 of the FEIS now states that full recovery of the benthos may require years and that large mollusks are present and it considers the effects or Gulf of Mexico platforms. The FEIS also states that decommissioning would remove the structures.
13169-019	The SEIS describes transit lane plans for today's vessel use but does not contemplate the potential that future transit operations may require directionality incompatible with the present-day scenario (see earlier discussion of climate change). The underwater turbine linkage maps show a poorly constructed plan if facilitation of fishing vessel operations is desired. Figure ES-1 (DEIS) is an example. Alternative cable distributions, if feasible, do not seem to have been considered.	The inter-array cables would be configured consistent with the PDE presented in Vineyard Wind's COP. The referenced Figure ES-1 in the DEIS includes a note at the bottom of that page that the inter-array cable layout shown is an example. The final cable layout and location would be within the PDE. BOEM did not consider alternatives for the inter-array cable configurations.
13169-020	The most important indirect impact on the economics of fishing is the possible feedback from impacts on marine mammals. Direct effects of increased entanglements of MMs in commercial fisheries including loss of fishing time and additional costs associated with handling/reporting requirements, as well as gear repairs or replacement. Increased mortality/serious injury (MSI) in commercial fisheries which may elevate fisheries' classification to categories (I and II) that trigger deployment of observers and potentially, if MSI>PBR, trigger establishment of Take Reduction Teams and development of Take Reduction Plans. These monitoring and mitigation measures imposed	Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals and developed under consultations under the Endangered Species Act and the Marine Mammal Protection Act. A detailed analysis of impacts to ESA listed species is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals. These measures include, but are not limited to, avoidance of peak NARW presence, use of

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	by the MMPA represent additional costs for NMFS and commercial fishing operators. Delay in the recovery of stocks, in particular of Right Whales, caused by the combined IPFs impacts, translates into costs to maintain or expand measures to reduce bycatch, which would be sustained by NMFS and the commercial fisheries operators. Declines in stocks to levels that warrant changes in stock status (depleted under MMPA or threatened, endangered under the ESA) could also lead to additional costs associated with new bycatch reduction measures if warranted.	sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Section 3.11 of the SEIS included a discussion of the effects of the Proposed Action on commercial and for-hire recreational fisheries. Any future regulatory action that is necessary to protect marine mammals or endangered species would occur through a separate public process that would consider impacts to commercial fisheries.
13169-021	The SEIS notes that surveys within the turbine field are unlikely and that this will increase uncertainty in assessments, but without any estimates of effect. For some species, the actual impact would begin with a contraction of the total stock. Simply put, the only recourse in the assessment would be to assume that no stock exists in unsurveyed areas. The example of the region east of Nantucket and the clam survey is a good example. Here, the fishery has caught clams for many years, yet the region is not surveyed and those clams are not, therefore, included in the stock estimate.	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail and discussed the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no changes to the FEIS are warranted.
13169-022	The SEIS correctly indicates that impacts owing to inability of federal fisheries management agencies to conduct annual stock surveys within the wind area footprint will be major. However, the SEIS does not address the scale and scope of these impacts. Given the size and location of these wind leases, which overlap with important portions of many economically and culturally important stocks, the effect on scientific advice to inform management resulting from an inability to survey may be one of the biggest anticipated impacts of the wind project - but the scale of the consequences is not known. It is likely that the magnitude of the effect will vary by species, and that this uncertainty will be further compounded for fished species that are experiencing distribution shifts (both among and within years) due to climate change as the proportions of stocks being available/unavailable to monitoring will change as the spatial footprint of wind farm development changes (increases) over time during regional deployment, also exacerbating dynamic changes to biological reference points. This important information should be prioritized and addressed using management strategy evaluations and other modeling approaches. A benefit to doing this work would also be to demonstrate the value associated with developing alternative monitoring techniques and technologies within wind farm areas to mitigate scientific survey reductions.	Sections 3.11 and 3.14 of the SEIS consider the impacts of the Proposed Action and future projects on scientific surveys and the related impacts on fisheries management and the commercial and for-hire fishing industries. Section 3.14.2 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07). Stock-specific assessments and management strategy evaluations are beyond the scope of this EIS and are not essential to a reasoned choice among alternatives. Therefore, no change to the FEIS is warranted.
13169-023	Thus, assessment of the cumulative impacts that result from integrating impacts from all IPFs remains undetermined. This is a significant omission for stocks of marine mammals (MMs) that already show signs of decline or very slow recovery such as the four ESA listed stocks (also strategic under	The FEIS has been updated and now provides an overall impact rating for marine mammals at several scales in Section 3.4.1. A moderate impact rating determination is provided for current ongoing activities. A minor impact rating determination is provided for reasonably foreseeable future activities

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	status and the MMPA) and the additional seven MMPA strategic stocks (Hayes et al. 2019). In addition, in the analyses of each individual impact, the SEIS often justifies negligible or no impacts based on the premise that a small increase in the impact has little or no effect given the current level of disturbance from other sources. This approach is unwise for slow growing populations and discounts the cumulative nature of stressors that directly and indirectly decrease population growth, as is generally the case for MMs, or that impede growth to sustainable levels, as is typically the case for ESA listed species (NASEM, 2017). Since this SEIS is precedent-setting in methodology for assessing offshore wind energy impacts on marine mammals and considering the large spatial and temporal extent of these WDAs activities, foregoing a proper cumulative impact assessment that integrates the sub-IPFs and IPFs is unfortunate. A formal cumulative impact assessment that explicitly integrates the sub-IPFs and IPFs is needed to adequately assess impacts on MMs.	other than offshore wind development. BOEM anticipates that the combination of ongoing activities and future actions other than offshore wind would result in moderate impacts to marine mammals, primarily driven by ongoing noise impacts and interaction with commercial and recreational fisheries gear. Considering all the IPFs together, BOEM anticipates that the overall impacts associated with future offshore wind activities in the geographic analysis area would result in moderate adverse impacts because of the presence of structures and pile-driving noise. Additionally, the presence of structures could result in moderate beneficial impacts on marine mammals.
13169-024	Although for several of the IPFs, adverse impacts on behavior, essential biological activities (e.g., foraging, breeding and migration) and habitat utilization are described, the SEIS is limited in its consideration of the combined IPFs effects on potential decreases in individual fitness and population growth. A simulated harbor porpoise population subject to noise from wind turbines (mirroring the existent and planned wind turbines in the Inner Danish Waters) and shipping, plus bycatch rates of 4% suffered a substantial decrease and increasing bycatch rates over 10% led the population to extinction. These findings suggest that cumulative impacts of wind farms, shipping and bycatch are additive (Nabe-Nielsen et al. 2014).	The FEIS has been updated and now provides an overall impact rating for marine mammals at several scales in Section 3.4.1. A moderate impact rating determination is provided for current ongoing activities. A minor impact rating determination is provided for reasonably foreseeable future activities other than offshore wind development. BOEM anticipates that the combination of ongoing activities and future actions other than offshore wind would result in moderate impacts to marine mammals, primarily driven by ongoing noise impacts and interaction with commercial and recreational fisheries gear. Considering all the IPFs together, BOEM anticipates that the overall impacts associated with future offshore wind activities in the geographic analysis area would result in moderate adverse impacts because of the presence of structures and pile-driving noise. Additionally, the presence of structures could result in moderate beneficial impacts on marine mammals. Further, the conclusion of Section 3.4.1 has been updated to discuss the impact of the combined IPFs on individual fitness and population-level effects.
13169-025	The likely substantial intensification of MM-fisheries interactions with a potential significant increase in MM mortalities and serious injuries (MSI) inside and outside the WDAs (VW and future WDAs) due to entanglement (directly, in active fishing gear and indirectly, in lost gear) is not adequately considered. This results primarily from the lack of a formal analysis (even qualitatively) of the expected cumulative impacts on MMs stocks from three likely scenarios: 1. reduction in fishing area for some commercial fisheries due to safety considerations; 2. shift of some coastal	Section 3.5.1 of the SEIS discussed the potential for interactions with commercial and recreational fisheries as a result of either displacement of vessels out of the WDAs or an increased presence of recreational fishing vessels in the WDAs. While the reef effect may result in drawing in recreational fishing effort from inshore areas, an overall interaction between marine mammals and fisheries resulting from increased effort offshore would not change the overlap in recreational fishing effort and marine mammal distributions. Fishing in and around foundations may increase marine debris from fouled fishing gear in the area. However, entanglement and ingestion of

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	recreational fisheries to the WDAs offshore areas and 3. an actual overall increase in recreational fisheries in the region.	marine debris, is not considered a new impact-producing factor but rather a change in the distribution of this factor if inshore fishing effort is moved offshore, with the potential for different species to be affected. Additionally, Section 3.5 of the SEIS discussed the potential effects of ghost fishing gear on marine mammals. Further, Appendix D of the DEIS discussed mitigation relative to the monitoring and removal of ghost fishing gear in the WDA. Therefore, no change to the FEIS is warranted. Sections 3.4.2 and Appendix D of the FEIS discusses mitigation relative to the monitoring and removal of ghost fishing gear in the WDA, which would minimize the risk of entanglement
13169-026	So, for the purposes of this SEIS, it cannot be ascertained which mitigation measures will be in place, whether adequate survey standards will be required and which mechanism(s) will be implemented to enforce them. These uncertainties preclude evaluation of how effective mitigation may (or not) be in reducing or eliminating impacts. Finally, for minimization/mitigation and monitoring surveys and adequate automation and integration of data collected from GPS and other devices using customized software must be available to maximize acquisition of relevant information and ensure consistency, integrity, transparency, accuracy and rapid data dissemination and reporting In addition, all data collected should be made available on a public online repository no later than three months after the survey to allow implementation of adaptive management and independent review.	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13169-027	To summarize, the uniqueness of the proposed wind energy development, unprecedented in terms of the large spatio-temporal footprint and the exceptionally large number of protected MM stocks affected (~15), requires further evaluation of impacts on individual MM stocks, especially regarding individual fitness and population level impacts, to establish whether a delay in recovery or a decline to levels that would warrant a downgrade in stock status (under the MMPA or the ESA) is probable for any of the stocks. For these slow-growing populations that are already adversely impacted by multiple factors, further evaluation should explicitly account for the	NMFS is a cooperating agency for the development of the FEIS and as a cooperating agency, NMFS is making determinations relative to the MMPA and ESA based upon this information contained in this FEIS. As discussed in the Section 3.4.2 of the FEIS and in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, as discussed in the Biological Opinion, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of

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	detrimental impacts caused by: 1) any incremental increase in frequency/intensity of a given IPF relative to current levels from other sources (e.g, shipping, fishing), and 2) cumulative effects of all subIPFs for the proposed WDAs (VW and future) combined with projected levels of non-WDA sources. In particular, greater scrutiny at stock-level is needed for: 1) the expected increase in mortality/serious injury for each individual stock from changes in interactions with fisheries; 2) the impacts on foraging and breeding areas, as well as on migratory and other seasonal movement patterns, and 3) how WDAs might hinder existing MM management and conservation efforts.	marine mammals is expected to occur as a result of the project. Future offshore wind projects will require separate ESA Section 7 consultation, and a cumulative effects analysis will be completed based on the best available information and will include a discussion of all IPFs that could result in impacts to marine mammals.
13169-028	It is mentioned that “the revenue exposure estimate is a very conservative estimate of actual impacts,” as actual impacts depend on a variety of factors, including “the potential for continued fishing to occur within the footprint of the wind lease area” and “a vessel’s ability to adapt by changing where it fishes” (section 3.11.1.1, pg. 124 / 3-97). This description appears to miss exposure of revenues occurring outside of wind lease areas arising due to potential changes in vessel transit routes that make certain areas no longer profitable to fish. If vessel transit to or from fishing grounds is impacted by the presence of wind energy structures, revenues occurring in locations outside wind lease areas, that are reached via transit through lease areas, might be considered exposed to wind energy development.	The Final MARIPARS (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. This indicates that the proposed development of the wind lease area would not prevent safe and efficient transit of said area. Therefore, locations outside of wind lease areas would remain available to fishing vessels.
13170-001	AS A CARD CARRYING ECONOMIST WITH A BA IN PHYSICS (AND WITH A LIFETIME IN THE "STEM" FIELDS), IT IS MY CONSIDERED OPINION THAT EXTENSIVE DEVELOPMENT OF OFFSHORE WIND POWER--RIGOROUSLY REGULATED TO MINIMIZE ADVERSE ECOLOGICAL EFFECTS SUCH AS LOSS OF BIOLOGICAL DIVERSITY (i.e., the resource cost of wind power in some corridors will exceed the benefits)--IS ONE OF THE SEVERAL ESSENTIAL KEYS TO MEANINGFUL CONTINUATION OF HUMANKIND ON PLANET EARTH.	Thank you for your comment.
13171-001	We recognize the importance of the Environmental Impact Statement on how it will affect all users of the ocean and we have personally experienced while operating our vessels offshore at the Block Island Wind Farm the last four years on how all users can co-exist. The emerging Offshore Wind market will create a monumental supply chain that will create tens of thousands of green jobs.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. Section 3.6.2 of the FEIS also notes a potential moderate impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
13173-001	I support the SEIS for Vineyard Wind! I live in Salem, MA and we will be building a family in this coastal town. My husband and I want to see an investment in renewable energy that goes back into our communities. Wind	Thank you for your comment.

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	just makes sense for our region. As Salem is an Environmental Justice community, it stands that we place wind near those closest to the effects of environmental injustice.	
13174-001	In order that decisions be based on accurate facts and calculations, ACF through this public comment, adopts and incorporates by reference the public comment submitted to this process by Dr. Thomas Sproul and the Responsible Offshore Development Alliance (“RODA”). It is regrettable that what should be an all-encompassing study (such as this SEIS) has partially based its findings on the MARIPARS report, which used incomplete information and contained inaccurate calculations according to its own guidance standards, and used arbitrary justifications by the U.S. Coast Guard in coming to its conclusions.	The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13174-002	We are of the opinion that the Draft SEIS should not rely on the MARIPARS report’s findings and that the Draft SEIS must propose alternatives based on corrected information and calculations. We strongly urge BOEM to account for Dr. Sproul’s expert opinion on the issues present in the MARIPARS report and correct these issues as they present in the SEIS through the development of new alternatives. If not, BOEM is choosing to act arbitrarily and capriciously in releasing clearly biased findings.	BOEM has developed a reasonable range of alternatives to be assessed that could meet the purpose and need of the Vineyard Wind COP. In addition, alternatives are a result of public comments received. BOEM and the Cooperating Agencies have concurred on the reasonable range of alternatives.
13174-003	We wish to further note the draft EIS recognizes that Vineyard Wind, specifically, and offshore wind, generally, will visit major negative cumulative impacts on the commercial fisheries, including scalloping and clamming, the two major species ACF harvests. The draft EIS will clearly serve as a template upon which many future wind array applications will be reviewed and approved. Accordingly, the cumulative major negative impacts this windfarm will have on our industry will be repeated as additional arrays are approved and constructed.	Each future project will be evaluated and assessed based on the best available information at the time of the assessment in terms of the proposed action and existing and future activities.
13174-004	As in the case of most commercial fishing companies, ACF is regional in scope. Our fleet is homeported in Cape May but we fish all along the eastern seaboard and land a significant percentage of our scallop harvest and virtually all of our surf clams in Massachusetts. We have docks in Maryland and New Jersey and processing plants in Bristol, Rhode Island and Fall River and New Bedford, Massachusetts. As evidenced in the Rhode Island and Massachusetts negotiated mitigation agreements, it is abundantly clear that a “balkanized” state by state approach to address mitigation and the absence of an interstate/regional approach to address the admittedly major negative impacts offshore wind will have on our industry virtually guarantees that our industry will be sacrificed on the “divide and conquer” altar of political expediency. Neither fish swimming nor the vessels harvesting in federal	Section 3.10 and Appendix D of the FEIS discuss mitigation measures. Section 3.10 of the FEIS has been updated to include that Vineyard Wind has expressed that funding for fishing interests from all other affected states would be added to either of these existing funds or grouped into a third fund. In the absence of a clear fund for fishing interests in other affected states, Vineyard Wind has voluntarily committed to set aside \$3.3 million and establish a voluntary fund for claims of direct compensation from other affected states. BOEM is open to working with state partners and the commercial and recreational fishing industries to investigate alternative strategies to negotiate compensatory mitigation agreements.

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	waters are constrained by state boundary lines while, at the same time, individually negotiated, administered and regulated mitigation plans apparently do.	
13176-001	The Vineyard Wind 1 project and the other future projects analyzed in the SDEIS will create thousands of jobs and help pump significant investment into the nation's economy, as well as helping meet the nation's growing appetite for clean energy. AWEA encourages BOEM to timely approve this milestone offshore wind project and pave the way for responsibly developed future projects.	Thank you for your comment.
13176-002	AWEA and the offshore wind industry look forward to working with BOEM as it begins to process these permits, launching a process that will help support a domestic energy transition, create tens of thousands of jobs, billions in direct, private investments, and dramatically reduce the amount of carbon emissions that are a driving factor of climate change. Any further delay in processing these pending applications puts at risk the ability of the offshore wind industry to have the needed certainty to grow in this nation and jeopardizes the substantial industry-wide investments and benefits that will flow from them.	Thank you for your comment.
13176-003	The Vineyard Wind 1 project alone is projected, when it becomes operational, to reduce Massachusetts' carbon emissions by more than 1.6 million tons per year, or the equivalent of removing 325,000 cars from state roads, while offering \$3.7 billion in energy-related cost savings to the New England region over the life of the project.	Thank you for your comment.
13176-004	Issuance of the final EIS by November 13, 2020, and a Record of Decision by December 18, 2020, approving Vineyard Wind 1, consistent with the revised One Federal Decision Permitting Timeline issued earlier this year, ¹¹ will help set free a cascading effect that will pave the way for future responsibly developed offshore projects, creating tens of thousands of jobs and other economic benefits. On the other hand, not meeting these deadlines, or imposing conditions on project approval that are uneconomical, unnecessary, and impracticable would have a direct negative impact on investor confidence in the U.S. offshore wind energy market and, in turn, job and economic creation therein.	Thank you for your comment.
13176-005	Finalizing the EIS, therefore, will be a critical step to narrowing this [as of July 2020, the U.S. has a total of just 30 MW (five turbines) of offshore wind operating, with another 12 MW (two turbines) recently installed in federal waters off the coast of Virginia being tested, compared to Europe's 21,900 MW and China's 6,800 MW installed through the end of 2019] gap.	Thank you for your comment.

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13176-006	It [finalizing the EIS] will put in place the structure for considering the cumulative impacts of offshore wind energy that can be used to help expedite future offshore wind projects and should provide the industry and investors with certainty that it can secure permits in reasonable time periods. It will also facilitate BOEM’s ability to move forward in a quicker and more efficient manner with the environmental reviews for other offshore projects that are in the pipeline.	Thank you for your comment.
13176-007	Noticeable progress on the reviews for these offshore projects, including issuing multiple NOIs in the intervening months before the final EIS is issued for Vineyard Wind I, is critical for making cost-effective market and supply chain investment decisions. This will impact development and construction activities, as well as the ability to meet project timelines determined by power purchase agreements. Any further delays in conducting the environmental reviews for these other projects risks the creation of thousands of jobs, improvements to ports and other infrastructure development, and deployment of clean energy to meet public policy goals.	Thank you for your comment.
13176-008	With continued activity at the state level to procure offshore wind, a pause or further delayed pause on issuing these permits will create a bottleneck for offshore wind permit applications that are amassing at BOEM and impede states from achieving their clean energy targets. The federal government should be a partner to the states by establishing a reasonable permitting process to help achieve state goals, such as offshore wind development.	Thank you for your comment.
13176-009	The speedy development of offshore wind energy satisfies federal goals as well. As offshore wind energy projects can help speed up the nation’s economic recovery, they fall within the purpose and intent of the June 4 Executive Order (EO), Accelerating the Nation’s Economic Recovery from the COVID-19 Emergency by Expediting Infrastructure Investments and Other Activities.	Thank you for your comment.
13176-010	However, as part of this “hard look,” BOEM tends to assume a worst-case scenario with many of the impacts in its discussion of the impacts of a future buildout of projects. Based on this approach, BOEM does not fully account for what can be done to ensure that the positive benefits of offshore wind easily outweigh the impacts. That is, to the extent that there are impacts, future projects should be able to mitigate most of these impacts. The impact of future projects should, thus, in actuality, be far less than the SDEIS might be read to suggest, as the proposed impact ratings did not fully account for reasonably foreseeable mitigation. That should be acknowledged and analyzed in the final EIS.	Each applicant is required to submit a COP with their proposed action for BOEM’s review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative. As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for

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		future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13176-011	As will be discussed in more detail, the final EIS should, accordingly, more fully account for mitigation measures in the cumulative impacts assessment of future projects.	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13176-012	With respect to the economic benefits assessment in the SDEIS, the rating appears unduly low, as the record supports a conclusion that offshore wind energy provides greater benefits than recognized in the document. Specifically, the SDEIS's conclusion that future offshore wind development will only result in minor economic benefits to the region appears at odds with the SDEIS's recognition of significant new investment in job development	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area

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	and infrastructure development (such as ports and harbors), as well as support for manufacturing and supply chain activities. The final EIS should adopt a more beneficial economic impact rating for offshore wind consistent with the evidence in the record.	would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13176-013	The SDEIS correctly concludes that the contemplation of a broad transit lane to transect offshore wind projects (i.e. Alternative F) would have negative impacts to both vessel navigation safety and offshore wind deployment that would outweigh any minimal positive benefits from its deployment. As the final MARIPARS found, leaseholder commitments in New England to a uniform one-by-one nautical mile spacing (1 x 1 NM) between each turbine with an East-West orientation largely eliminates concerns regarding navigational and mariner safety. The robust evidence in the record of the SDEIS also supports the conclusion and that this layout will accommodate commercial and recreational fishermen and other vessels that are most prevalent in the Massachusetts-Rhode Island lease areas. The 1 x 1 NM layout would create more distance between turbines than any offshore wind projects operating globally and establishes more than 200 transit lanes in all directions through the lease areas . Therefore, Alternative F should be rejected, and Alternative D2 should be included in the final EIS as the Preferred Alternative for project layout in the Rhode Island and Massachusetts contiguous lease areas.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13176-014	In the final EIS, BOEM should be explicit that these impact ratings described in the cumulative analysis are based on worst-case projections rather than what is reasonably foreseeable. This is due to the fact that, for these cumulative impact assessments, BOEM did not fully account for generally recognized standard mitigation techniques—or the likelihood of incorporating reasonably foreseeable new ones—that will be employed by future offshore wind energy projects and would certainly decrease their impacts.	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be

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		adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13176-015	To the extent there are impacts from future projects, the offshore wind industry remains committed to collecting, using, and sharing credible scientific data to ensure that any impacts from future projects are well understood and to using science to inform mitigation to the greatest extent possible—in other words, taking an adaptive management approach. Additionally, the wind industry will continue to work collaboratively with scientists, federal and state agencies, and local communities to ensure responsible coexistence with all users of lease areas.	Thank you for your comment.
13176-016	Considering either a combination or a choice between Alternative D2 and Alternative F, the evidence in the record, including the USCG final MARIPARS report, ²⁵ makes clear that the former, without being combined with the latter, is the best choice from the perspective of navigation safety and other factors. In fact, of all the alternatives in the SDEIS, Alternative D2 has the fewest conflicts with regard to impacts on navigation. Accordingly, the final EIS should identify Alternative D2 as the Preferred Alternative.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13176-017	The record demonstrates that this [Alternative D2] layout would lead to less impacts on navigation and vessel traffic and provide numerous benefits to commercial fishermen and for-hire recreational fishing compared to other Alternatives.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13176-018	...the imposition of overly broad transit lanes (i.e., Alternative F) is unnecessary and will pose a greater risk to navigation than the uniform grid layout proposed in Alternative D2, as more traffic is likely to be funneled into the larger transit lanes.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 3.11.4 and 3.11.5 of the FEIS includes a discussion of potential effects of Alternative D2 and Alternative F, respectively.
13176-019	Under Alternative D2, the wind turbine layout would ... allow vessels to travel in an unobstructed path between them in an east-west direction—respecting the ability of commercial fisherman and other vessels to transit, reducing navigational complexity, improving vessel traffic safety, utilizing a regular and predictable layout (thereby allowing vessel operators to set predictable courses), and allowing the USCG to set predictable search and rescue patterns and successfully complete more search and rescue missions.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13176-020	This conclusion [Alternative D2 is the best option] has been confirmed by the USCG, which has the statutory authority and expertise to create and enforce regulations affecting the navigation safety of vessels.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13176-021	In the final MARIPARS, the USCG determined that uniform 1 x 1 NM spacing <i>should be preferred</i> over either a 2 NM or 4 NM transit lane corridor (like that proposed by RODA in Alternative F) because larger mitigation lanes pose more navigational risk...	Section 2.1.3 and Section 3.11 of the FEIS incorporate, where appropriate, the Final MARIPARS. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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13176-022	The USCG determined that the 1 x 1 NM layout pattern “will result in the functional equivalent of numerous navigation corridors that can safely accommodate both transits through and fishing within the [the lease areas].”	The FEIS addresses the USCG recommendations and findings in Sections 3.11.4 and 3.11.5. The Final MARIPARS study report (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report (USCG 2020). The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13176-023	...while the potentially larger footprint of the wind development area would increase the geographical scope of impacts under Alternatives D1 and D2, the draft [MARIPARS] report finds that the increased 1 x 1 NM spacing between wind turbines would incrementally decrease impacts on navigation and vessel traffic safety.	The FEIS addresses the USCG recommendations and findings in Sections 3.11.4 and 3.11.5.
13176-024	The Baird Report found most traffic in the general region transits around, or along the outside edges, of the wind energy area. In addition, most of the transiting vessels are fishing vessels, and they follow a wide range of transit paths through the wind energy area as they are coming from several different ports and heading to a variety of fishing grounds. Vessels up to 400 feet in length can safely operate within the proposed 1 x 1 NM layout, and historic transit data show vessels over this length tend to follow existing Traffic Separation Schemes that already exist outside the wind energy area.	The FEIS addresses vessel traffic in Section 3.11.2. Though findings of the Baird (2020) study were not included in the FEIS, the findings described here are consistent with findings in the FEIS. Information presented draws upon the COP, (Epsilon 2018a), including the Revised NRA for the Project (COP Volume III, Appendix III-I, Epsilon 2020a), and the Supplemental NRA (COP Volume III, Appendix III-I, Epsilon 2020a), which were prepared to comply with guidelines in the USCG’s Navigation and Vessel Inspection Circular 02-07 (USCG 2007).
13176-025	...Alternative D2 should be adopted as the preferred vessel transit and navigation alternative because it better accounts for the needs of vessels and fishing without compromising the technical needs and transmission capabilities of offshore wind projects, as well as state demand for offshore wind. We encourage BOEM to follow the recommendation of the USCG that the uniform 1 X 1 NM grid pattern is preferable to 2 NM and 4 NM grid patterns because of negative impacts to navigation from Alternative F...	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13176-026	Because vessel traffic outside the Massachusetts and Rhode Island lease areas is likely to be very different, as the SDEIS seemingly recognizes, there should not be an assumption that the spacing layout will be employed outside the geographic area considered in the SDEIS, but it is reasonable to assume that PARS associated with other wind leases will be applied and Coast Guard recommendations will be adopted.	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations

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		than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted. Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13176-027	As BOEM acknowledges in the SDEIS, “ocean users offshore in different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island.” Thus, vessel navigation and transit issues will depend on project-specific considerations and, therefore, should be deferred to future environmental analyses.	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted. Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13176-028	Therefore, even if BOEM is considering employing aspects of the cumulative impact analysis in the SDEIS as a template for future offshore wind projects in other areas, it should explicitly state in the final EIS that the layout expectations in the cumulative impacts analysis will not be used to set the standard for 1 x 1 NM spacing on projects outside of the Massachusetts and Rhode Island wind energy areas.	As noted in Appendix A of the SEIS, BOEM assumed that all offshore wind developments offshore Massachusetts and Rhode Island would have 1 x 1 nautical mile spacing. This assumption was made based on the developers' agreement made among the developers and does not preclude the selection of another alternative by the decision maker. BOEM further assumed that wind development offshore other states, with the exception Virginia, is assumed to occur at the same density as 1 x 1 nautical mile spacing, but no particular layout orientation or foundation spacing is assumed as ocean users offshore different states may have different patterns of movement or considerations than projects in leases offshore Massachusetts and Rhode Island. Therefore, no changes to the FEIS are warranted. Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13176-029	The SDEIS correctly points out that Alternative F would present “technical, operational, and economic challenges . . . if selected, which makes Alternative D2 the more appropriate and more suitable alternative.”	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. The SEIS and Section 2.1.5 of the FEIS address some of the technical and practical challenges of implementing Alternative F.
13176-030	The SDEIS thus makes clear that Alternative F will not improve navigation safety. This conclusion is consistent with the USCG’s conclusion in the	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	MARIPARS report—that such broad transit lanes would increase risks to navigation safety.	
13176-031	In addition to increasing navigation safety risks, Alternative F increases other impacts as well. For example, implementing Alternative F would delay proposed project construction as significant additional survey work would be required. Namely, there would be additional site characterization surveys for Alternative F with the attendant environmental impacts.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13176-032	The potential construction delays from Alternative F could also create more overlap with other future offshore wind project construction schedules, potentially leading to increased cumulative impacts on resources that are sensitive to overlapping construction activities.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13176-033	The space required for implementation of the transit lane could reduce the area available to construct future projects within the lease area. As BOEM notes, if all six transit lanes proposed were implemented, the technical capacity of offshore wind power generation assumed in the SDEIS would not be met. The magnitude of the diminished technical capacity would depend on the width of transit lanes implemented but, ultimately, less clean energy in the region would be produced. BOEM assumes this to be true of any combination of alternatives that includes Alternative F.	Thank you for your comment.
13176-034	One of the most critical and costly challenges of implementing Alternative F is transmission. For example, Vineyard Wind 1's proposed 66-kilovolt inter-array cables would experience additional transmission loss and unanticipated costs if cables are lengthened to accommodate the transit lanes assumed under Alternative F. Cable lengthening would require factory joints, which are not currently technically possible by cable manufacturers. Joints could increase the risk of potential cable failure and repairing such failures could lead to increased environmental effects due to a variety of factors including bottom disturbance and vessel traffic.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13176-035	Even though the SDEIS finds that Alternative F would present “technical, operational, and economic challenges,” it nevertheless states that it “could technically and economically meet the purpose and need” and could be reasonable. The final EIS should determine that since Alternative F is not technically and economically feasible, it is not a reasonable alternative for the purpose and need of the Proposed Action and therefore should be rejected as unreasonable.	Although Vineyard Wind has stated that Alternative F does not meet its goals, BOEM has included an analysis of this alternative in the FEIS (as was done for the SEIS). The SEIS as well as Section 2.1.5 of the FEIS describes the technical and practical challenges that could result if Alternative F were implemented.
13176-036	As the project was selected by a state to supply offshore wind energy to meet state clean energy targets, and the proposed broader transit corridor in Alternative F would impede offshore wind farms from helping to achieve	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.

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	those targets, Alternative F is clearly not technically and economically feasible for meeting the purpose and need of the action.	
13176-037	BOEM also correctly recognizes that implementation of Alternative F could further erode project economics and viability, as well as pose greater environmental damage to the area.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Therefore, no changes to the FEIS are warranted.
13176-038	...the USCG corroborates that “[a]lthough these larger navigation corridors may appear to provide more area for navigation, they actually provide far less area than the numerous corridors that result from the recommended array and spacing” and would also “largely preclude fishing in the WEA.” Thus, BOEM should, in the final EIS, adopt Alternative D2 as the Preferred Alternative final EIS and reject Alternative F as not being a reasonable alternative.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13176-039	In Europe, narrower distances between wind turbines than proposed in Alternative D2 have been demonstrated to be safe for vessel navigation... the most common distance between a wind farm in Europe is approximately 1 NM. These measures were put in place via project-specific discussions (assuming 300-400 foot vessels) and notably are less than those in Alternative F....The experience in Europe demonstrates that vessel navigation around and through a wind farm can be done safely through an approach similar to Alternative D2.	The FEIS addresses this comment in Sections 3.11.4 and 3.11.5. The Final MARIPARS study report (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report (USCG 2020).
13176-040	the evidence in the SDEIS itself—as well as the recommendations of the Department of Defense (DoD)—support revising the overall cumulative impact rating for military and national security uses to minor or, at most, moderate.	Section 3.11.4 of the FEIS discusses Alternative D2. Alternative D2 would result in 1 x 1 nautical mile spacing between WTGs, with WTGs arranged in east-to-west rows and north to south columns, matching the orientation that BOEM assumes for all other future offshore wind projects. Impact ratings are based on consultations with cooperating agencies (specifically the USCG) and the definitions in Section 3.0. The overall reasonably foreseeable environmental trends and planned action impacts of Alternative D2 when combined with past, present, and reasonably foreseeable activities on navigation and vessel traffic within the geographic analysis area would be lower than under the Proposed Action—moderate— due to improved SAR access and reduced loss of life.
13176-041	...of the particular potential impacts on military and national security uses identified by the SDEIS, search and rescue operations is the only one to have an impact rating of major. Thus, it is unclear in the SDEIS why this one factor alone warranted a major rating overall with respect to cumulative impacts, in comparison to the lower rating the DEIS found for this area, especially when it does not appear that DoD advised BOEM to change that rating and the evidence in the record does not support that action.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The impact ratings for military and national security uses and SAR activities were updated due

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		to additional analysis and comments provided by the USCG and other entities in the course of the SEIS development. BOEM and Vineyard Wind have conducted extensive coordination with the DoD and the USCG, which is described in Section 3.12 of the FEIS.
13176-042	...increased risk of military or national security vessel allisions with stationary structures—has a “minor to moderate” cumulative impact rating. This potential risk is low due to the lighting of offshore wind turbines, consistent with USCG and BOEM requirements....It is safe to assume that similar engagement with the Department of Defense Clearinghouse...will be required of other offshore wind projects as well, and this should be taken into account in the cumulative impacts analysis in the final EIS.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The impact ratings for military and national security uses and SAR activities were updated due to additional analysis and comments provided by the USCG and other entities in the course of the SEIS development. BOEM and Vineyard Wind have conducted extensive coordination with the DoD and the USCG, including coordination through the DoD Clearinghouse, which is described in Section 3.12 of the FEIS.
13176-043	...the SDEIS finds that the primary concern is the potential impact on search and rescue operations, asserting that the presence of turbines “could make it more difficult for SAR aircraft to perform operations in the lease area, leading to less effective search patterns or earlier abandonment of searches.” Again, this is the <i>only</i> potential impact for military and national security uses that has an impact rating of major.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate.
13176-044	...all project developers will be required to liaise with military and national security personnel to mitigate potential impacts. This fact should be taken into account in the final EIS and supports a lower rating in this area.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The FEIS has also been modified to specify that other project developers would be required to coordinate with military and national security entities to identify and mitigate potential conflicts.
13176-045	With the exception of the increased risk to military vessels and aircraft due to increased navigational complexity (major) and increased risk of military or national security vessel allisions with stationary structures (minor to moderate), the individual potential impacts considered in the overall cumulative impact rating for military and national security uses range only	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG

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	from negligible to minor. Since only one of the potential impacts considered in the SDEIS for military and national security has an impact rating of major, the SDEIS does not provide sufficient evidence to support a finding of major impacts.	SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate.
13176-046	...in the SDEIS, BOEM states that the agencies with the greatest expertise in this area, the “ <i>military entities . . . have not identified moderate or major conflicts</i> ” and that the “cumulative impacts would be highly similar under the No Action Alternative or under the Proposed Action.” The SDEIS also states “the Department of Defense reviewed the [Vineyard Wind project] in its entirety and concluded that it would have minor but acceptable impacts on their operations.” The Navy also determined that the Vineyard Wind project “does not raise concerns for [Navy] military operations.” While it is unclear in the SDEIS, to the extent the primary reason for the major impact rating is related to wind turbine structures in the Massachusetts and Rhode Island lease areas interfering with the USCG’s search and rescue operation, the MARIPARS report concluded that it can effectively execute its search and rescue operations in the spacing scheme proposed in Alternative D2. Further, if BOEM is basing this rating on USCG search and rescue missions, we question whether that issue appropriately falls within the ambit of military and national security operations as opposed to vessel navigation and safety.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. Following the layout recommendations in the Final MARIPARS would improve safety, but it would not remove the risk of allisions or collisions with WTGs during SAR operations particularly in challenging weather or visibility conditions (USCG 2020). The USCG is a branch of the armed forces that operates under the Department of Homeland Security during peacetime, and under the Navy during times of war (14 USC §101 - 102). Thus USCG SAR operations are discussed in SEIS and Section 3.12 of the FEIS, which includes military and national security uses.
13176-047	Ultimately, AWEA believes that the potential impacts on military and national security uses, when considered together, do not rise to major. If the only major impact for military and national security risk is search and rescue operations, and those are atypical activities, it is unclear why the SDEIS made the finding it did. Instead, a minor, or at most, a moderate, impact rating would seem warranted, and BOEM should revise the overall rating in the final EIS accordingly.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. Following the layout recommendations in the Final MARIPARS would improve safety, but it would not remove the risk of allisions or collisions with WTGs during SAR operations particularly in challenging weather or visibility conditions (USCG 2020).
13176-048	Not only does the aforementioned evidence within the SDEIS support a revised cumulative impact rating for military and national security uses, but to the extent there are impacts, Vineyard Wind and other offshore wind developers are required to engage with DoD to mitigate impacts. As any impacts will likely be mitigated in this process, this adds greater support to the appropriateness of a revised rating in this area and should be accounted for in the final EIS.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The FEIS has also been modified to specify that other project developers would be required to

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		coordinate with military and national security entities to identify and mitigate potential conflicts.
13176-049	...BOEM and DoD’s processes for evaluating the risk of offshore wind projects ensure that developers work with the DoD to mitigate those concerns and risks, and BOEM should include this fact in reevaluating the cumulative impacts on military and national security uses in the final EIS.	Section 3.12 of the FEIS has been edited to clarify that Alternatives A, C, D1, E, and F with D1 in the context of reasonably foreseeable environmental trends and planned actions would have minor impacts on most military and national security uses, but major impacts only on USCG SAR operations. For Alternatives D2, F with D2, and the Preferred Alternative, impacts to USCG SAR operations in the context of reasonably foreseeable environmental trends and planned actions would be reduced to moderate. The FEIS has also been modified to specify that other project developers would be required to coordinate with military and national security entities to identify and mitigate potential conflicts.
13176-050	AWEA agrees with this [minor impacts on aviation and air traffic uses] determination because not only would air traffic be able to continue over and around the Rhode Island and Massachusetts lease areas after any required changes to air traffic navigation patterns are made through established processes, but also more than 90 percent of existing air traffic over the wind development area occurs at altitudes that would not be impacted by the presence of wind turbines.	Thank you for your comment.
13176-051	AWEA agrees with BOEM’s assessment that project proponents will conduct aeronautical studies to identify and resolve any aviation-related conflicts resulting in a “minor impacts” rating.	Thank you for your comment.
13176-052	Installation of wind turbines within the Rhode Island and Massachusetts lease areas is “unlikely to individually or cumulatively impact military and civilian radar systems” because developers will continue to coordinate with individual project operators and military, national security, and civilian stakeholders.....AWEA, therefore, agrees with BOEM’s minor impacts rating for radar systems and supports that determination being adopted in the final EIS.	Thank you for your comment.
13176-053	Importantly, the report [MARIPARS] concludes that, “the UK studies also show that general mitigation measures, such as properly trained radar operators, properly installed and adjusted equipment, marked wind turbines and the use of AIS enable safe navigation with minimal loss of radar detection.”	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of marine radar. The following information cited in this comment has been incorporated into these sections: The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13176-054	Despite significant evidence in the record to the contrary, the SDEIS incongruously determines that the overall cumulative impacts on demographics, employment, and economics from the full development scenario would likely only qualify as “minor and minor beneficial.” The final	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the

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	EIS should account for all the reasonably foreseeable demographic, employment, and economic benefits created by future offshore wind projects. In particular, BOEM should evaluate foreseeable economic impacts beyond the current geographic scope, to account for the significant domestic jobs and supply chain logistics that offshore wind energy will support, as well as the infrastructure benefits. Even if BOEM is unwilling to expand the geographic scope for considering such benefits, there is sufficient evidence in the record to support the final EIS adjusting its classification of demographics, employment and economics from “minor and minor beneficial” to either moderate beneficial or major beneficial.	larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13176-055	The SDEIS adopts inconsistent geographic scopes in evaluating demographic, employment, and economic effects of offshore wind as compared to fishing impacts. Fishing impacts are evaluated from the Gulf of Maine to Cape Hatteras, but economic and environmental justice impacts are assessed only for Southern Rhode Island and Massachusetts.	BOEM believes that the geographic analysis areas for each resource are adequate. Refer to Appendix A of the FEIS for representation of the geographic analysis areas for each resource. The geographic analysis area for environmental justice populations as well as economics includes the counties where proposed onshore infrastructure and potential port cities are located, as well as counties in closest proximity to the WDA. These counties, and environmental justice communities located within them, are the most likely to experience economic impacts from the Proposed Action.
13176-056	NEPA requires an appropriately broad geographic scope, beyond “the vicinity of [any] specific project,” in situations where foreseeable impacts will be distributed more widely. This is certainly as true for economic impacts related to offshore wind energy as it is for fishing.	BOEM believes that the geographic analysis areas for each resource are adequate. The geographic analysis area for each resource was determined based on the intersection of that resource with the proposed Project activities. Refer to Appendix A of the FEIS for representation of the geographic analysis areas for each resource.
13176-057	Although the SDEIS identifies local port improvements as a significant cumulative economic benefit of future wind projects, it does not appear to take account of specific jobs and economic development commitments, or the foreseeable supply-chain effects throughout the country related to these projects—all of which support a final EIS determination of moderate to major economic benefit.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13176-058	Based on the growth of the onshore wind supply chain, and the initial comparable growth in the offshore wind sector, there is every reason to expect significant, multi-state economic benefits beyond the immediate project areas as offshore wind deployment increases.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to

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		have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13176-059	The above investments [multiple investments cited] are just a sampling of the economic benefits that will flow from deployment of offshore wind in the U.S. The final EIS should reflect that Vineyard Wind 1, and the subsequent projects included in the SDEIS cumulative impacts analysis, represent the foundation of significant economic benefits linked to transportation, manufacturing, installation, and operation of offshore wind facilities.	Although listing information on specific planned projects related to national investment in offshore wind is outside the scope of the FEIS, the analysis provides input from studies of overall projected investment and employment to revise the SEIS conclusions regarding impacts on employment and economics within the geographic analysis area. The FEIS concludes that the Proposed Action would have moderate beneficial impacts on employment and economics within the geographic analysis area.
13176-060	Several other economic impacts of the clean electricity provided by offshore wind projects will be long-term and beneficial, beyond the coastal Massachusetts and Rhode Island counties in the current geographic scope.	The SEIS cited several studies in Section 3.7 that provided projections of economic impacts of offshore wind, both regionally and nationally. The FEIS includes more detailed data from the MassCEC study, adds regional GDP and employment data for context, and two additional recent reports (Section 3.7.1.1): projections of offshore wind capital investment from the University of Delaware Special Initiative on Offshore Wind, and employment projections from Georgetown Economic Services. These studies provide projections of economic impacts of offshore wind beyond the geographic analysis area. Thus, the SEIS cited projections of regional and national economic impacts, and the FEIS expands the information provided. Both the SEIS and FEIS use these projections to make reasonable conclusion on likely impacts within the Geographic Analysis Area for this particular EIS.
13176-061	In the case of carbon emissions (for which benefits will be global), AWEA estimates that each megawatt-hour of offshore wind energy generation will avoid 0.49 metric tons of carbon dioxide emissions. For the full 22 gigawatts of offshore wind projects evaluated in the SDEIS, this would result in reductions of roughly 42.5 million metric tons of carbon dioxide annually, equivalent to the emissions of over nine million cars.	Thank you for your comment.
13176-062	The SDEIS also fails to directly connect the benefits of planned offshore wind projects to the challenges many coastal states face due to the imminent retirement of aging fossil-fueled and nuclear-fired generation facilities....The planned offshore wind projects covered in the SDEIS are well-suited to replace these conventional resources as they retire.	Section 3.6.1.1 of the FEIS is updated to acknowledge the need for energy generation and security resulting from closure of nuclear and fossil-fueled power plants.
13176-063	...because wind is a zero-marginal cost resource, development of the projects covered in the SDEIS (particularly the replacement of older, higher-marginal cost units) will tend to reduce energy prices in the New England and Mid-Atlantic regions—which are the highest in the lower 48 states.	Thank you for your comment.
13176-064	The SDEIS also correctly identifies that offshore wind will displace fossil fuel-generated power plants and result in long-term benefits to communities as an environmental justice benefit. However, the SDEIS does not appear to	The SEIS stated that future offshore wind development would have a beneficial impact on energy generation and security (Section 3.7.1.1). Additional analysis regarding the future benefit of reduced GHG emissions to

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	credit these effects as <i>economic</i> benefits as well, despite the well-documented linkage between air quality and economic productivity...The final EIS should consider these improvements as economically beneficial to the region.	employment and economics are beyond the scope of and not necessary to support the conclusions of the EIS.
13176-065	Additionally, because future offshore wind facilities would produce fewer greenhouse gas (GHG) emissions than fossil-fuel-powered generating facilities with similar capacities, the reduction in GHG emissions due to future offshore wind projects (or avoidance of increased GHG emissions from equivalent fossil-fuel-powered energy production) would result in long-term beneficial impacts on demographics, employment, and economics. Again, the SDEIS uses a narrow geographic area to assess air quality, despite the regional shift from thermal, higher-emissions power plants to zero-emissions offshore wind.	The FEIS concludes that the Proposed Action in the context of other planned offshore wind development would have moderate beneficial impacts within the geographic analysis based upon anticipated growth in employment and economic activity. Section A.8.1 of the FEIS has been updated to include additional information on potential reductions in GHG emissions. Additionally, Sections 3.7.1 and 3.7.2 of the FEIS explain that reduction in fossil fuel energy generation could potential reduce air emissions affecting minority and low income populations.
13176-066	Offshore wind development has had a tremendous impact on the revitalization of coastal communities in Europe, turning once underutilized ports and their surrounding communities into booming economies. The east coast of the U.S. will benefit comparably, and these benefits will not be limited to the current geographic scope for evaluating demographic, economic, and employment impacts in the SDEIS.	Thank you for your comment.
13176-067	Even within the SDEIS' current scope, several factors should result in a higher beneficial impact finding than the current "minor" cumulative impact rating. As noted below, most adverse impacts identified in the SDEIS are transient and occur during project construction. These adverse impacts will largely be offset by concurrent construction and installation jobs. In contrast, once the construction phase is complete, there will be continued economic benefit and negligible adverse impact over the anticipated project lives.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13176-068	...several known economic benefits in the existing Rhode Island and Massachusetts geographic scope do not appear to be referenced in the SDEIS. For instance, two new crew transfer vessels are being constructed in Rhode Island. Investments including direct grants to the port of New Bedford, developer-funded studies of potential land redevelopment, federal investment in port expansion, and \$12 million in supply chain acceleration and workforce development, and millions in leasing of port facilities are all foreseeable benefits on demographic, employment, and economic measures. In its final EIS, BOEM should fully account for all the foreseeable beneficial economic impacts, which in the aggregate support a moderate to major beneficial rating, even if limited to the geographic scope chosen in the SDEIS.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS. Within the scope of the EIS, it is not necessary to cite multiple specific examples of investment, given the availability of studies that use such information to create projections of the overall anticipated economic impact. However, the FEIS does cite port

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		improvements, including improvements that are complete, in process, or planned, at the applicable port facilities.
13176-069	The SDEIS concludes that the cumulative impacts associated with the Proposed Action when combined with past, present, and reasonably foreseeable activities would result in moderate adverse impacts and minor beneficial impacts on recreation and tourism in the geographic analysis area.....The SDEIS correctly notes that the most comprehensive review of tourism impacts from the Block Island Wind Farm—located less than 3 miles from shore—has shown no effect on tourism, and has improved fishing opportunities in some locations. This suggests that BOEM is overestimating visual impacts from the Proposed Action and foreseeable wind farms much farther from shore. In addition, subsequent research has shown increased rentals of vacation property on Block Island, versus other comparable coastal communities. Polling of other communities similarly shows no likely net impact on tourism or recreation. These additional data points should inform the final EIS.	Section 3.4.4.3 of the DEIS cited findings from several studies on the impacts on tourism resulting from the visual impact of wind energy, including descriptions of the impacts of the Block Island Wind Farm. This source and information was also included in Section 3.10.1.1 of the SEIS and Section 3.9.1.1 of the FEIS. No changes to the FEIS are warranted.
13176-070	In the SDEIS, BOEM determines that the cumulative impacts of the Proposed Action and any alternative would be major if joined with past, present, and reasonably foreseeable activities on commercial fisheries and for-hire recreational fishing. We recommend revision of this finding to moderate.	Section 3.10.1 of the FEIS discusses that, even under the No Action Alternative, BOEM expects all foreseeable factors to result in major adverse impacts on commercial fisheries and moderate adverse impacts on for-hire recreational fisheries. This is consistent with the definitions of impact levels in Table 3-1 of the FEIS. The impacts on the fishing industry under the Proposed Action would not be substantially less than under the No Action Alternative.
13176-071	The SDEIS raises the level of impact for cumulative effects based largely on three findings. Only one of these findings is directly attributable to offshore wind. The offshore wind-related finding is that the permanent presence of structures will affect commercial and recreational fishing. The other two drivers of the “major” impact rating are reduced stock levels due to existing mortality caused by fishing and changes in fish distribution/availability due to climate change. ... the conclusion that the Alternatives would have major cumulative impacts is not supported, and the conclusion for Alternative D2 is additionally inconsistent...	Section 3.10.1 of the FEIS discusses that, even under the No Action Alternative, BOEM expects all foreseeable factors to result in major adverse impacts on commercial fisheries and moderate adverse impacts on for-hire recreational fisheries. This is consistent with the definitions of impact levels in Table 3-1 of the FEIS. The impacts on the fishing industry under Alternatives C, D1, D2, E, or F would not be substantially less than under the No Action Alternative.
13176-072	...fisheries can not only continue to operate within wind farms, commercial fisheries can also avoid wind farms, as desired; therefore, the vast majority of fisheries activity would be unaffected by wind farms.	Section 3.11 of the SEIS discusses the potential for fishing vessels to transit wind development areas, to fish within wind development areas, and to relocate to other fishing grounds outside of wind development areas, although increased operating costs and decreased revenues may result; therefore, no change to the FEIS is warranted.
13176-073	...BOEM appears to imply that wind energy would have a negative impact on climate change and fisheries-caused fish mortality when the opposite is the	Sections 3.10 and A.8.1 of the FEIS clarify the expected contribution of offshore wind activities to climate change. Section 3.10 of the FEIS was

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	case. To remove this implication, BOEM should clarify in the final EIS that these impacts are from sources other than offshore wind energy and are being accrued as part of the baseline for its impact analysis.	updated to clarify that climate change and fisheries-caused mortality are ongoing activities.
13176-074	The final EIS should also account for real-world examples in assessing its impact rating regarding commercial fishing. 199 Michael Roach, et al., The effects of temporary exclusion of activity due to wind farm construction on a lobster (<i>Homarus gammarus</i>) fishery suggests a potential management approach, 75 ICES J. MARINE SCI. 1416 (Feb. 7, 2018), https://academic.oup.com/icesjms/article/75/4/1416/4841920 . 200 V. Stelzenmüller, et al., Co-location of passive gear fisheries in offshore wind farms in the German EEZ of the North Sea: A first socio-economic scoping. Journal of Environmental Management, 183 J. ENVTL. MGMT. 1 (2016). 201 D.H. Wilber, et al., Flatfish habitat use near North America’s first offshore wind farm, 139 J. SEA RES. 24 (2018).	Section 3.10 of the FEIS was updated to reference the real-world example from the Roach et al. 2018 study.
13176-075	Evidence from wind farm studies suggests that fishing is compatible with wind farms, and strategies have been developed in collaboration with the fishing community to ensure compatibility with fishing and compensation mitigation in the event of gear damage in U.S. Atlantic wind farms. The increment of impact of the Proposed Action and foreseeable offshore wind farms is slight compared with climate change and fisheries mortality...	Sections 3.11.1.1 and 3.11.2 of the SEIS state that the consequences of all foreseeable factors on commercial fisheries and for-hire recreational fishing are primarily driven by the ongoing factors of regulated fishing effort and climate change. Section 3.10.1 of the FEIS discusses the potential for fishing operations to occur within wind turbine arrays, and Section 3.10.2 has been updated to discuss Vineyard Wind's plan to compensate fishermen for gear loss or damage.
13176-076	We agree that BOEM’s definition of “moderate,” which includes the fact that mitigation will substantially reduce impacts and that fisheries will have to somewhat adjust to the presence of structures, is supported for the potential direct and indirect impacts of the Alternatives in the DEIS. But the cumulative impact of adding this effect on top of past, present, and reasonably foreseeable effects is not an increment that changes the level of cumulative impact to major; it is a small increment of a pre-existing impact level. Although the project would affect fisheries in the short-term, BOEM’s assertion that this impact may become neutral over time for Alternative D2 (because of beneficial impacts and adjustment by fisheries) suggests the increment of impact may be insignificant relative to the baseline.	Section 3.11.1.2 of the SEIS discusses that, even under the No Action Alternative, BOEM expects all foreseeable factors to result in major adverse impacts on commercial fisheries and moderate adverse impacts on for-hire recreational fisheries. This is consistent with the definitions of impact levels in Table 3-1 of the FEIS; therefore, no change to the FEIS is warranted. The impacts on the fishing industry under Alternatives A, C, D1, D2, E, or F would not be substantially less than under the No Action Alternative.
13176-077	The SDEIS does not consider many examples from operational projects where commercial fishing has continued during operations within arrays. Specifically, the SDEIS fails to include a discussion about operational projects in Europe and elsewhere where commercial fishing has continued within wind farms. As noted above, fisheries also operate outside of wind farms, and the bulk of commercial fishing activity off the coast of New England is not in the wind lease areas...	Section 3.10 of the FEIS was updated to include a reference that discusses operational projects in Europe.

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13176-078	The assertion in Section 3.11.2.4 of the SDEIS that Alternative D2 has <i>incremental</i> impacts that are “moderate” on commercial fisheries and for-hire recreational fishing is inconsistent with both the slight beneficial impact and the magnitude of other negative impacts unrelated to offshore wind.	In accordance with the revised NEPA regulations, Section 3.11.2.4 of the SEIS discusses the impacts of Alternative D2 alone as well as in the context of reasonably foreseeable environmental trends and planned actions; therefore, no change to the FEIS is warranted.
13176-079	The SDEIS assigned levels of incremental impact using definitions provided in the DEIS Table 3-1-1. In evaluating cumulative impacts, it is not necessary to assign the increment of effect to an impact rating level. Incremental impact levels should be defined specifically. For example, a moderate “increment” of impact would need to be defined relative to something, which is not the way the definitions of impact are framed in Table 3-1-1 of the DEIS.	In accordance with the revised NEPA regulations, the SEIS discusses the impacts of each action alternative alone as well as in the context of reasonably foreseeable environmental trends and planned actions; therefore, no change to the FEIS is warranted.
13176-080	In the case of incremental impact from structures, applying such an approach would result in a very small increment of impact relative to impacts unrelated to offshore wind, and this should be reflected in BOEM’s assessment. The Proposed Action and foreseeable offshore wind farms will slightly offset fisheries-related mortality via reef effects. This should be taken into better account in the impact increment.	In accordance with the revised NEPA regulations, the SEIS and FEIS discuss the impacts of each action alternative alone as well as in the context of reasonably foreseeable environmental trends and planned actions. Sections 3.10.1 and 3.10.2 of the FEIS discuss how much of each IPF can be attributed to the Proposed Action and other offshore wind developments versus to other activities. Section 3.4 of the SEIS discusses the “reef effect” and the potential benefits to finfish and invertebrates; therefore, no change to the FEIS is warranted.
13176-081	it is safe to assume that there will be only a de minimis risk to a small percentage of recreational fishing activities.	Section 3.10 and 3.11 of the SEIS discuss likely adverse and beneficial impacts on recreational fishing and for-hire recreational fishing. The risk of allisions from the presence of structures would have minor impacts on recreational fishing (Table 3.10-1) and moderate impacts on for-hire recreational fishing (Table 3.11-1). The risk of impacts from this sub-IPF is affected by the amount and layout of structures, increases in recreational fishing vessels due to changes in areas of fish species aggregation, as well as changes in operational planning for vessels resulting in increased space use conflicts. The Proposed Action would add up to 102 foundations under various layout options, resulting in long-term, moderate impacts on all vessels transiting through or around the WDA. Additionally, Figure 3.10-11 of the FEIS shows the recreational fishing effort for HMS over the Rhode Island and Massachusetts lease areas (2002-2018). Therefore, no change to the FEIS is warranted.
13176-082	Relative to navigation, this rating [Major] for Alternative D2 is particularly unsupported by the evidence and should be revised to “moderate” as this alternative would minimize conflicts with existing ocean uses, such as commercial fishing, by facilitating the established practice of mobile and fixed gear fishing practices and vessels fishing in an east-west orientation. This would result in an outcome that meets the definition of “moderate” for socioeconomic resources in that impacts are unavoidable but with proper	Section 3.11.4 of the FEIS discusses Alternative D2. Alternative D2 would result in 1 x 1 nautical mile spacing between WTGs, with WTGs arranged in east-to-west rows and north to south columns, matching the orientation that BOEM assumes for all other future offshore wind projects. Impact ratings are based on consultations with cooperating agencies (specifically the USCG) and the definitions in Section 3.0. The overall reasonably foreseeable environmental trends and planned action impacts of Alternative D2 when

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	mitigation....This reduction is “substantial” and not just “somewhat” (the difference between the definitions of moderate and major impacts) because the turbine configuration and spacing of Alternative D1 was found by the USCG to provide for “robust navigational safety and search and rescue capability.”	combined with past, present, and reasonably foreseeable activities on navigation and vessel traffic within the geographic analysis area would be lower than under the Proposed Action—moderate— due to improved SAR access and reduced loss of life.
13176-083	The SDEIS states that Alternatives D1 and D2, combined with the artificial reef effects of the wind turbines would alleviate impacts to the commercial industry, which is not asserted by the other alternatives.....future mitigation of these impacts will likely include some form of uniform spacing and layout across adjacent projects. This will reduce impacts for future offshore wind projects and should be more fully taken into account in the final EIS for future projects. As a result of spacing and the beneficial impacts to climate change and fish via reef effects, Alternatives D1 and D2 would have an even smaller increment of impact than other Alternatives relative to other cumulative impact factors.	As stated in Section 3.10.4 of the FEIS, the wider spacing of Alternatives D1 and D2 could also cause an increase in displacement of fishing vessels as a result of now larger WDA, leading to increased conflict over other fishing grounds. However, these adverse impacts are at least partially offset by for some fisheries by the artificial reef effect associated with the infrastructure surface area (cable protection, foundations/scour protection) due to placement of the WTGs and ESPs. The wider spacing would also improve maneuverability in fishing locations and the ability of vessels to deploy mobile and fixed fishing gear given the east-west orientation (only Alternative D2) and increased spacing between the WTGs except for some commercial fisheries in the northern portion of the WDA. As stated in Section 3.10.1, the fish aggregation and reef effects of offshore wind structures would provide new opportunities for recreational fishing, although few recreational vessels presently travel as far from shore as the proposed offshore wind structures. The additional recreational vessel activity focused on aggregation and reef effects would incrementally increase vessel congestion and the risk of allision, collision, and spills near WTGs. Section 3.11.3 and 3.11.4 of the FEIS includes a discussion of potential effects of Alternative D1 and Alternative D2 on navigation and vessel traffic. Discussion of future mitigation of other offshore wind projects is outside the scope to evaluate environmental impacts of the Proposed Action.
13176-084	There is no requirement that mitigation actually be adopted before it can be considered in NEPA analysis. Therefore, even though the compensation measures are not currently in place for other future offshore wind projects, BOEM should account for them when measuring impacts in the final EIS. Under NEPA, an EIS must contain a “reasonably complete discussion of possible mitigation measures....It is reasonably foreseeable that BOEM can expect to see other financial compensation agreements, mitigation plans, or other dedicated expenditures to alleviate the concerns of the commercial fishing and for-hire fishing industries in all future projects. Indeed, all five developers with projects included in the scope of this SDEIS have already made commitments of some type to providing such mitigation.....As such, BOEM should be able consider some approximation of financial compensation for fishing interests that act to mitigate effects to commercial fisheries for future projects.	As noted in the SEIS, the summary of the Proposed Action and the alternative analyses in this SEIS did not assume that the proposed mitigation measures discussed in the DEIS would be included to avoid or reduce potential impacts, but did include those measures voluntarily committed to by Vineyard Wind as part of the Proposed Action. The SEIS analysis was performed to address the potential impacts of Vineyard Wind 1 Project along with their voluntarily measures and was not a programmatic EIS. Table A-5 in Appendix A of the SEIS included best management practices for future offshore wind activities that future developers may implement, or BOEM could require. The best management practices were adopted from the Record of Decision on the 2007 Final Programmatic EIS for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is

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		a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13176-085	The SDEIS concludes that recreational fishing would suffer long-term, continuous, minor to moderate impacts relative to gear loss due to offshore wind structures. While BOEM generally notes that bottom tending mobile gear, such as small mesh bottom-trawl gear, is more likely to be displaced than fixed gear, BOEM fails to adequately describe the type of gear anticipated to be lost that would exceed the existing gear losses that are already likely to occur in the area, and the reasoning for this assertion....Fishing occurs regularly throughout the U.S. EEZ where cables for a variety of purposes occur. PriMetrica provides the following map of subsea cables as part of its TeleGeography project, which indicates that subsea cables are common and that it would be considered normal practice for fisheries to safely and effectively operate in their presence. Further, as noted above, financial compensation agreements are often developed to address gear loss, should it occur on wind farm structures.	Table 3.10-1 of the FEIS discusses the type of gear most likely to be lost or damaged. Section 3.10 and Table 3.10-1 of the FEIS have been updated to discuss the existing level of risk for gear loss due to the presence of structures and an example of the public gear loss compensation program in the Gulf of Mexico (Fisheries Contingency Fund). Voluntary financial compensation packages are also discussed in Section 3.10, Table 3.10-13, and Appendix D.
13176-086	Fishing routinely occurs around oil and gas structures, such as those in the U.S. Gulf of Mexico, and BOEM's 2017-2022 Programmatic EIS for the Outer Continental Shelf Oil and Gas Leasing Program states that 13 lease sales are proposed over the period and concludes that cumulative impacts to commercial and recreational fisheries, including existing infrastructure, fisheries, and climate change, would be minor to moderate, with the proposed action having a negligible to minor incremental contribution to total cumulative impacts. This suggests that navigation around significant offshore infrastructure in other areas of the U.S. EEZ has not resulted in gear entanglements and losses that rise to a level that would drive "major" cumulative impacts to fisheries. The same seems to be true for offshore wind development in the Atlantic.	Section 3.10 of the FEIS discusses the impacts to navigational risks associated with offshore wind development, which includes the presence of structures from WTGs and interarray cables. Section 3.10 of the FEIS was updated to discuss the existing level of risk for gear loss due to the presence of structures and an example of the public gear loss compensation program in the Gulf of Mexico (Fisheries Contingency Fund), including the number of claims averaged from 2007 to 2017.
13176-087	The "major" impact rating for cumulative effects to fisheries is also driven by changes to fish distribution/availability due to reduced stock levels due to fishing mortality. To have fisheries mortality constitute a major impact on fisheries and conclude fisheries management (state and federal) should result in sustainable fisheries seems inconsistent, and would suggest that both fisheries and fish are not "majorly" impacted by fisheries mortality (i.e.,	The cumulative analysis considers all impact producing factors that impact commercial fisheries including regulated fishing effort (fisheries mortality).

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	fisheries mortality should not be one of the drivers of a “major” impact finding for cumulative impacts on fisheries).	
13176-088	Further, as noted above, the increment of impact of the Proposed Action alternatives to fisheries relative to fishing mortality is extremely small, with any minor mortality or displacement of fish offset by reef effects and small protected areas surrounding turbines that promote fish aggregation and breeding. Thus, there is no expectation that fish stocks would be substantively negatively affected by offshore wind (thereby affecting fisheries) and many may experience beneficial effects, which could benefit fisheries.	BOEM believes that the impact levels assigned may be conservative but are based upon the best available information. The SEIS considers both beneficial and adverse impacts to finfish in Section 3.4; therefore, no change to the FEIS is warranted.
13176-089	With respect to reduced fishing, fisheries management impacts are described in the SDEIS as including measures such as quotas and closed areas that constrain fisheries ability to adapt to change; but this is not the case. Fisheries management is a tool used to optimize fisheries operating around offshore structures in other parts of the U.S., such as fisheries management for oil and gas structures in the Gulf of Mexico. There is no basis for not assuming the same in the context of offshore wind...Thus, fisheries do adapt, and under MSA, there is an obligation for the implementing agency to revise fishery management plans to optimize yield in accordance with National Standards, so cumulative impacts to fisheries resulting from Alternatives evaluated in the SDEIS will be further addressed in appropriate and statutorily required adjustments to fisheries management. This management does not inherently have a negative impact on fisheries that accumulates with other actions, and in fact, is developed for the purpose of optimizing fisheries while maintaining sustainability that is necessary for realizing fisheries’ maximum socioeconomic potential.	Predicting future fishing behavior and fishing regulations a difficult task. BOEM worked closely with NMFS- a cooperating agency-to develop the effects analysis and although conservative, it is based upon the best available information. Therefore, no change to the FEIS is warranted.
13176-090	BOEM’s cumulative impact analysis should further account for the ability of the U.S. offshore wind energy to mitigate climate change. As a preliminary matter, there are certainly reasonably foreseeable impacts of climate change to marine species—unrelated to offshore wind energy—that will contribute to impacts to commercial fishing and for-hire fishing.	Sections 3.11.1 and A.8.1 of the SEIS considered the influence of offshore wind energy development on climate change and state that offshore wind projects will likely result in a net decrease in GHGs. Section A.8.1 of the FEIS has been updated to include additional information. BOEM has updated Section A.8.1 of the FEIS to include an analysis using EPA's AVERT and COBRA tools to assess air quality and health benefits. AVERT uses information about the historical patterns of power generation throughout the year to evaluate the potential for emissions avoided on an hourly basis throughout the year in a specific region, for a given category and size of renewable energy or energy efficiency project. The avoided emissions output can then be analyzed with COBRA. The annual potential avoided emissions calculated by AVERT for an 800 MW offshore wind facility in the New England AVERT region are included in Table A.8.1-3 of the FEIS. An

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		assessment of potential impacts from climate change on commercial and for-hire fishing was included in the SEIS and in Section 3.10 of the FEIS.
13176-091	Building out offshore wind, as contemplated in the reasonably foreseeable scenario in the SDEIS, would uncontroversibly mitigate impacts from climate change by displacing a portion of fossil-fuel power generation and, in turn, help mitigate these impacts. As BOEM notes in the SDEIS, “[o]ffshore wind projects will by themselves probably have little impact on climate change[,] they may be significant and beneficial as a component of many actions addressing climate change.	Thank you for your comment.
13176-092	However, BOEM confusingly conflates the impacts to fishing caused by climate change used for assessing the baseline and the impacts caused by offshore wind energy. While all the cumulative impacts need to be aggregated to determine an overall level of impact, BOEM should not give the false impression that the impacts from climate change and, in turn, fishing would be the same regardless of whether or not future offshore wind is deployed. Further, as noted above, the increment of impact is important in cumulative effects analysis, and the increment associated with offshore wind farms relative to climate change would be a meaningful beneficial impact. In sum, in the final EIS, BOEM should rectify this and clarify that the beneficial impact of wind facilities is a key to addressing climate change and not suggest that offshore wind energy contributes to climate impacts to commercial fisheries and for-hire recreational fishing.	Sections 3.10 and A.8.1 of the FEIS clarify the expected contribution of offshore wind activities to climate change.
13176-093	While AWEA does not take a position on the area scoped, it appears to assume that all commercial fishing operations and all fish/distribution and availability is the same across this broad area. This is not the case. Fish populations ranging within this geographic area are diverse and can differ substantially between North Atlantic and Mid-Atlantic regions. Few individual fish species or fisheries use the full extent of the geographic scope considered in the SDEIS.	The SEIS and FEIS do not assume that fish distributions are similar over space or time. SEIS Figure 3.11-1 through 3.11-6 and Table 3.11-3 and 3.11-4 show the variability of commercial fishing operations and landings. Multiple figures from Section 3.10 of the FEIS show the variety of fisheries distribution across New England and the Mid-Atlantic; therefore, no change to the FEIS is warranted.
13176-094	While AWEA is not recommending changes to the analysis of the SDEIS based on geographic scope in the final EIS, we recommend that, in future EISs, BOEM consider a similar approach to considering the geographic scope of fish distribution and availability... and considered populations in smaller groups of geographic areas. This approach allows BOEM to identify the potential lost revenues more accurately in each area and the actual impacts to commercial fisheries.	Each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts and the selection of the preferred alternative.
13176-095	BOEM's rating of “major” impacts for scientific research and surveys ... is unsupported. First, it erroneously assumes a worst-case scenario, which is specifically stated to be unnecessary in CEQ regulations... The SDEIS also	The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of the FEIS. BOEM is funding a

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	finds that the uncertainty in management processes would in turn have short-term or long-term impacts on commercial and for-hire recreational fisheries operations... based on the evidence in the record, BOEM should consider lowering the cumulative impact rating for scientific research and surveys to moderate in the final EIS.	process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13176-096	While activities associated with offshore wind development, such as site assessment activities, construction of wind turbines, associated cable systems, and vessel activity, could present minimal additional navigational obstructions for sea and air-based scientific surveys, the evidence in the SDEIS does not support a “major” impact finding because it is purely speculative and assumes mitigation has little effect on research access and research has no flexibility in its implementation.	Section 3.12 of the FEIS has been updated to acknowledge potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of the FEIS. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13176-097	BOEM’s cumulative impact rating for research is based on its assertion that the reasonably foreseeable build-out of offshore wind would result in navigational hazards that would affect the coverage of some survey areas used to estimate fishery stock abundances, oceanographic parameters, and protected species. In the case of Alternative D2, the adjusted spacing of the turbines was not determined to be sufficient mitigation to result in an impact rating of moderate rather than major despite the reliance on obstructions as the main cause of research disruption. We recommend reconsideration of this determination. Further, mitigation for noise and monitoring efforts required by statutes like the Marine Mammal Protection Act and Endangered Species Act will mitigate for effects to research for the Vineyard Wind 1 project....National Historical Preservation Act consultation requirements also include potential investigation of submerged archaeological resources. Further, requirements associated with minimizing impacts to commercial and for-hire recreational fishing will also reduce impacts to agency and academic research activities.....A “substantial” reduction in impact via mitigation for wind farms should thus lead to a moderate impact finding.	Section 3.12 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. NOAA and BOEM reviewed Alternative D2 and concluded that the adjusted spacing would still result an impact level of major due to survey vessel needs to avoid obstructions. Therefore, no changes to the FEIS are warranted.
13176-098	We recognize that reducing aerial or ship-based survey access may interrupt some survey tracklines, trawl areas, and pre-existing environmental data collection stations, but both the mitigation described above and the ability of	Section 3.12 of the FEIS has been updated to acknowledge potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and

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	researchers to develop corrections for alternate data collection sites, adapt data collection protocols, use remote technologies, and extrapolate from other locations or use proxies for research, reduces this impact from major to moderate, as the mitigation substantially reduces impact and the affected community has to somewhat adjust to account for disruptions.	surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of the FEIS. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13176-099	It is also worth noting that the operational maintenance on wind farms may provide a collaborative opportunity to collect more and different data than in the past by piggybacking on maintenance work to reduce survey costs.	Section 3.12 of the FEIS has been updated to incorporate additional information; however, a change to the level of impact was not warranted.
13176-100	The final EIS should consider developments already underway in survey methods that will lessen the impact of wind development on oceanographic surveys.	Section 3.12 of the FEIS has been updated to incorporate additional information; however, a change to the level of impact was not warranted.
13176-101	The SDEIS also fails to recognize adequately in its cumulative impacts rating the effect of the “considerable survey efforts . . . underway for years using digital aerial surveys,” ²³⁸ which include techniques and photos used “to define the national shoreline, create maps and charts, monitor environmental change, and provide damage assessment in response to manmade or natural disasters.”	Section 3.12 of the FEIS has been updated to incorporate additional information; however, a change to the level of impact was not warranted.
13176-102	even though entities conducting surveys and scientific research could potentially need to make some investments to adapt methodologies in order to account for unsampleable areas, both the inherent flexibility and change associated with long-term marine research and the mitigation (including long-term data collection) required for wind farms under statutes like the ESA and MSA, result in moderate rather than major impacts to research. There would be no long-term and irreversible impacts on fisheries or protected species or their management; mitigation would reduce impacts substantially; and the affected community would have to adjust somewhat to account for disruptions. The final EIS should therefore change these impacts to moderate [for conducting surveys and scientific research].	Section 3.12 of the FEIS has been updated to acknowledge potential future developments in scientific research in surveys, including use of unmanned vessel and aerial vehicles. The level of impact to scientific research and surveys (major) was jointly agreed to by NMFS and BOEM based on currently available information and remains unchanged in the Section 3.12 of the FEIS. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07
13176-103	AWEA agrees that impacts to marine mammals would not be major, as defined by BOEM, but suggests the evidence supports a finding of minor cumulative impacts for marine mammals and sea turtles.	The FEIS addresses both adverse and beneficial impacts to marine mammals from the Vineyard Wind 1 Project from individual Impact Producing Factors and overall impacts. The potentially beneficial impacts are concluded for increased foraging opportunities created by the reef effect the WTG

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		foundations will have, particularly for fish- and shell-fish eating marine mammals. The vertical WTG structures may also result in increased primary production and zooplankton abundance, increasing prey availability for mysticete whales, relative to surrounding locations. Section 3.5 of the SEIS concluded long-term, moderate beneficial impacts to some marine mammal groups that may benefit from increased foraging opportunities. BOEM believes that structures will not adversely impact the prey availability of NARWs. While the proposed 1 nautical mile spacing between WTGs would be sufficient to allow unimpeded movement within and between offshore wind facilities, there is a lack of information and a large amount of uncertainty relative to large whale responses to the presence of offshore WTG structures. Therefore, long-term, intermittent impacts on foraging, migratory movements, or other important behaviors may occur as a result of the future offshore wind development. Regarding underwater noise, an extensive mitigation and monitoring plan is proposed (Appendix D) that will avoid and minimize potential impacts from pile driving on NARWs. Section 3.3.7.3 of the DEIS and Section 3.5.1 of the SEIS discussed the expected distance that noise associated with operational WTGS would reach ambient levels. Based on measurements at the Block Island Wind Farm, low frequency noise generated by operating turbines reaches ambient levels at 164 feet (50 meters; Miller and Potty 2017). Overall, considering all the individual impact determinations combined, both moderate beneficial and moderate adverse impacts may occur to some marine mammals. Some impacts of the Vineyard Wind 1 Project by itself may have negligible to minor, and moderate impacts on marine mammals depending on the impact-producing factor assessed. BOEM has considered that the cumulative impacts that may be expected by future offshore wind projects in addition to Vineyard Wind would have similar, but not exactly the same impacts depending on differences in project details, location, and other factors. However, overall similar impacts may occur, and as such, BOEM concludes a moderate cumulative impact may occur. As defined in Section 3.1 of the DEIS and Table 3-1 in Appendix B of the SEIS, the described impact rating determinations are appropriate. Therefore, no change to the FEIS is warranted.
13176-104	...BOEM should consider the significant amount of directed mitigation and findings requirements associated with the Marine Mammal Protection Act and Endangered Species Act in making a minor impact determination for all marine mammals and sea turtles, and make that finding based on similar reasoning to the finding of minor impacts to NARWs.	As defined in Section 3.1 of the DEIS and Table 3-1 in Appendix B of the SEIS, the described impact rating determinations are appropriate. Therefore, no change to the FEIS is warranted.

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13176-105	The potential adverse impacts of structures are very speculative compared to the scientific support for reef effects and predators taking advantage of feeding opportunities that structure reef effects provide. [See references below] ... these results highlight that factors aside from wind farm presence (like actual abundance and trends) may be more important in driving use patterns of marine mammals. 243 Deborah J.F. Russell, et al., Marine mammals trace anthropogenic structures at sea, 24 CURRENT BIOLOGY R638 (2014). 244 Michael C. Barnette, NOAA Technical Memorandum NMFS-SER-5, Potential impacts of artificial reef development on sea turtle conservation in Florida (2017). 245 J. Teilmann & J. Carstensen, Negative Long-Term Effects on Harbour Porpoises from a Large-Scale Offshore Windfarm in the Baltic—Evidence of Slow Recovery, 7 ENVTL. RES. LETTERS 045101 (2012). 246 Meike Scheidat, et al., Harbour porpoises (<i>Phocoena phocoena</i>) and wind farms: a case study in the Dutch North Sea, 6 ENVTL. RES. LETTERS. 025102 (2011).	BOEM has considered both the beneficial and adverse impacts that manmade structures may have on marine animals and sea turtles. BOEM does not disagree that many there are many factors that drive habitat use patterns in marine mammals and sea turtles. However, the placement of large numbers of WTGs may have some localized impacts, while may not impact large scale habitat use patterns, may have some detectable localized effects within the lease area that are both beneficial adverse. Although some information is available for species such as sea turtles, harbor porpoises, and seals, a great deal is unknown how many protected species may be locally impacted within the lease area. The references provided have been considered in the analysis in addition to the habitat conditions, species composition and behaviors, and project information in the lease area. Section 3.3.7.3 in the DEIS and Sections 3.5.1 and 3.5.2 of the SEIS provided a discussion of both the potential beneficial and adverse impacts that could arise as a result of the presence of structures and the associated reef effect. Therefore, no change to the FEIS is warranted.
13176-106	Scale, even across multiple foreseeable wind farms, is small compared to open ocean habitats, and when turbines and other structures are far apart relative to the size of animals, use of the area and animal navigation through wind farms should not be limited or be subject to any meaningful habitat fragmentation.	Section 3.3.7.3 of the DEIS and Section 3.5.1 and 3.5.2 of the SEIS discussed the assumed potential for marine mammals to safely navigate between WTGs given the spacing relative to animal size. Therefore, no change to the FEIS is warranted.
13176-107	...continued use and sometimes directed foraging at offshore wind farms and oil platforms for a variety of marine mammals and sea turtles suggests impacts from wind turbine structures are much more likely to benefit than adversely affect these animals.	Section 3.3.7.3 in the DEIS and Sections 3.5.1 and 3.5.2 of the SEIS provided a discussion of the potential beneficial impacts that could arise as a result of the presence of structures and the associated reef effect. Therefore, no change to the FEIS is warranted.
13176-108	...mitigation proposed by Vineyard Wind 1 [for pile-driving activities] ... should result in no more than minor impacts to these animals.	As defined in Section 3.1 of the DEIS and Table 3-1 in Appendix B of the SEIS, the described impact rating determinations are appropriate. Therefore, no change to the FEIS is warranted.
13176-109	BOEM correctly assumes that future COP approvals will include project-specific mitigation and monitoring measures developed through NEPA, ESA consultations, and ITAs that will be implemented by each future project that will be designed to avoid exposure of individuals to injurious levels of noise and minimize and monitor effects of exposure that would result in behavioral responses.²⁵⁵ This will certainly reduce the cumulative impacts on any individuals and populations by reducing project-specific impacts, but despite acknowledging these mitigation measures, BOEM concluded that cumulative impacts would be moderate rather than minor.	As defined in Section 3.1 of the DEIS and Table 3-1 in Appendix B of the SEIS, the described impact rating determinations are appropriate. Therefore, no change to the FEIS is warranted. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.

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13176-110	...the available literature suggests that individual marine mammals will avoid disturbing levels of noise by swimming away from the noise source, with the duration of avoidance varying greatly, indicating that marine mammal responses to pile driving in the offshore environment will likely be context-dependent. Sea turtles are likely to be protected from impulsive sound like pile driving because of their rigid external anatomy, and mitigation measures, like clearance, are applied to sea turtles as well as marine mammals.	Thank you for your comment.
13176-111	The SDEIS correctly concludes that pile-driving noise would have minor impacts to NARWs and should consider extending this finding to all marine mammals and sea turtles....	Thank you for your comment.
13176-112	NARWs use a large area of habitat for feeding that includes the WEAs as a small area of that habitat. There have been more directed studies at NARWs in the MA/RI WEA in recent years, which has increased sightings of this species in that area, so observational effort should be considered when evaluating the anticipated use patterns across feeding grounds....it is reasonably foreseeable that substantive mitigation to protect NARWs will be part of all foreseeable offshore wind projects and so should be considered sufficient to contribute to a cumulative impact rating of minor, or at most remain at moderate.	As defined in Section 3.1 of the DEIS and Table 3-1 in Appendix B of the SEIS, the described impact rating determinations are appropriate. Therefore, no change to the FEIS is warranted. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13176-113	Birds navigate through storms and other weather and ocean conditions that cause variation in their migratory paths, so some flexibility would be expected in terms of energy requirements for migration. Further... wind turbines spaced 1 x 1 NM apart would allow for considerable space for maneuvering around or otherwise avoiding turbines.....As such, although individuals [birds] might be affected if they collide with structures, population-level impacts will not occur.	Thank you for your comment.
13176-114	Further, mitigation measures are not included in the Band collision risk modeling method cited by BOEM, so the mitigation described in Table D-1 of the SDEIS is not considered in the risk estimate—which would further reduce risk[for bird strikes].	At this time, the full suite of mitigation and monitoring measures that will be required as part of the proposed Project are not finalized. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. As such, the analyses provided include the max-case scenario, such that actual impacts of the proposed Project are equal to, or less than those described.
13176-115	BOEM rightly applies a published model for general collision risk, even though this model does not account for avoidance, attraction, and other factors that could affect collision risk—either increasing or decreasing that risk....Exposure risk is so low for seabird populations that, regardless of collision risk for those exposed, population-level impacts would not be	Thank you for your comment.

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	expected, limiting the cumulative impacts to no more than moderate, and potentially minor. Mortality of a few individuals [birds] does not inherently raise the level of impact higher than minor, as resource impacts are considered in the context of biological effects. Mitigation measures will further reduce risk of collision and risk of disturbance to birds during construction, cable laying, and land-based activities, as described in Table D-1 of the SDEIS.	
13176-116	The Biological Assessment cites the literature that the primary threat to rufa red knot is reduced availability of horseshoe crabs,.....Rufa red knots breed in the Arctic so offshore wind will not disturb breeding areas of this species.	Thank you for your comment.
13176-117	It is reasonable to assume that mitigation and monitoring will be both required of wind developers and supported by regional academic efforts, resulting in no more than moderate, and potentially minor, cumulative impacts on birds. BOEM correctly concludes that no population-level effects are expected for any bird species for the proposed project or cumulative wind farm activities considered in the SDEIS. Most impacts will be avoided through proper mitigation and the resource is expected to recover completely once impact producing factors are eliminated.	Thank you for your comment.
13176-118	AWEA ... respectfully urges BOEM to timely approve this milestone offshore wind project and pave the way for responsibly developed future projects.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP.
13176-119	As BOEM is nearing the finalization of the EIS, we also encourage it to timely process the pending permits of other offshore wind applications. Any further delay in processing these pending applications puts at risk the ability of the offshore wind industry to have the needed certainty to grow in this nation and jeopardizes the substantial industry-wide investments and benefits that will flow from them.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect BOEM's anticipated date for a decision on the COP.
13177-001	In summary Nexans respectfully requests BOEM to (i) adopt the SEIS as currently written and to increase from minor to major (a) the positive environmental impact of such a project as such a development when in operation will generate energy without harmful emissions and (b) the positive economic impact for the US economy as it will spur durable major investments in this country, to (ii) reject Alternative F as harmful for the growth of the US offshore wind industry, and to (iii) proceed with all appropriate speed to issue the Environmental Impact Statement and the associated Construction and Operations Plan for the project based on alternative D2.	Thank you for your comment.
13177-002	By approving the full Vineyard Wind project configuration conform to t Agreement Layout and the USCG MARIPA study's recommendations in	Thank you for your comment.

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	Federal Decision permitting timeline, the Department of Interior will send offshore wind industry, the firms that support it, and investors that the U.S. is supportive of this industry and intends to be a central player in the global market. Investment in offshore wind is expected to expand up to \$ 1 trillion by 2030.	
13177-003	Adopting or endorsing proposals that require a substantial reconfiguration of the project (and therefore all projects in the area) as for example alternative F requiring additional 2 NM or 4 NM wide transit lanes (which would be the equivalent of not granting any approval) will have serious negative consequences for this country and the industry.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13177-004	For decades, the United States of America has lost industrial jobs that were sent abroad and never came back. If allowed to succeed, the offshore wind industry will do its part to create well paid high-skills technical and industrial jobs here. The ability to onshore the manufacture of durable goods is something that our country should support. The failure to issue timely permits with reasonable and predictable requirements would allow others in China or APACs countries to develop preeminence in this sector which is one in which the United State should play a leading role.	Thank you for your comment.
13178-001	I support development of offshore wind energy on the outer continental shelf in federal waters near Massachusetts and Rhode Island. However, offshore wind energy must coexist with commercial fishing, an industry that provides about \$1 billion in local economic impact.	Thank you for your comment.
13178-002	Alternative D2 is based on the offshore wind leaseholders agreement to arrange surface piercing structures on a uniform 1nmi x 1nmi grid on NS-EW axes. This agreement will serve to maintain a navigable space among the hundreds of surface structures that will likely be installed in the lease areas. BOEM should encourage adoption of D2. Such encouragement is entirely within BOEM's purview since BOEM approves bottom locations.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13178-003	BOEM should further advise leaseholders to arrange inter-array cables in such a way as to limit the number of NS crossings within the development. Commercial fishermen work while sailing EW, so limiting NS crossings will reduce potential impact with fishing gear, particularly dredgers. Furthermore, BOEM should encourage leaseholders to arrange EW inter-array cables along corridors just north (or south) of foundations. Such an arrangement has several benefits: 1. reduce the impact on benthic communities by limiting areas disturbed by installation activities and scour protection (if required) 2. reduce potential for interference with fishing gear 3. improve efficiency of subsea inspections	BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated FEIS Appendix D for details.
13178-004	I think that establishing a uniform grid for foundation locations on bottom and encouraging smart arrangement of inter-array cables can make offshore	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	wind energy developments more compatible with other users of the lease space.	
13180-001	The advancement of Vineyard Wind - the first large-scale offshore wind farm in the country - as well as other offshore wind projects in development, will be crucial to ensuring the U.S. can secure the benefits in job creation, industrial and port development and economic growth already delivered by offshore wind around the world. This tremendous potential is highlighted across several points below:	Thank you for your comment.
13180-002	The U.S., home to strong wind resources and with the right policy environment, can become a major anchor of the global offshore wind market, spurring the creation of a thriving domestic industry that will support generations to come with clean power and green jobs. Given sufficient planning and stakeholder engagement, this sector can also coexist harmoniously with other marine uses, such as commercial fishing and transit.	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
13180-003	Studies show that investing in renewables like offshore wind has a multiplier effect on economic growth: \$1 spent to advance the global energy transition returns \$3-8, according to the International Renewable Energy Agency, while clean energy infrastructure construction generates twice as many jobs per \$1 million spent as fossil fuel projects.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of a wind energy industry along the Atlantic coast. This information supports a finding that the Vineyard Wind 1 Project, in combination with other offshore wind development would have a moderate beneficial impact on employment and economic activity. The sources used for the FEIS did not support inclusion of the additional multiplier effect suggested by this comment, and that additional effect was not necessary to support the conclusions of Section 3.6.1.1 of the FEIS.
13182-001	I represent fishermen on the Pacific West Coast so my comments go to process rather than substance. BOEM has failed to bring the most impacted stakeholders in for their advice until the 11th hour, and by that I mean commercial fishermen who fish in the ocean. On the East coast there has been far too little attention paid to how electric wind farm fields could be constructed and how their physical layouts could be modified to actually be compatible with commercial fishing. In addition there has been very little meaningful research on radar interference which impacts the safety of the lives of commercial fishermen and their vessels.	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing. Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses the voluntary compensation funds related to the proposed Project.

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		Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1.
13182-002	the recent pandemic has demonstrated how important our food supply is and how necessary it is to be US based and available in a known and safe fashion to our citizens. There is no justification to close off large areas of the ocean to commercial fishing when if proper amount of research was done in advance methods could be found where fishing could be compatible with commercial fishing	The impacts to commercial and for-hire recreational fisheries are discussed in the Section 3.11 of the SEIS. As discussed in Section 3.11 of the SEIS, access to areas would be temporarily restricted during construction and maintenance (IPF anchoring, new cable emplacement and maintenance activities), but during operations fishing would not be restricted. In addition, through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing. Therefore, no change to the FEIS is warranted.
13182-003	The driving force of how offshore wind energy should not be lowering wind farm costs or using them as a silver bullet to alleviate concerns about global warming. Rather the emphasis should be on how to make their development responsible to what should be the US number one priority, and that is our food supply.	Thank you for your comment.
13183-001	Unfortunately, at no point during the BOEM process for creating and leasing the Rhode Island or Massachusetts Wind Energy Lease Areas was New York included in the federal consistency review process. Rhode Island made sure to include Massachusetts as part of the Rhode Island BOEM Task force efforts through the Ocean Samp and a signed Memorandum of Understanding on the last day before leasing was announced, giving Massachusetts federal consistency review over the RI-WEA. No such concern was given to New York, even though we are closer to some of the fishing areas in question than Massachusetts fishermen.	Section 1.1 of the DEIS and Appendix D (D.2.2.1) contained, as well as the FEIS, information on the background of the process and proposed Project and the coastal zone management act consultations required. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. At no point did the State of New York request a consistency review or change their geographic location description to include the Vineyard Wind 1 Project. The potential effects of commercial wind lease issuance and site assessment activities offshore Rhode Island and Massachusetts had notice and comment opportunities that resulted in the removal areas from consideration because of known fishing activity (e.g., Massachusetts [Nantucket Lightship], and Rhode Island/Massachusetts [Cox Ledge]). These areas were then evaluated and presented in an Environmental Assessment in 2013. A link to that document can be found here: https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/State_Activities/BOEM%20RI_MA_Revised%20EA_22May2013.pdf That process included and accounted for public input. In addition to project specific meetings as part of the NEPA process, BOEM also regularly briefs and solicits comments from the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils, as well as the Atlantic States Marine

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		Fisheries Commission. These briefings are an important avenue for BOEM to make sure the fishing community is aware of the status of projects, when there is opportunity to comment on a project and for BOEM to receive important information from the fishing community regarding its leasing activities. BOEM has continued to engage with commercial fishing industry and interested stakeholders throughout the NEPA process for the proposed Project; BOEM engages with the public and stakeholders in each step of the process and takes public input into consideration when making any decision. BOEM has considered all comments throughout the Vineyard Wind 1 Project NEPA process. In addition, Appendix C of the FEIS provides information related to BOEM's consultation and coordination efforts.
13183-002	The BOEM process of creating wind energy lease areas without first removing traditional and historic commercial fishing grounds, deconflicting them from the lease areas before a lease is made, is a slap in the face to the hard-working commercial fishermen who continue to feed this nation a wild-harvested sustainable protein source.	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing. BOEM also regularly briefs and solicits comments from the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils, as well as the Atlantic States Marine Fisheries Commission. These briefings are an important avenue for BOEM to make sure the fishing community is aware of the status of projects, when there is opportunity to comment on a project and for BOEM to receive important information from the fishing community regarding its leasing activities. BOEM has continued to engage with commercial fishing industry and interested stakeholders throughout the NEPA process for the proposed Project; BOEM engages with the public and stakeholders in each step of the process and takes public input into consideration when making any decision. BOEM has considered all comments throughout the Vineyard Wind 1 Project NEPA process. In addition, Appendix C of the FEIS provides information related to BOEM's consultation and coordination efforts.
13183-003	For the US commercial fishing industry, the BOEM “Smart from the Start” campaign has been nothing more than a “Ready, Shoot, Aim,” process which has to date refused to deconflict commercial fishing grounds from lease	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the

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	areas, with BOEM creating winners and losers...The BOEM lease process for offshore wind risks destroying the majority of mom and pop shop commercial fishing businesses, devastating commercial fishing communities throughout the Eastern Seaboard, unless drastic changes are made to the process.	coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing.
13183-004	The BOEM Supplemental Environmental Impact Statement to the Vineyard Wind LLC offshore wind project is a step in the right direction to righting the wrongs that have occurred in the last ten years of BOEM's offshore wind development. There are many valid points re major impacts to commercial fishing, navigation, homeland security, and scientific surveys that have been noted and changes should be made because of them. But there are still many items that have not been thoroughly reviewed and vetted and must be before any Construction and Operation Plan is approved for any Foreign-government owned wind energy company that seeks to usurp US fishing grounds and US fisheries Exclusive Economic Zone. Much more review is needed because of the cumulative negative effects of offshore wind construction and operation on commercial fishing, the fish, radar and national security, safety and navigation, and the ocean and its denizens itself.	The FEIS has been updated to respond to public and agency comments received during the DEIS and SEIS public comment periods. In addition, the NEPA process was carried out in close coordination with BOEM's cooperating agencies. Furthermore, this EIS provides an evaluation of both beneficial and adverse effects of the Proposed Action and the alternatives to the Proposed Action. The SEIS discussed likely impacts from offshore wind development on commercial fisheries (Section 3.11), navigation (Section 3.13), and homeland security and scientific surveys (Section 3.14). BOEM is confident that the information included in the FEIS is adequate to support the evaluation of the merits and drawbacks of each alternative with respect to the potential impacts the project could have on commercial and recreational fishing within the WDA.
13183-005	On page 19 of the (SEIS) document, the first "Reasonably Foreseeable Assumptions" lists the "For those projects with announced WTG sizes, BOEM assumed an 8 or 12 MW WTG. BOEM understands that turbine capacity may exceed 12 MW in the future. However, for future procurements and projects under this cumulative analysis, BOEM evaluates potential impacts assuming that 12-MW WTGs will be used—since it is the largest turbine now commercially available (Appendix A)." However on page 9, Table ES-1 below, (also called Table 2.2-1 page 23) it discussed the changes to the VW Project Design Envelope, a 14 MW WTG is listed. Because there seems to be a disparity between future projects and the cumulative analysis being evaluated based on a 12 MW turbine, and the PDE which reflects a 14 MW WTG, please explain this disparity and explain why for future procurements and the cumulative analysis, why you chose a smaller turbine? Especially in light of 20 MW turbines being developed and possibly being utilized for the Empire Wind project and other future projects?	As noted in Section 1.7.1.1 of the SEIS, it is difficult to predict turbine capacity and spacing or other future engineering for planned but currently unscheduled offshore wind awards. Therefore, BOEM used reasonably foreseeable assumptions for the analysis and no change to the FEIS is warranted. In addition, BOEM's analysis in the DEIS, the SEIS, and the FEIS assumed a maximum-case scenario approach for each resource analyzed, so although 14 MW turbines were assessed, Vineyard Wind could implement a smaller one. As specified in the SEIS and Section 2.1.1 of the FEIS, implementation of fewer, larger turbines could be less impactful to many resources, such as benthic, marine mammals, and sea turtles due to decreased pile driving activities. However, utilizing larger turbines could have greater visual impacts, and the magnitude of positive economic effects would be less with fewer turbines when compared to utilizing a greater number of smaller turbines. Last, each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts.

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13183-006	SEIS Section 1.2.1.2.2 "Call Areas are then narrowed into Wind Energy Areas (WEAs), which are areas that appear to be most suitable for commercial wind energy development while presenting the fewest apparent environmental and user conflicts." To date there have been multiple user conflicts with commercial fishing and offshore wind leases. At no point, have commercial fishing areas been removed from consideration for any present BOEM offshore wind lease area.	Section 1.1 of the DEIS contained, as well as the FEIS, information on the background of the process and proposed Project. Appendix C (formerly Chapter 4) of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing.
13183-007	SEIS Section 1.2.1.2.3 page 20 footnote 14 "The actual capacity of a particular lease may vary (higher or lower) due to turbine sizes, turbine field density, or navigation corridors. Average offshore wind turbine size in U.S. waters should average at least 12 MW, and the largest turbines could exceed 15 MW before 2025." Again, in relationship to the future procurements and the cumulative analysis discussion on 1.2.1.1, why was a 12 MW WTG chosen for the cumulative analysis when in fact based in part on the cumulative analysis, full buildout would take at least ten years and in your own document, you note turbines could exceed 15 MWs before 2025.	As noted in Section 1.7.1.1 of the SEIS, it is difficult to predict turbine capacity and spacing or other future engineering for planned but currently unscheduled offshore wind awards. Therefore, BOEM used reasonably foreseeable assumptions for the analysis and no change to the FEIS is warranted. In addition, BOEM's analysis in the DEIS, the SEIS, and the FEIS assumed a maximum-case scenario approach for each resource analyzed, so although 14 MW turbines were assessed, Vineyard Wind could implement a smaller one. As specified in the SEIS and Section 2.1.1 of the FEIS, implementation of fewer, larger turbines could be less impactful to many resources, such as benthic, marine mammals, and sea turtles due to decreased pile driving activities. However, utilizing larger turbines could have greater visual impacts, and the magnitude of positive economic effects would be less with fewer turbines when compared to utilizing a greater number of smaller turbines. Last, each applicant is required to submit a COP with their proposed action for BOEM's review at which time, triggers a NEPA EIS review. Each EIS will require an analysis of impacts.
13183-008	For New York's commercial fishermen, coming from the ports of Shinnecock/Hampton Bays and Montauk, regarding transit lanes, the only alternative that would allow for New York's commercial fishing fleet to travel safely from port east to what's left of their fishing grounds south of Nantucket would be Alternative F, the RODA alternative with four mile wide transit lanes. Without the East-West transit lanes and the North-South transit lanes in the RODA alternative, NY fishermen cannot travel directly from our home port east to squid grounds south of Nantucket or further south from our whiting grounds directly back home to port in New York without being forced to travel within a windfarm. To go around the eventual full estimated 1500 MW buildout of the RI-MA WEAs would equal a 50 nm go-around,	Section 3.11.2 of the FEIS has been revised to include updated data to support the discussion of impacts on vessel traffic. Section 3.10 has been updated to include additional information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind. Section 3.11.5 of the FEIS analyses Alternative F and addresses this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.

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	which in addition to taking additional hours of travel, thereby possibly missing shipping catch to market same day, we risk additional time at sea and fuel, no matter the weather.	
13183-009	As you can see from the NROC map footnoted below, Montauk and Shinnecock are virtually absent from the map AIS Data 2015-19 fishing vessels tracks based on boats leaving from both ports. However for New York commercial fishermen, they heavily fish the area within and outside of the RI- MA WEAs. As stated before, since 2000, New York’s fishermen have caught over 100 million pounds of squid; some years, 40% of that catch has come from the fishing grounds south of Nantucket, which is right in the middle of the RI-MA WEA. Yet none of those trips are logged via AIS tracking of the top one and two ports on Long Island. A majority of Montauk and Shinnecock’s boats (our state’s top two ports) do not have any AIS data. As such, we request that AIS cannot be utilized to determine port access routes and transit lanes to and from our fishing grounds from within the RI-MA WEAs. We do not have the AIS data to show we were there. Some of the New York fleet has VMS data via Boatracers or Skymate, but there is probably not enough data to show active fishing routes for New York fishermen without FOIA’ing data from NMFS. As such, using AIS would create great hardship to New York fishermen. Once again being left out of the entire BOEM process with regard to safety at sea, New York fishermen would be put at further risk compared to fishermen from Rhode Island and Massachusetts.	Section 3.11 of the FEIS has been updated to incorporate newer vessel traffic data, including both AIS and VMS data for the WDA and RI and MA Lease Areas. This information is sufficient to support the conclusions in Section 3.11. Section 3.11.2 of the FEIS has been updated to include the SNRA estimation of the percentage of fishing fleet covered by AIS data. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind. Alternative F was proposed by the Responsible Offshore Development Alliance through a collaborative process with commercial fishermen and the offshore wind industry. Section 3.10 of the FEIS has been updated and relies on several sources of information to characterize the use of the area by commercial fishing industry including AIS, VMS, and VTR data. All of these data sources individually have limitations but combined, they are the best available information to characterize the fishery use.
13183-010	Regarding using VMS, there is also a huge issue with using VMS heat maps to determine New York’s fishing effort and transit lanes through the RI-MA WEAs. As you can see from the picture below of the Northeast Ocean Data Portal, https://www.northeastoceandata.org/data-explorer/?commercialfishing vessel-activity VMS heat maps and data are only available for the fisheries circled, multispecies (groundfish,) monkfish, scallops, pelagics, surfclam and squid...Of the other fisheries circled, only one of those species is caught within RI-MA WEA by New York fishermen, squid. However, VMS was not required on all squid boats until 2014, so squid VMS data from New York pre 2014 will be incomplete, and any data re the other NOAA permitted fisheries that take place from within the RI-MA WEAs or east and south of the RI-MA WEAs, such as whiting, ling, butterfish, scup and fluke fisheries will not be accounted for from the VMS model, because up until I believe 2018 there was no VMS data on DOF/DOF (Declared out of Fishery) fisheries like scup, etc.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. Section 3.10 of the FEIS has been updated and relies on several sources of information to characterize the use of the area by commercial fishing industry including AIS, VMS, and VTR data. All of these data sources have limitations but they are the best available information to characterize the fishery use. Section 3.10.1 of the FEIS acknowledges that VMS was only required for squid vessels starting in 2014 and may underrepresent some fishing activity.
13183-011	Below is a picture from the FV Caitlin & Mairead heading Southeast from Montauk in black fog on May 10, 2018. The five targets on the left are the	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on

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	actual turbines at the Block Island Wind Farm, with 6 MW turbines. The other five on the right side of the screen are ghost radar that could not be removed from the screen. As you will note on the picture, the screen itself with a width of 6 nautical miles, has barely 3.5 nm of actual space where the ghost radar did not bleed into the area. This is for only five windmills that are far smaller than the 84 being placed in Vineyard Wind's WEA and the associated other wind farms with a full build out of hundreds, if not thousands of windmills. Additionally, the two pictures below were taken inside the Thanet Wind Farm, with 3.6 MW turbines spaced 0.7 nm apart. As you can see, with line of site turbines, the bleed over due to ghost radar scatter makes traversing the area with radar impossible. According to Appendix B to COMDTINST 16003.2A, a FNSRA is for a major project of unique or extraordinary nature...Nothing could describe the RI- MA WEA site more definitively than a major project of extraordinary nature. 1418 square miles of offshore wind turbines, that may exist every 0.8 nm, for miles, along with thousands of miles of transmission cables and Electric Service Platforms. Thousands of recreational motorboats, sailboats and commercial fishing vessels all being channeled into specific "tunnels" as it were, with the issues of radar scatter and offshore wind turbines three times the size of anything done in Europe, we are looking to the USCG to address both recreational and commercial fishing, radar and cumulative impacts.	marine radar in Section 3.11.1. Section 3.11.5 of the FEIS has been updated to include additional information regarding Alternative F. The USCG, a cooperating agency for the FEIS that is the leading agency on navigational matters, did not find the expanded transit lanes in Alternative F to be necessary. BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the FEIS.
13183-012	Additionally, information must be gathered, as per the Maritime and Coast Guard Agency MGN 543, pg 17 of 23, in relationship to larger offshore wind developments, since the Ri-MA WEA is 1418 square miles, the geographic size of Long Island, ¼ of the size of the Grand Canyon National Park, and three times the size of the largest offshore project in Europe, the Hornsea project presently being built in stages in the North Sea. Even within those projects, the MW of the turbines in the first two areas were only 6.5-8 MW.	Thank you for your comment.
13183-013	Safe access to fishing grounds and home to our New York ports must be the paramount decision maker, with transit lanes that take the least amount of time to go from port to grounds and back, and allow for safe widths of corridors without the need to discern radar scatter. We believe that unobstructed lanes of at least 5.5 nm must be instituted, as per MGN 543 pgs 17-20 of 23.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. Section 3.11.5 of the FEIS has been updated to include additional information regarding Alternative F. The USCG, a cooperating agency for the FEIS that is the leading agency on navigational matters, did not find the expanded transit lanes in Alternative F to be necessary. BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the FEIS. Section 3.10.2 of the FEIS was updated to include the comment that transit lanes should be a minimum 5.5 nm wide.
13183-014	Additionally MGN 543 discussed the issues of wind farm arrays over time because of sedimentation and scour could cause changes to tidal depths that	Thank you for your comment.

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	could impact transit routes, and as such, it is of utmost importance that the lanes decided upon do not risk being impacted by sedimentation and shoaling over time, so that accidents and possible loss of life could occur.	
13183-015	A secondary concern for sailing vessels was the issue of wind shear from behind the arrays, and how that would affect the transit of recreational sailors, and how that could impact commercial vessels sharing the same space when transiting to or from fishing grounds in bad weather. As such, that too should be investigated.	BOEM is not aware of studies documenting the hydrodynamic effects of atmospheric turbulence from WTGs on sailing vessels. Typical operations of sailing vessels include continuous adjustment to changing wind conditions, including otherwise unpredictable movements. As a result, a vessel collision or allision can be adequately avoided by adherence to COLREGS and applicable USCG regulations. The requested analysis is beyond the scope of this FEIS.
13183-016	Since April of this year, the Department of Energy has been holding Wind Turbine Radar Interference Mitigation Group webinars to discuss the cumulative problems of radar and offshore wind. The first webinar, on April 20th , included these presentation slides, which lay bare some of the serious concerns re offshore wind and its ability to create false images, ghost radar, scatter, and clutter that renders radar useless...Regarding radar interference and navigation and Search and Rescue Activities of the USCG through high frequency radar through wind farms, the July 27, 2020 webinar of the Wind Turbine Radar Interference Mitigation Group took place and specifically laid bare the severe major effects that offshore wind will have affecting High Frequency radar that is responsible for SAR (Search and Rescue) and NOAA IOOS current data, which is also used for SAR....From the report "However, the rapidly emerging offshore wind energy industry in the U.S. has the potential to degrade the performance of HF radar systems operating in the vicinity of wind turbines...South of Martha's Vineyard, Massachusetts, construction in the Vineyard Wind lease area, will begin in the fall of 2019. The developer of this first major U.S. wind farm has proposed significantly larger turbines (9.5 MW) than those located in land based wind farms, increasing the impact of each turbine on radar observations. Additionally, their proposed array of 80-100 turbines would result in significantly more interference signals than were seen in initial studies using the small Block Island wind farm." Report: https://darchive.mblwhoilibrary.org/bitstream/handle/1912/25127/HFRadar_2019_WindTurbineInterference_WorkingGroupReport_Final2.pdf?sequence=1&isAllowed=y	Section 3.12 of the FEIS has been revised to include a discussion of impacts on HF radar.
13183-017	According to Cristina Forbes of the USCG, there are huge problems for SAR modeling due to wind losses within a wind farm, and how those losses would affect their ability to locate someone as part of a SAR activity.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. As described in Section 3.11.4, the Alternative D2 layout would allow vessel operators to set predictable courses. Furthermore, this layout would be consistent with the

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		recommendations in the Final MARIPARS study (USCG 2020). USCG would need to adjust their SAR planning and search patterns to allow aircraft to fly within the geographic analysis area leading to a less optimized search pattern and a lower probability of success. The USCG is a cooperating agency to the EIS, and is the leading agency on navigational matters; therefore, BOEM defers to the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13183-018	Ms. Angel McCoy of BOEM also discussed a recent but as of yet unreleased study on radar interference from Booz Allen Hamilton, in which the study found that at least 36 different radar systems are affected by the nine present BOEM offshore proposals.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13183-019	Additionally, re Homeland security, ROTH type radar facilities like the ARSR-4 which are considered the first line of site protection from 240 km out could be greatly affected by Offshore Wind especially as the turbine heights get larger and larger.	Section 3.12 of the FEIS has been updated with additional details regarding radar systems and concludes that the Proposed Action alone would have minor impacts to radar systems, but moderate impacts in the context of reasonably foreseeable environmental trends and planned actions. As described in Section 7.9.2.1.2 of the COP, Vineyard Wind conducted a basic radar line-of-sight analysis for the North Truro ARSR-4 and Riverhead ARSR-4 radar systems, and determined that the Proposed Action WTGs would not be visible or interfere with either system. The DoD Clearinghouse would coordinate with military and national security agencies for each offshore wind project proposed in the RI and MA Lease Areas to de-conflict potential impacts to radar systems on a project-by-project basis.
13185-001	For years, and since they were first aware of the possibility of large fields of turbines being built on fishing grounds, commercial fishermen have stated that impacts to both marine resources and their livelihoods will occur far beyond a state- or project-specific level due to the regional nature of fishing and the interconnectedness of marine ecosystems. Until the preparation of the SEIS, no effort had ever been made to understand impacts on the appropriate scale.	The potential effects of commercial wind lease issuance and site assessment activities offshore Rhode Island and Massachusetts had notice and comment opportunities that resulted in the removal areas from consideration because of known fishing activity (e.g., Massachusetts [Nantucket Lightship], and Rhode Island/Massachusetts [Cox Ledge]). These areas were then evaluated and presented in an Environmental Assessment in 2013. A link to that document can be found here: https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/State_Activities/BOEM%20RI_MA_Revised%20EA_22May2013.pdf That process included and accounted for public input. In addition to project specific meetings as part of the NEPA process, BOEM also regularly briefs and solicits comments from the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils, as well as the Atlantic States Marine Fisheries Commission. These briefings are an important avenue for BOEM to

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		make sure the fishing community is aware of the status of projects, when there is opportunity to comment on a project and for BOEM to receive important information from the fishing community regarding its leasing activities. BOEM has continued to engage with commercial fishing industry and interested stakeholders throughout the NEPA process for the proposed Project; BOEM engages with the public and stakeholders in each step of the process and takes public input into consideration when making any decision. BOEM has considered all comments throughout the Vineyard Wind 1 Project NEPA process. In addition, Appendix C of the FEIS provides information related to BOEM's consultation and coordination efforts.
13185-002	Unfortunately, while the SEIS represents a vast improvement over past practices, its analysis highlights the severity of impacts to fishing resources, businesses, and communities. United States OSW development from the very beginning has never been approached as a process to balance the needs of multiple ocean users and thoughtfully consider important environmental goals: maintaining sustainable seafood production and reducing carbon emissions. Rather, the statutory authority lacks specificity on how to effectively plan for OSW development, and BOEM's regulatory process is driven by a propensity to "unleash markets" by getting a project—any project—to the other end of a perceived minefield of adversity, rather than a thoughtful and deliberate approach to maximize our ocean's conservation and natural resource potential. This flawed approach, in which other interests have been deconflicted through site avoidance up front, with commercial fishing relegated to consideration only at the end-stages of project permitting, could have been avoided had previous requests from fishermen been heeded.	Chapter 1 of the DEIS contained information on the background of the process and project. Appendix C of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. Prior to preparation of a DEIS, BOEM held five public scoping meetings near the proposed Project area to solicit feedback and identify issues and potential alternatives for consideration. The topics most referenced in the scoping comments include commercial fisheries and for-hire recreational fishing, Lewis Bay, the Project description, socioeconomics, and alternatives. Additional public input opportunities occurred during the proposed Project's planning and leasing phases between 2009 and 2015. BOEM also consulted with state, federal, and tribal agencies. BOEM considered all of the resulting comments while preparing this EIS. Furthermore, BOEM published a DEIS on December 7, 2018, which initiated a 45-day comment period open to all. In addition, BOEM published a SEIS in June 2020 which initiated a 45-day comment period open to all. BOEM used the comments received to inform preparation of the FEIS.
13185-003	To that end, the SEIS makes clear these major fundamental flaws in the OSW planning process, long raised by fishermen, that have led to the failure to adequately mitigate impacts. Its numerous analytical deficiencies also plainly evidence an unacceptable level of uncertainty and risk at this late phase in the planning for this large-scale new ocean use.	Chapter 1 of the DEIS contained information on the background of the process and project. Appendix C of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. Prior to preparation of a DEIS, BOEM held five public scoping meetings near the proposed Project area to solicit feedback and identify issues and potential alternatives for consideration. The topics most referenced in the scoping comments include commercial fisheries and for-hire recreational fishing, Lewis Bay, the Project description, socioeconomics, and alternatives. Additional public input opportunities occurred during the proposed Project's planning and leasing phases between 2009 and 2015. BOEM also consulted with state, federal, and tribal agencies. BOEM considered all of the resulting comments while preparing this EIS. Furthermore, BOEM published a DEIS on December 7, 2018, which initiated a 45-day comment period open to all. In addition, BOEM published a SEIS in

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		June 2020 which initiated a 45-day comment period open to all. BOEM used the comments received to inform preparation of the FEIS. Appendix H of the FEIS includes a discussion on incomplete and unavailable information at the time of the EIS.
13185-004	We repeat here that the procedure for developing this new ocean-based industry of unprecedented scale is fundamentally flawed. Indeed, from the vantage point of fishermen, fisheries scientists, or managers, it is nothing short of chaotic. While the SEIS partially evaluates impacts to fishing, its range of alternatives is already constricted by the most important decisions that have already been made at state- and projectspecific levels. There has never been a dedicated, equitable, comprehensive advance planning process that included fishermen or fisheries experts and such a process is urgently needed.	Chapter 1 of the DEIS contained information on the background of the process and project. Appendix C of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project. Prior to preparation of a DEIS, BOEM held five public scoping meetings near the proposed Project area to solicit feedback and identify issues and potential alternatives for consideration. The topics most referenced in the scoping comments include commercial fisheries and for-hire recreational fishing, Lewis Bay, the Project description, socioeconomic, and alternatives. Additional public input opportunities occurred during the proposed Project’s planning and leasing phases between 2009 and 2015. BOEM also consulted with state, federal, and tribal agencies. BOEM considered all of the resulting comments while preparing this EIS. Furthermore, BOEM published a DEIS on December 7, 2018, which initiated a 45-day comment period open to all. In addition, BOEM published a SEIS in June 2020 which initiated a 45-day comment period open to all. BOEM used the comments received to inform preparation of the FEIS. Alternatives considered for detailed analysis were developed following public input during the scoping process and were also developed and concurred upon by the cooperating agencies.
13185-005	Decentralization of key project decisions among various state and federal processes, each with limited coordination with the others, leads to a permitting process in which there is no meaningful ability to plan OSW in a way that minimizes fisheries conflicts.	BOEM, as the lead federal agency, is responsible for organizing the federal environmental review and authorization processes for a proposed project, including the preparation of a single EIS and ROD for the project in coordination with the other federal cooperating agencies. Chapter 1 of the DEIS contained information on the background of the process and project. Appendix C of the FEIS has been updated with information on the coordination and consultation process to date for the proposed Project.
13185-006	Balancing fisheries interests with OSW interests cannot be adequately addressed through the NEPA process alone as it is currently implemented. BOEM has only conducted this SEIS at the penultimate stage of project permitting, and decision points in the SEIS are limited to those with a federal nexus. In reality, most project decisions have already occurred at the state level—most without any meaningful opportunity for consideration of fisheries or even public comment opportunities.	The impacts of opening the continental shelf to wind energy development have already been assessed in BOEM’s 2007 Final Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf (MMS 2007). BOEM’s decision on Vineyard Wind’s COP is needed to execute its duty to approve, approve with modifications, or disapprove the proposed Project in furtherance of the United States’ policy to manage the development of OCS energy resources in an expeditious and orderly manner, subject to environmental safeguards including consideration of natural resources and existing ocean uses (43 USC § 1332(3)). Pursuant to the

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		OCSLA, BOEM is required to manage the development of OCS energy resources in an expeditious and orderly manner, subject to environmental safeguards including consideration of natural resources and existing ocean uses (43 USC § 1332(3)). This mandate requires BOEM to not only consider how impacts to natural resources and existing uses could be avoided, minimized, or mitigated, but also to consider factors that concern the technical and economic feasibility of developing the Project.
13185-007	This process stands in stark contrast to how other conflicting ocean uses are addressed in the “Smart from the Start” regulations and in practice. The Outer Continental Shelf Lands Act, as amended by the Energy Policy Act of 2005, provides a list of items to be “considered” in planning for OSW, but little guidance as to how to do so. BOEM has been consistent in its interpretation that essentially all potential OSW conflicts are considered and addressed through the Call Area and Area Identification processes. For example, BOEM’s proposed Path Forward included “Proposed Factors for Identification of Offshore Wind Forecast Areas” which exclude areas for leasing based on National Sanctuary or Monument status, Department of Defense activities, and traffic routing schemes, and promote leasing in areas that are greater than 10 km from shore (to minimize viewshed conflicts), those with economic incentives (i.e., state subsidies), and those in which the wind industry has expressed interest. High-value fisheries areas—either by economic value or ecological importance—were not included.	The potential effects of commercial wind lease issuance and site assessment activities offshore Rhode Island and Massachusetts had notice and comment opportunities that resulted in the removal areas from consideration because of known fishing activity (e.g., Massachusetts [Nantucket Lightship], and Rhode Island/Massachusetts [Cox Ledge]). These areas were then evaluated and presented in an Environmental Assessment in 2013. A link to that document can be found here: https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/State_Activities/BOEM%20RI_MA_Revised%20EA_22May2013.pdf That process included and accounted for public input. In addition to project specific meetings as part of the NEPA process, BOEM also regularly briefs and solicits comments from the New England, Mid-Atlantic, and South Atlantic Fishery Management Councils, as well as the Atlantic States Marine Fisheries Commission. These briefings are an important avenue for BOEM to make sure the fishing community is aware of the status of projects, when there is opportunity to comment on a project and for BOEM to receive important information from the fishing community regarding its leasing activities. BOEM has continued to engage with commercial fishing industry and interested stakeholders throughout the NEPA process for the proposed Project; BOEM engages with the public and stakeholders in each step of the process and takes public input into consideration when making any decision. BOEM has considered all comments throughout the Vineyard Wind 1 Project NEPA process. In addition, Appendix C of the FEIS provides information related to BOEM's consultation and coordination efforts.
13185-008	In contrast to its early recognition of other interests, BOEM has consistently stated that the entire planning and surveying process, from area identification to lease issuance to survey and assessment activities, has negligible impacts to fishing, and only once a Construction and Operations Plan (COP) is reviewed do fisheries impacts merit analysis. Their argument is that no binding or irreversible project decisions have been made to that point, and that fisheries interactions can be effectively de-conflicted through preparation of the Environmental Impact Statement immediately preceding final project	This comment does not concern the adequacy of the FEIS; therefore, no changes to the document are needed.

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	approval...Despite these clear statements that project-controlling design decisions cannot be made before project finalization, BOEM, states, and developers have already made project-controlling decisions regarding design parameters that have now severely restricted the range of alternatives in the SEIS.	
13185-009	A prime cause of the lack of fisheries considerations in the OSW process is the decentralization of decision making between federal and state governments. While the “One Federal Decision” policy clearly delineates roles and responsibilities for large infrastructure projects amongst federal agencies, there is no similar authority that describes such relationships with states. As a result, federal and state regulators each appear to be reacting to the others’ actions in the following feedback loop that prevents any meaningful or deliberate consideration of seafood production...At the point BOEM conducts its review (i.e. now), there is almost no flexibility within the project price or design to accommodate project changes. To the extent that certain states have attempted to include policies on the front or back end of this process—that is, through procurement requirements or federal consistency review under the Coastal Zone Management Act—they are only concerned with fishermen living in their state.	This comment does not concern the adequacy of the FEIS; therefore, no changes to the document are needed. BOEM, as the lead federal agency, is responsible for organizing the federal environmental review and authorization processes for a proposed project, including the preparation of a single EIS and ROD for the project in coordination with the other federal cooperating agencies. BOEM was therefore responsible for leading the scoping and public hearing meetings and other agencies are welcome to attend. Massachusetts and Rhode Island were cooperating agencies on the EIS, and information on Coastal Zone Management Act compliance is included in Appendix C, Section C.1.2.1 of the FEIS.
13185-010	What happens throughout this process is that, at each of these phases, fishermen ask states, OSW developers, and BOEM to consider their input and modify the projects to minimize fishing impacts. In response, states argue that such modifications are within BOEM's purview as the lead action agency on environmental review. BOEM indicates (as evidenced in the DEIS and SEIS) that the states’ power goals and contracts set the range of alternatives for consideration. And OSW developers interpret this infuriating cycle as fishermen simply trying to unfairly delay their projects. So tell us, who is responsible for ensuring “coexistence?” A possible solution that RODA has attempted to foster is increased interstate coordination. If states could set aside the atmosphere of competition surrounding power contracts, it would greatly improve outcomes for regional fisheries, which do not occur along state lines. To date, our requests to this end have been largely ignored....We recommend that BOEM take a leading role in fostering interstate coordination, and actively support others’ efforts to do so. This would be expected to increase the likelihood of successful integration of offshore energy development into current activities such as fishing.	This comment does not concern the adequacy of the FEIS; therefore, no changes to the document are needed. BOEM has conducted a robust stakeholder engagement process, including a variety of public comment and public meetings, as described in Section C.1.3 of the FEIS. In addition, as part of the scoping process, alternatives were developed for consideration in the DEIS.
13185-011	Compensatory mitigation, in its current form, is insufficient and must be revised with direct and comprehensive consultation with the fishing industry.....RODA repeats, and cannot emphasize enough, the comments it submitted to the DEIS docket regarding mitigation: "RODA strongly	BOEM is open to working with state partners and the commercial and recreational fishing industries to investigate alternative strategies to negotiate compensatory mitigation agreements.

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	disagrees with the approach Vineyard Wind has taken to addressing the mitigation of impacts to fishing activities and resources, which . . . has primarily been approached through concurrent state-based methods that have been poorly integrated into the federal approval process. As we have expressed in the past, we believe that the development of a common framework for such “mitigation” must be done in a transparent, holistic, and well-structured manner that includes impacts from the wide variety of affected fishing businesses. Moreover, an appropriate mitigation plan must follow the principles of first avoiding conflicts, then minimizing those that are unavoidable, mitigating the impacts from new development through appropriate use of communications and technology, and finally—only once those have been adhered to—considering compensation for any residual losses.” The single most important question underlying the responsible development of OSW—and whether it can be completed in a way that does not pose intolerable risk to fishing and marine ecosystems—is whether adequate mitigation has been incorporated into project design. Mitigation can take the form of avoiding, minimizing, or compensating for effects caused by a proposed action or its alternatives. The most important mitigation measures are the first two, as fishermen’s shared goal is to preserve healthy ecosystems and continue fishing, rather than be paid for damages.	
13185-012	Unfortunately, avoiding and minimizing impacts are not prioritized in the OSW process. The SEIS references the Vineyard Wind COP at Volume III, Table 4.2-1 and 4.2-2 for a list of mitigation measures that are considered in its analysis. For fisheries, these include: (1) the lease area being sited to avoid locations of high fisheries value, (2) ensuring project activities are communicated to fishermen; (3) development of a fisheries monitoring program (discussed in Section IV (c) below); (4) commitment to display required lighting; (5) provision of electronic charts to fishermen; (6) marking turbines for visibility; (7) leaving a large portion of the WDA undisturbed; and (7) a reiteration that ongoing activities will be communicated to fishermen. These commitments—although they do follow BOEM’s Best Management Practices, further highlighting structural flaws in the process—have nothing to do with minimizing and avoiding impacts to fishing and are purely informative in nature.	Thank you for your comment.
13185-013	Further, the SEIS indicates on p. 3-101 that “Vineyard Wind has committed to voluntarily establish gear loss and revenue compensation funds for fishing interests in Rhode Island and Massachusetts, which is intended to compensate for gear and/or revenue losses over the life of the Project... Future mitigation measures may reduce some of the economic impacts on the commercial and for-hire fleet.” Due to the significant procedural	Thank you for your comment.

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	shortcomings in OSW to date failing to minimize conflicts through siting and design, this compensatory mitigation has become a central focus of fishermen with regard to the project review. Disturbingly, these state-required (or requested, depending on who you ask) “agreements” actually occurred before BOEM or any state fully considered how to mitigate impacts through avoidance or minimization.	
13185-014	In its comments on the Vineyard Wind DEIS, RODA urged BOEM to coordinate, or at least require development of, an appropriate, regional-scale fisheries compensatory mitigation plan. It did not. We now face the bizarre outcome that two states were, in practice, deputized to devise payment plans from the project developer through their Coastal Zone Management Act review authority. Despite compensatory mitigation requirements not being an enforceable policy under the Act, a series of political twists and turns has led to BOEM considering—as the primary fisheries mitigation tool for a federal waters project— payments made to one state. These decisions were negotiated with no public comment process (or private comment process, for that matter, as no fishing experts were consulted including Vineyard Wind’s own Fisheries Representatives) with payments made to an as-yet defined Trust in a second state that were “negotiated” through a public process but universally loathed, and absolutely no payments at all in others.	Section 3.10 and Appendix D of the FEIS discuss mitigation measures. Vineyard Wind has expressed that funding for fishing interests from all other affected states would be added to either of these existing funds or grouped into a third fund. Vineyard Wind has voluntarily committed to set aside \$3.3 million and voluntarily establish a fund for claims of direct compensation from other affected states. BOEM is open to working with state partners and the commercial and recreational fishing industries to investigate alternative strategies to negotiate compensatory mitigation agreements.
13185-015	This process for direct negotiation with states made sense when originally envisioned in the Rhode Island Ocean Special Area Management Plan, which was developed through extensive public input and review to facilitate the Block Island Wind Farm in RI state waters. However, leaving compensatory mitigation to individual states to design (or not design) through their widely varying Coastal Zone Management Plans for projects that span multiple states in both geography and impacts makes no logical—or legal—sense. As we, and others, have pointed out previously, the Comity Clause of the U.S. Constitution prohibits discrimination based on state residency. It is unclear how BOEM’s enforcement of state-led policies that result in different outcomes for federally permitted fisheries participants based on their state of residence could be constitutionally defensible, unless BOEM does not consider them in its decision whatsoever.	BOEM is open to working with state partners and the commercial and recreational fishing industries to investigate alternative strategies to negotiate compensatory mitigation agreements.
13185-016	In addition to these disparate outcomes, these payment schemes grossly undervalue likely fisheries losses from the project as they are not calculated on a cumulative scale in the state agreements.	Under the current model for compensatory mitigation each project would negotiate an appropriate voluntary compensation package with affected entities. Thus affected entities would be availed to compensation cumulatively across projects.

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13185-017	The SEIS also failed to consider cumulative impacts of these mitigation plans, without any prediction or assurance of how compensatory mitigation for other projects will be decided.	For the purposes of the assessment of impacts from the Vineyard Wind 1 Project it was not necessary to develop or specify compensatory mitigation programs for other projects that are under development.
13185-018	The plans also did not include analysis of indirect impacts or multiplier impacts to shoreside businesses, and were not subject to peer review or public input.	Section 3.10 and Appendix D of the FEIS discuss the details of the voluntary revenue compensation funds. Vineyard Wind has established voluntary gear loss and revenue compensation funds for fishing interests based in Rhode Island and Massachusetts, which includes owners and operators of vessels, vessel crews, shoreside processors, vessel supplier and support services, and other entities that can demonstrate losses directly related to the Vineyard Wind 1 Project.
13185-019	We are immensely grateful that the SEIS includes Alternative F with transit lanes based on the input from RODA and fishing constituents of the region. From the numerous conversations with fishermen, we reiterate that for the majority of fisheries and gear types found in the area, 1x1 nautical mile spacing between turbines is too narrowly spaced for most fishing operations. Thus, if spacing remains prohibitive, access to viable and safe transit options becomes the single most important mitigating factor to the project design. RODA strongly urges BOEM to adopt Alternative F presented in the SEIS.	The FEIS discusses the need for spacing greater than 1 x 1 nautical mile for some fisheries in Section 3.10.4 and cites RODA comments related to space between turbines.
13185-020	During public hearings, comments were made in support of OSW development and included claims that removal of wind turbines to accommodate transit lanes will make the project financially unsound. Many of these claims also cited that transit lanes would be unnecessary based on the findings of the MARIPARS. We are concerned by these comments because the MARIPARS has several shortcomings, as stated in our “Request for Correction” submitted to USCG on June 29, 2020.	The USCG is a cooperating agency to the FEIS that is the leading agency on navigational matters; and, therefore, BOEM relies on - and does not question - the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS. The FEIS has been updated, in appropriate sections, to reflect the Final MARIPARS results. Dr. Sproul's studies were provided to USCG as comments on their Draft MARIPARS. USCG considered those comments in formulating the Final MARIPARS, which did not adopt Dr. Sproul's recommended transit lane widths.
13185-021	Based on the fact that the SEIS relies on the MARIPARS analysis, the MARIPARS should be considered “highly influential” and therefore should be subject to peer review and IQA review. The final study fails to address several issues brought forth during public comment on the draft MARIPARS by Dr. Thomas Sproul and RODA.	The USCG is a cooperating agency to the FEIS that is the leading agency on navigational matters; and, therefore, BOEM relies on - and does not question - the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS. The FEIS has been updated, in appropriate sections, to reflect the Final MARIPARS results. Dr. Sproul's studies were provided to USCG as comments on their Draft MARIPARS. USCG considered those comments in formulating the Final MARIPARS, which did not adopt Dr. Sproul's recommended transit lane widths.
13185-022	Until the identified concerns are addressed, it is irresponsible to solely rely on the highly influential MARIPARS study to draw the conclusion that transit lanes are unnecessary in the MA/RI lease block. The SEIS does not correct the deficiencies in the MARIPARS, therefore there is not an adequate basis for the 1x1 nautical mile spacing for the WEAs. In the interim, we	The USCG is a cooperating agency to the FEIS that is the leading agency on navigational matters; and, therefore, BOEM relies on - and does not question - the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS. The FEIS has been updated, in appropriate sections, to reflect the Final MARIPARS results. In addition, the SEIS and

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	request BOEM use the best available information in regards to practical fishing operations and transit, which has been provided by fishermen and fishing groups in numerous comment letters and during public workshops [Transit Corridor Workshops]. Based on the outcomes of the workshops and engagement with the fishing industry, RODA reiterates our request to a) address the concerns presented in regard to the original MARIPARS study, which will support b) adoption of Alternative F.	FEIS include the best available information and data to support the findings presented. The analysis of effects to commercial fisheries was supported by the National Marine Fisheries Service.
13185-023	USCG personnel have indicated since the MARIPARS publication that this study is not intended to replace meticulous review of project-specific proposals for wind energy facilities in federal waters off of New England. We request that BOEM base forthcoming regulatory actions on a full, Information Quality Actcompliant review of the record rather than the flawed MARIPARS.	Forthcoming regulatory actions are outside the scope of a typical NEPA or beyond what is necessary to evaluate environmental impacts and mitigation measures. BOEM considers USCG to be the expert agency on navigational matters and, thus, used their expertise and analyses (e.g., MARIPARS) for assessing the navigational impacts of the project. Further, the USCG is a cooperating agency, and reviewed the analysis for purposes of assessing consistency of BOEM's analysis with the findings presented in the MARIPARS. BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13185-024	While we do not agree with the premise that 1 nautical mile wide “transit” lanes provide adequate spacing between turbines for safe and efficient navigation, we would like to draw attention to the false concession that this orientation and spacing will benefit transiting mariners. The 1 nm spacing proposed is along the N-S and E-W lines of orientation but along the diagonal the spacing is reduced to 0.7 nm. Yet based on the polar histograms in the SEIS (Figure 3.11-3 & 3.11-5), there are clear transit patterns for vessels in the NWSE orientation. This demonstrates that fishermen and mariners were obviously insufficiently engaged in the final “transit” discussions. It seems unfair that the people who utilize the space the most, have the highest risk, and most to lose, were circumvented in the final discussions and the input they consistently provided (through workshops cited above, public comment, and conversations with developers) was ignored.	Alternatives D1 and D2 were the direct result of scoping comments received from the commercial fishing industry (see April 30, 2018 comment from Tkjedle Law on behalf of the East Farm Commercial Fisheries Center on the Notice of Intent to Prepare an EIS). Section 2.1.3 of the FEIS has been updated to include how Alternatives D1 and D2 were developed through the scoping process for the DEIS and additional information provided as a result of comments from the fishing industry. These comments regarding a minimum of a 1nm spacing and an east-west layout were supported by members of the Commercial Fisheries Center of Rhode Island, including RI Commercial Fishermen's Association, RI Lobstermen’s Association, Eastern NE Scallop Association, Ocean State Fishermen’s Association, RI Party and Charter Boat Association, Town Dock Commercial Fishing Fleet, and Newport Fishermen’s Association. Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13185-025	Finally, if the Vineyard Wind 1 project is approved, RODA stresses that it is absolutely necessary to use this as a study site to understand and mitigate interference with marine radar. Conclusions thus far from the WTRIM, MARIPARS, and developers indicate not enough is known about impacts to radar on fishing vessels. Limited information can be learned from European	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind

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	WEAs and the Block Island Wind Farm, but the full extent of possible radar interference should be studied if this project is approved. The proposed larger turbines, gridded array layout, and specific radar units used on U.S. vessels are not fully understood. In particular, it should be stressed that any study should utilize active fishing vessels, outfitted with radar technology used by the industry. By better understanding marine radar interference fully, mitigation measures should then be implemented to improve the navigational safety for all mariners. No additional OSW projects should be approved unless navigational risk is mitigated through layout design and/or technology, based on the findings from a robust analysis of radar interference.	turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13185-026	The use of offshore wind as a source of renewable energy is effectively a large-scale experiment to determine the impacts of an unprecedented amount of physical structure in our outer continental shelf ecosystem. There are major flaws in this experiment: (1) we have insufficient baseline data against which to measure induced effects; and (2) the rapid timing of construction across multiple projects does not afford the opportunity to evaluate impacts from the first, or others incrementally afterward. The latter makes it difficult to fully mitigate the impacts of these turbines because we simply do not know what all the impacts will be and have left no room for adaptive management.	Best available data and relevant information was used throughout the NEPA process for the proposed Project. Appendix H of the FEIS provides an analysis of incomplete or unavailable information. Through BOEM's Environmental Studies Program BOEM invests in science to support agency decisions. Since 2009 BOEM has awarded over \$12 million for 22 fisheries related studies on the Atlantic. Studies have ranged from baseline characterization of fish movement and habitat in leased areas to studies of specific stressors such as sound and electromagnetic fields (EMF). BOEM has also invested in looking at the effects of authorized projects such as the Block Island Wind Farm and the Coastal Virginia Offshore Wind project on the environment through the Real-time Opportunity for Development Environmental Observations (RODEO) project.
13185-027	RODA's comment letter on the DEIS described some of the many gaps in the biological and habitat impacts analyses that included the need for species-specific research, the lack of underwater noise research, no consideration of changes in water flow or larval dispersion, the need to research impacts of wind energy removal to physical oceanographic processes and dependent biological processes, the assumption that a "reef effect" will occur and be positive, localized temperature changes, interactions with electromagnetic fields, and consequences of scour and other benthic alterations. The SEIS does not improve our understanding of these issues, which is unsurprising given that no directly relevant research has been done on wind energy areas comparable in size to what is proposed in the Vineyard Wind project SEIS. The analysis, while incorporating a larger spatial scale, still insufficiently analyzes the cumulative impacts for the entire region and instead focuses mainly on the Vineyard Wind project.	Section 3.4 of the SEIS addressed underwater noise, water flow and larval dispersion, potential effects on oceanography and productivity, reef effect, temperature changes, and EMF. Section 3.3 of the SEIS addressed scour and other seafloor impacts. Species-specific assessments are beyond the scope of this EIS. This is a single-project EIS, not a Programmatic EIS, and it complies with the requirements of NEPA. Therefore, no change to the FEIS is warranted.
13185-028	We remain highly concerned that OSW development will occur along the coast in the absence of research that would provide a better understanding of the realized impacts. There is some research from Europe that can inform our inferences, however, some structures, e.g. the Mid-Atlantic cold pool, are	The revised Sections 3.3.1.1 and E.4.1 of the FEIS discuss potential changes to the cold pool and primary productivity, and the revised Section 3.4.1 discusses the potential consequences of such changes for marine mammals.

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	unique to the U.S. because of their size and level of stratification....Foraging, and other biological necessities, by marine mammals may be affected by changes in the cold pool. If the cold pool is disrupted and primary production is reduced, prey species would also be expected to decline, negatively affecting marine mammals' food sources.	
13185-029	Climate change has already begun; the SEIS analysis should acknowledge that the Northwest Atlantic Ocean has already experienced shifting populations of fish and invertebrates. As part of its ecosystem approach to fisheries management, the Mid-Atlantic Fishery Management Council (MAFMC) has already begun discussing the impacts of climate change on fishery science and management. It is disingenuous for the SEIS to disregard in-progress changes by concluding that the ecosystem, to be further impacted by development, was stable and would recover after the impacting agent was removed or mitigation was undertaken. Resource: Mid-Atlantic Fishery Management Council (MAFMC). "A White Paper to Inform the MAFMC on the Impact of Climate Change on Fishery Science and Management." (available at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/5c5c8fa9652dea319f3f8fe6/1549569962945/MAFMC-Climate-Change-and-Variability-White-Paper_Apr2015.pdf).	Section 3.4.1 of the SEIS discussed current and potential future impacts from climate change; therefore, no change to the FEIS is warranted.
13185-030	The water temperatures in this region are already changing; as they change, they will dictate where fish and their prey are distributed. An example provided in the SCENFiS report highlights the need for such an analysis; mussels (<i>Mytilus edulis</i>) are expected to attach to structure, such as a turbine, and locally affect the level of primary production depending on the level of filtration they might achieve. The SEIS is silent on the preferred temperature range of <i>M. edulis</i> ; if temperatures continue to rise it is unclear whether this species will be present in the wind energy area by the end of the lease period. This example highlights that research is needed on species found in our region in order to mitigate species-specific impacts. Available research is limited and while it may appear to inform analyses, it likely doesn't given the specific life history characteristics, behavior, and localized food web dynamics that are unique to any ecosystem. It is imperative that we study impacts on each component of the ecosystem including the benthic community and its recovery from construction.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Section 3.4.1 of the SEIS discussed current and potential future impacts from climate change. Species-specific assessments are beyond the scope of this EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments (https://www.boem.gov/environment/environmental-studies/renewable-energy-research).
13185-031	The SEIS dismissed interactions between fish and exposure to EMF from exposed cables based on the assumption that exposure would be of short duration; it was not discussed as an impediment to migration.	Section 3.3.1 of the FEIS has been updated to state that EMF does not appear to constitute a barrier to migration.

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13185-032	The SEIS does its best to describe the impacts on larval dispersion but nonetheless remains uninformative.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments, including larval transport modelling at a regional scale (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13185-033	The SEIS makes assumptions based on research not designed to answer the question being addressed. For example, to discuss the impacts on larval dispersal, the SEIS references a study (Chen et al., 2016), which explicitly states that it was not designed to evaluate larval dispersal impacts.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments, including larval transport modelling at a regional scale (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13185-034	The SEIS also discusses the potential for the wind energy areas to serve as artificial reefs, which would be expected to have a positive impact on the density of structure loving fish. If this reef effect was realized this would result in the largest artificial reef program in U.S. waters, if all possible leases were built out. It is not known whether the lease areas will result in a larger reef complex with interaction effects. Looking at tropical reef systems indicates a limitation to the positive benefits of reefs because of the “halo effect” where the behavior of coral head reef residents results in rings of sea grass surrounded by a maintained, grazed white sand ring termed halos. Under high densities, these halos can merge and eliminate the sea grass altogether. The behavior of these fish affects the ecosystem function, particularly under high density scenarios.	Section 3.4.1 of the SEIS considered the potential for fish aggregation and the reef effect, and reflected reports of the reef effect extending usually 30 to 60 meters, but possibly up to 600 meters (0.32 nautical miles) from a structure. This is a single-project EIS, not a Programmatic EIS. Therefore, no change to the FEIS is warranted.
13185-035	The SCENFiS report further highlights the importance of species-specific impact analysis. Species like surfclams that live for 30-35 years are vulnerable to the installation of turbines. These are not highly mobile species that can simply relocate to an area outside of the construction zone. We do not know what the longterm impacts on such long-lived, sessile species will actually be.	These data are the best available sources for assessing impacts. The FEIS also was updated to discuss the large mollusks that are not represented well in grab samples. Sections 3.3 and 3.10 of the FEIS were updated to discuss additional information and analysis of commercially important species, including scallop, ocean quahog, and surfclam, using additional data sources, including fishing effort.
13185-036	The SEIS is also deficient in its analysis relating to marine mammals. Such species are vulnerable to structure in the water because of the risk of collision or entanglement. This risk increases when marine mammals and structures or gear/lines from fishing activity (or floating turbines) interact. The SEIS does not sufficiently discuss changes in interactions between marine mammals and fishing gear; if both are either excluded from the wind energy areas then it	Section 3.3.7.3 of the DEIS discussed the presence of structures and the potential for exclusion of fishing or marine mammals from the Project area. Furthermore, Sections 3.5.1 and 3.5.2 of the SEIS discusses displacement of fishing effort and marine mammals from all wind development areas on the Atlantic OCS. Additional discussion of commercial fisheries displacement was provided in Section 3.4.5 in the DEIS and Section 3.11.1 and 3.11.2 of the SEIS. As such, no change to the SEIS is warranted.

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	restricts the amount of ocean available and would be expected to result in increased interactions.	
13185-037	Alternatively, fishing or service vessels and marine mammals could interact within the wind energy area and have limited maneuverability because of the turbine layout. This may delay recovery of stocks, which is of particular concern for northern right whales (which in recent years have had significant presence in the New England project areas).	As described in Section 3.5.1 of the SEIS, the proposed 1 nautical mile spacing would allow sufficient area for even large marine mammals to safely navigate between WTG structures. As such, no change to the SEIS is warranted.
13185-038	A simulation study on a harbor porpoise population in Europe indicated the population was vulnerable to turbine and shipping noise and bycatch rates; these effects were additive. The extent of the proposed wind energy areas in U.S. waters could have substantial impacts on the fitness and population growth of marine mammals, including one of our most vulnerable species (northern right whale). It is unclear what mitigation plans would be feasible given the permanent structures being pile driven into the seabed.	Section 3.3.7.3 of the DEIS and Section 3.5.2 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. One major difference between the European studies on harbor porpoises is that there is no time of year restriction on pile driving to avoid porpoises and large monitoring zones such as those required for NARWs. BOEM is not aware of any harbor porpoise studies showing turbine operational noise adversely effects the species and population level effects may occur. The best available information shows that porpoises return to offshore wind farm areas shortly after pile driving ceases. No new information has been provided that requires the assessment in the SEIS be revised. Additionally, harbor porpoises and NARWs have very different hearing abilities and a life history strategies such that a comparison of porpoise impacts to NARWs is highly speculative and uncertain. Section 3.5.2 and Appendix D discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, with specific measures for both the NARW, harbor porpoises, and other marine mammals. These measures include, but are not limited to avoidance of peak NARW presence, enhanced measures during the month of May to detect and avoid right whales, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. In addition, monitoring of the effectiveness of sound attenuation methods will be conducted and secondary measures would be implemented if the required sound reduction is not met. With this full suite of mitigation measures, impacts to NARWs and other marine mammals will be greatly avoided or minimized.
13185-039	The plans for mitigation of cumulative right whale impacts are too vague to properly comment on, and are not even available for projects other than Vineyard Wind. Nor do best management practices provide standard protocols or performance measures. We would hope that mitigation of any negative impacts on marine mammal populations would not affect the fishing industry by further excluding fishing from areas to compensate for the wind farm impacts.	Section 3.3.7.3 of the DEIS and Section 3.5.2 of the SEIS discussed the potential impacts of the proposed Project on marine mammals, including the NARW. Additionally, Section 3.5.2 and Appendix D discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures. These

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		measures would apply to only the Vineyard Wind 1 Project, but not other future offshore wind development. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13185-040	If BOEM does approve the Vineyard Wind project in the absence of an adequate scientific understanding of environmental impacts, we urge that Vineyard Wind be used as a research platform, with further construction of other lease areas delayed until sufficient efforts are underway to address inadequacies in research. Research projects should be designed in conjunction with fishermen to ensure sampling design is adequate.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information. Future offshore wind projects will undergo separate NEPA reviews, and similar or different measures could be required for those projects to avoid or reduce the potential effects anticipated.
13185-041	Offshore wind development will prevent the Northeast Fisheries Science Center from completing its annual surveys. The SEIS itself concludes that the Vineyard Wind project will have major impacts on scientific research and surveys. This directly impacts fishermen by increasing uncertainty in stock assessments, which typically results in reduced quotas...The National Standard 1 guidelines require the acceptable biological catch to account for any scientific uncertainty in the estimate of the overfishing limit. Scientific uncertainty is directly related to information regarding the status of the stock, e.g. stock assessments, which may be based solely on federal surveys depending on the stock. This represents a major unknown for the fishing industry because the magnitude of impacts will vary by species. These concerns have been widely cited, including through comments from NMFS.	The SEIS discusses these issues throughout Section 3.14 (Other Uses, Scientific Research and Surveys), and Section 3.14.2 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. The level of impacts was determined to be major. Therefore, no change to the FEIS is warranted. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).
13185-042	Fisheries monitoring will be insufficient for the Vineyard Wind project and other near-term offshore development. OSW developers are required to develop fisheries monitoring plans; this is essential, however, their utility will be limited. They are likely to have less than two years of baseline data making it difficult to understand true impacts to stocks with high interannual variability. It is imperative to be able to detect any changes in abundance and distribution of fish and invertebrate species resulting from OSW development. The fishery monitoring plan for the Vineyard Wind project was only originally submitted to the National Marine Fisheries Service for review on February 25, 2019. At the time, NMFS didn't consider it to be a viable	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.

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	monitoring plan, stating “the submitted plan lack[ed] sufficient detail and critical information to evaluate its efficacy.” Though Vineyard Wind has since made revisions to its monitoring plans, the planning flaws referenced above and the absence of clear requirements for fisheries monitoring have led to the loss of critical knowledge. It is of utmost importance that all fisheries monitoring plans for any offshore wind development project are scientifically sound and help to answer critical questions regarding impacts to populations and their stock assessments.	
13185-043	We request funding be allocated to federal agencies and research institutions in order to be able to address these uncertainties. Priority for funding should be given to fisheries-related research, ideally through existing cooperative research programs, e.g. NMFS wind team, the regional fishery management councils and the Responsible Offshore Science Alliance (ROSA). Fishermen and developers have come together as part of ROSA to increase mutual understanding and this cooperative effort should be supported; research that directly involves fishermen would greatly benefit from fishermen’s expertise and would also have a higher acceptance from the fishing industry as a whole.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13185-044	We maintain that the economic importance of fishing, and economic losses associated with loss of fishing grounds and indirect effects, have been systematically underrepresented, both through this federal environmental review and throughout the OSW development process.	Section 3.11 of the SEIS and the FEIS discusses the economic importance of fishing (landings and revenue), potential impacts, mitigation, and includes a cumulative assessment of potential revenue exposure by fishery for New England and the Mid-Atlantic; therefore, no change to the FEIS is warranted. The extensive analysis of impacts on the commercial fishing industry provided in the SEIS and included in the Section 3.10 of the FEIS resulted in findings of moderate to major impacts on this industry. This finding was reflected in the SEIS and FEIS economic analysis. The FEIS also adds updated data on the Port of New Bedford commercial fishing and seafood processing industries. Section 3.6.2 of the FEIS concludes that the Proposed Action, as well as reasonably foreseeable offshore wind development, would have a moderate impact on economics and employment for the commercial fishing industry in the geographic analysis area. The FEIS (Appendix F) provides 2018 U.S. Census data on employment by industry sector and 2017 NOAA data on the "living resources" sector (fishing, seafood processing, seafood markets, and aquaculture) in the geographic analysis area. The data support the conclusion that a moderate impact on commercial fishing would result in a minor adverse impact on employment and economics in the geographic analysis area as a whole, due to the relative size of the fishing industry in terms of employment and GDP.

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13185-045	Furthermore, the SEIS analysis is at odds with information often put out by OSW advocates as the primary justification for rapid development: the creation of huge numbers of U.S. jobs.	Section 3.7 of the SEIS and Section 3.6 of the FEIS rely upon projected job creation resulting from the Proposed Action. Section 3.6 of the FEIS also cites Massachusetts and national job projections from three sources and uses these to evaluate impacts on employment within the geographic analysis area, but is careful to state both the low and high employment projections. The analysis is based upon the lower estimates of employment. It is beyond the scope of the Vineyard Wind 1 Project EIS to draw conclusions with regard to east coast or national economic impacts. Where the numbers in the EIS differ from numbers cited by OSW advocates, it is due to the variation between low and high projections, different assumptions about growth of domestic offshore wind manufacturing and installation capabilities, or use of different parameters (direct vs. direct plus indirect/induced jobs, or jobs at a given time vs. job years).
13185-046	The SEIS lacks key information regarding the cumulative economic projections of full build-out of the MA/RI lease areas, including how much economic growth is attributable to the projects when federal and state renewable subsidies and rate payers' increased costs are considered.	The SEIS relied on projections of employment, economic activity, local/state tax revenues, known investment in local ports and job programs, and grants to local communities and organizations, to reach a reasonable conclusions of beneficial impact within the geographic analysis area. The FEIS in Section 3.6.1.1 has been updated to include additional information on ongoing port facility improvements and projections of economic investment. The projections support reasonable conclusions that offshore wind would support jobs and businesses within the geographic analysis area. The analysis of employment and economic impacts within the geographic analysis area is valid regardless of federal and state subsidies. Ratepayer costs depend on numerous variables beyond the scope of the EIS.
13185-047	It also fails to clarify significant uncertainty regarding how much of the promised economic and employment benefits from OSW will accrue to the United States, vs. how much will be directed abroad.	The FEIS has been updated in Section 3.6.1.1 to clarify that it provides no conclusions with regard to regional, national, or world-wide economic impacts outside the geographic analysis area. Because the FEIS is for the Vineyard Wind 1 Project (and is not a programmatic EIS for east coast offshore wind development), the FEIS must provide analysis specific to the economic impacts of the Vineyard Wind 1 Project within the geographic analysis area that would reasonably be expected to experience economic impacts. In addition, BOEM is not required to estimate international employment and economic impacts, because the action contemplated in this FEIS is not anticipated to significantly affect a foreign nation and a foreign nation is not participating in the action (see EO 12114).
13185-048	Nor does it even attempt to predict how many fishing jobs will be lost or otherwise impacted due to this new ocean use, which may occur based on a number of reasons including resource impacts, induced management changes, insurance cost and availability, increased operational costs from factors such as transit time, market impacts, and so on.	The SEIS used the analysis of impacts to the commercial fishing industry in Section 3.11 to reach a reasonable conclusion in Section 3.7 that the Proposed Action would have a moderate impact on the commercial fishing industry within the geographic analysis area. This conclusion did not change in the FEIS. Specific estimates of job impacts on the commercial fishing

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		industry and related business would be speculative and unnecessary to support this conclusion. Section 3.11 of the SEIS and Section 3.10 of the FEIS discusses the economic importance of fishing (landings and revenue), potential impacts, mitigation, and includes a cumulative assessment of potential revenue exposure by fishery for New England and the Mid-Atlantic; therefore, no change to the FEIS is warranted. The SEIS and FEIS rely on the best available information. Specific estimates of job impacts on the commercial fishing industry and related business would be speculative and unnecessary to support this conclusion.
13185-049	We also reference several items in our DEIS comments that were not considered at the time, such as calculations of shoreside impacts to fisheries, and these remain unaddressed.	Section 3.7.1.1 of the SEIS acknowledged that shore-based supporting services could experience impacts from offshore wind development; this was part of the basis for the finding of a moderate impact on the commercial fishing industry in Section 3.7.2. In addition, Section 3.10 of the FEIS has been revised to address this topic in greater detail. Section 3.10 of the FEIS discusses the impacts on seafood dealers and processors, which are expected to be minor to moderate.
13185-050	With regard to job creation, the SEIS does little to build on the DEIS analysis, except for incorporating arecent report from the American Wind Energy Association absent any review of its methodology. Even absent an unbiased analysis, it concludes that future OSW activities will cumulatively have “overall minor beneficial impacts” to new employment and economic activity.	The DEIS used projections of job creation from the Massachusetts Clean Energy Center and BVG Associates for comparison with the Vineyard Wind-submitted job projections. The SEIS (Section 3.7.2.1) added national job projections from the American Wind Energy Association to inform the analysis. BOEM reviewed the methodology of the studies to determine whether projections were reasonable. The FEIS was updated to include in Section 3.6.1 projections from the Georgetown Economic Services study submitted by RODA. The FEIS uses only the conservative estimates from these studies, in concert with other economic impacts (economic and infrastructure investment, tax revenues, grants, job training and diversification) to arrive at reasonable conclusions that the Proposed Action would have a minor beneficial impact, and ongoing and planned actions including the Proposed Action would have a moderate beneficial impact, on employment and economics in the geographic analysis area.
13185-051	In order to provide more transparency in the job creation projections, we reference a study completed by Georgetown Economic Services (submitted under this docket and attached as Appendix X, referred to as GES report in this letter). This study found that the projected job creation for the Mid-Atlantic and New England region was inconsistent with the AWEA input/output model cited by the SEIS. Utilizing the NREL Jobs and Economic Development Impacts model the GES report found for the Mid-Atlantic and New England region “2.06 - 3.17 local job-years per MW (as opposed to permanent jobs) could be created during the construction phase in the region, and 0.18 - 0.26 permanent jobs per MW could be created during	The GES study provides alternative job estimates for the proposed Project and planned actions, but does not ultimately provide meaningfully different findings. Sections 3.6.1.1 and 3.6.2 of the FEIS discuss the GES study, which was not available to BOEM before publication of the SDEIS. Key findings related to the GES study include: • GES total job estimates are similar to those provided by Vineyard Wind and other offshore wind developers. As compared to the AWEA estimates for jobs supported by east coast offshore wind development, GES estimates higher employment for construction and lower employment for operations and maintenance. BOEM's internal review finds AWEA's methodology to be

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	the operations and maintenance phase.” Reference: Potential Employment Impact from Offshore Wind in the United States - The Mid-Atlantic and New England Region Georgetown Economic Services, LLC. Dated July 27, 2020	defensible. Additional detail has been added to the FEIS in Section 3.6.1.1 (for jobs supported nationwide) and 3.6.2 (for jobs supported in Massachusetts) to include the GES study in the discussion of employment. The FEIS consistently relies on lower or base case job estimates, and construction of the proposed Project involving 57, 14MW WTGs, as the least economically beneficial scenario. • Vineyard Wind has established spending commitments to the State of Massachusetts that will need to be met either through investment or through direct payment. It is unclear whether the GES study incorporates those commitments. Much of the GES report focuses on qualitative arguments that are not specific to the SDEIS, including the following: • A dynamic analysis should be used rather than a static analysis that assumes productivity improvements over time. BOEM does not believe that sufficient information exists to justify migration to dynamic modeling; moreover, the probable differences in model results would not be disparate enough to justify this change, or to revise the findings in the FEIS. • Offshore wind is heavily subsidized through ORECs or PPAs, and is not an economically efficient use of resources. Decisions about subsidization are policy choices by federal and local governments. NEPA requires evaluation of impacts, given existing conditions, not consideration of the validity of such policies. • The bulk of offshore wind jobs will be created overseas rather domestically, and total domestic employment in manufacturing and construction is small when compared with employment in the manufacture of conventional equipment for power generation. This may be true for the construction phase, but is irrelevant for the NEPA analysis because the FEIS only evaluates domestic jobs supported by the proposed Project and planned actions. The studies and employment projections used by BOEM in the FEIS estimate future job growth based on assumptions about the growth of the domestic offshore wind industry. • There are no sound economic arguments to support an assertion that offshore wind investments will increase the total level of employment in the longer run when we hold macroeconomic conditions constant. This is true, but is also not a claim made in the FEIS. • The claim that the huge investments on offshore wind would provide significant job and economic benefits in the U.S. has been grossly inflated. This may be true for some sources; however, the AWEA and Vineyard Wind estimates included in the FEIS are realistic estimates based on actual projects and/or conservative assumptions.

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		The FEIS bases its determination of a minor economic benefit (for the Vineyard Wind 1 Project) or a moderate economic benefit (for east coast offshore wind development) on measurable benefits within the geographic analysis area (Barnstable, Bristol, Dukes and Nantucket Counties, Massachusetts; Providence and Washington Counties, Rhode Island). A minor benefit (for Vineyard Wind 1) would result primarily from support for a measurable number of jobs, establishment of the operations and maintenance facility on Martha's Vineyard, grants and cooperative agreements that benefit local communities, port utilization, and local tax revenues. The finding of moderate benefit (for east coast offshore wind development) is also limited to the geographic analysis area and results primarily from potential employment; support for construction-related jobs and business activity over a longer period; support for port infrastructure improvements and re-use of waterfront industrial properties; job training; and potential development of manufacturing and other support facilities.
13185-052	The inconsistencies in estimated jobs created using the same model is curious. One potential explanation is that the assumption of domestic versus foreign jobs is different between the two reports. In the GES report, the materials and services resulting from direct and induced jobs (estimated to about 60 percent of jobs in the offshore wind industry) during the construction phase are nearly 100% sourced locally as they are widely available in the U.S. As stated in the GES report, if the AWEA report input/output analysis assumed lower local sourcing assumptions, this may explain the difference in results between the two reports. Lower estimates of job-years by AWEA is problematic if the OSW industry does not plan to maximize U.S. hiring, especially if domestic labor is possible in the states supporting OSW. If developers know that most jobs will be foreign, jobs and economic stimulus should not be a selling point for OSW.	The SEIS used the AWEA report as a source for national offshore wind job projections. The FEIS added the projections of the Georgetown Economic Services report in Section 3.6.1.1. Both reports use the National Renewable Energy Laboratory's Jobs and Economic Development Impact model for offshore wind. The two reports' assumptions about the proportion of domestic manufacturing and amount of offshore wind developed by 2030 have differences. The range of projected jobs is broadly compatible with each other and with Vineyard Wind's job projections for the Proposed Action. The projections are nationwide and therefore were used in the FEIS only to support reasonable conclusions about economic activity within the geographic analysis area that were arrived at based on known planned offshore wind activity and investments.
13185-053	Equally concerning is the differences in the estimated permanent jobs (or operations and maintenance jobs) between these two reports. The operations and maintenance phase of an OSW project is much less labor intensive, provides employment long term and lasts the lifetime of the project, therefore a correct and realistic estimation of these types of jobs should be paramount and the total sum of job-years driven by the higher number of construction jobs should not be conflated with permanent jobs.	The DEIS, SEIS, and FEIS have all made distinctions between short-term construction phase jobs and long term operational jobs in reaching conclusions regarding employment and economic impact. Section 3.6.2.1 of the FEIS has been updated to more clearly explain that the estimated direct job creation by Vineyard Wind in Massachusetts alone, approximately 3,100 to 3,600 FTE job years, would consist of 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. Section 3.6 of the FEIS has been updated to add job projections from the Georgetown Economic Services study submitted by RODA and provides text clarifications to more clearly explain the distinction between jobs and job years.

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13185-054	Lastly, the analysis of the input/output models only account for gross employment impacts and does not include displacement of other industries. This needs to be looked at more holistically, accounting for the impacts of fishermen’s employment including from displacement, impacts to the resource, management constriction, indirect costs such as insurance and fuel, transit time and other cost prohibiting results.	The impacts from offshore wind development on displacement, the resource, fisheries management, operating costs (fuel and insurance), and transit time are discussed qualitatively throughout Section 3.11 in the SEIS and Section 3.10 in the FEIS and employment is discussed in Section 3.6. Although fishing activity may change, employment in the fishing sector is not anticipated to change as a result of the proposed action. The SEIS acknowledged anticipated adverse impacts on the commercial fishing industry. The detailed analysis of commercial fishing impacts in Section 3.11 of the SEIS included such factors as displacement, resource impacts, and increased indirect costs (insurance, fuel, transit time, other) to conclude that the Proposed Action would have moderate to major impacts on the commercial fishing industry. The qualitative assessment in Section 3.6.2 relies upon the detailed analysis in Section 3.11 to conclude that there would be a moderate impact on employment and economics related to the commercial fishing industry within the geographic analysis area (Section 3.6.2). In the context of all economic sectors within the geographic analysis area, Section 3.7.2 of the SEIS concluded that the moderate impact on economics for the commercial fishing industry (as well as potential minor impacts on the recreation and tourism industry) would result in minor adverse impacts on employment and economics within the geographic analysis area. While Section 3.7.2 of the SEIS concluded that growth of the offshore wind industry would also have beneficial impacts within the geographic analysis area, this does not negate or eliminate the finding of minor adverse impacts. Both the adverse and beneficial impacts on employment and economics are clearly carried through all of the conclusions regarding potential impacts of the proposed action and other reasonably foreseeable offshore wind development. The FEIS retains the same adverse impact findings for employment and economics as the SEIS (Section 3.7.2): moderate impact on the commercial fishing industry and supporting industries (for Proposed Action combined with other planned actions), and minor impact overall on employment and economics in the geographic analysis area.
13185-055	The SEIS analyses impacts to environmental justice communities in Massachusetts and concludes that the cumulative impacts to these communities from the proposed OSW projects would be overall minor, but potentially major depending on the specific impact factor and alternative chosen. While RODA agrees that these impacts will be major, the SEIS analysis is purely qualitative and contains several analytical flaws. This section of the SEIS is too narrowly focused on Massachusetts and fails to describe or account for lowincome and diverse communities in other states	The geographic analysis area for environmental justice populations includes the counties where proposed onshore infrastructure and potential port cities are located, as well as counties in closest proximity to the WDA. Inclusion of additional areas (whether qualitative or otherwise) is beyond the scope of this analysis. Section 3.7 focuses on the population in the geographic analysis area, and references the assessments for commercial/for-hire fishing, which has a larger geographic analysis area. The environmental justice analysis of impacts on low income workers relies on data and assessments of commercial/for-hire fishing, recreation/tourism, and overall employment and

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	such as Rhode Island and New Jersey that are heavily dependent on seafood production in these WEAs.	economics. The data provided in the DEIS is updated in the FEIS, Sections 3.6.1 and 3.7.1 and the conclusions are unchanged, except for the elimination of the New Hampshire Avenue landfall. No additional changes to the FEIS are warranted.
13185-056	It also makes no attempt to characterize demographics in the fisheries sector nor what is expected in the OSW sector.	Section 3.4.1.3 of the DEIS provided average wage data for commercial fishing and related businesses and for the ocean economy as a whole, as well as information on the size of the commercial fishing sector as a proportion of county economies. The environmental justice analysis mentions the possible benefits of job opportunities from offshore wind but this is not part of the assessment. Overall, the average wage in the "Living Resources" industries (commercial fishing, seafood processing, seafood markets) is higher than the average wage in all "ocean economy" sectors combined, although this varies by county. A detailed breakdown is not necessary to support reasonable projections that impacts on commercial fishing and associated businesses (detailed in Section 3.11 of the SEIS) would have an adverse impact on some low income workers in these sectors, with minor impacts overall on low income residents of the geographic analysis area counties. No changes to the FEIS are warranted.
13185-057	While we are not experts on the types of jobs that will support OSW construction, we do understand that the huge majority of them require highly specialized certifications and eligibility criteria. There is no indication whatsoever, in the SEIS or elsewhere to our knowledge, of how many of these jobs will be sourced from these communities, or on what timeline.	Section 3.4.1.3 of the DEIS provided projections of Proposed Action job creation in southwest Massachusetts, including types of jobs, projected salary ranges, and the estimated number of operational jobs that would be located on Martha's Vineyard, and noted the local hiring plan that Vineyard Wind would implement (Section 3.6.2 of the FEIS.) As discussed in Appendix D, the Local Hiring Plan to be prepared by Vineyard Wind will provide more details about the share of Project-related jobs sourced from local communities. Section 3.6.1 of the FEIS has been updated with information on the offshore wind job training program at Bristol Community College, and efforts between the New Bedford Port Authority, MassCEC, and Vineyard Wind to develop supply chain and support opportunities, with a focus on fishing businesses.
13185-058	The fishing industry—for which there is documented workforce information—supplies significant employment, if not the majority of jobs, in environmental justice communities up and down the coast,....	Section 3.4.1.3 of the DEIS provided average wages for the commercial fishing industry and discussed the industry's likely employment of a workers who meet environmental justice "low income" criteria. The DEIS also provided county data indicating the relative size of the commercial fishing industry (including support businesses) as a portion of the County economies. Section 3.9 provides a detailed discussion of impacts on the commercial and for-hire fishing industry. The DEIS data is updated and included in Section 3.6.1 and 3.7.1 of the FEIS. No changes to the FEIS are warranted.

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13186-001	To rectify these harms, a just transition from our current carbon emitting energy systems to more environmentally-informed energy systems is direly required. I have learned of the many socio-economic and environmental benefits the offshore wind industry brings to our region and country. This billion-dollar industry offers a once in a generation opportunity for our region to recover economically, improve our citizens quality of life, and create opportunity for industrial growth with holistic environmental health more at the forefront, where it belongs.	Thank you for your comment.
13193-001	I am surprised to learn that the United States Government is considering to another off shore wind farm like Vineyard Wind to be built after knowing the harm it would cause to our fishing industry. Even knowing the negative impact, there are no plans for compensation or consideration.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Table 3.10-3 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13193-002	it is well known that ocean wind energy is only effective one third of the time and all electric consumers get is an increased bill	Thank you for your comment.
13193-003	The wind farm developers tell us about job creation, but they do not mention that they themselves are European companies using materials made in factories in Europe and China, and use ships and crews from Europe. Where is the opportunity for the US, other than increased costs?	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics, and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13194-001	I cannot believe that the U.S. government is even considering to allow a wind farm similar to Vineyard Wind to be built. We know the negative impact it will have on not only our fishing industry but our domestic food supply.	Tables 3.10-2 and 3.10-7b of the FEIS allow for a comparison of the total volume of seafood landed at affected ports compared to seafood harvested just from the Vineyard Wind Development area. No change to the Finale EIS is warranted.

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13194-002	there have been no considerations or compensation planned for the U.S. fishing industry.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Table 3.10-3 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13194-003	This harm will be caused, even knowing that ocean energy is only effective about 1/3 of the time.	Thank you for your comment.
13194-004	The European developers will not create new jobs in the quantities they claim, how could they? They will use turbines and cables produced in Europe and China, installed with European ships and foreign crews.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13195-001	I am surprised to learn that my US Government is considering to allow a wind farm like Vineyard Wind to be built, knowing full well the negative impact it will have on our fishing industry without consideration or compensation .	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Table 3.10-3 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.

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13195-002	In addition, wind energy is known to be effective about 1/3 of the time! US consumers will only get larger energy bills from this wind farm.	Thank you for your comment.
13195-003	The Wind Farm company tells us all about job creation. Why don't they tell us that the farms are made with equipment made in Europe and China using European ships, foreign materials and European crews. Where do Americans see the benefit?	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13197-001	I am writing in response to the consideration for a wind farm like Vineyard Wind to be built knowing full well the damage it would cause to our nation's fishing industry. Have you considered what this will do to their industry and US food supply as well as job loss?	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries and Section 3.7 discusses impacts on employment and economic activity in the commercial fishing industry. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Table 3.10-11 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. Additionally, FEIS Tables 3.10-2 and 3.10-7b allow for a comparison of the total volume of seafood landed at affected ports compared to seafood harvested just from the Vineyard Wind Development area.
13197-002	Wind energy is known to be effective only about one third of the time of the time, all we will see is increased electric bills.	Thank you for your comment.
13197-003	Developers keep talking about creating American jobs, but how? The turbines and cables are made in Europe and China. They will use European ships, foreign materials and European crews. They get the work, we get the bills.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S.

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		versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13198-001	Foreign companies are being considered to build Wind Farms using foreign labor and foreign materials. Where are the jobs and opportunity for American workers and American factories?	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13198-002	It is well known that ocean wind energy is effective less than half of the time. All we will see is increased bills for consumers...It has not been proven that these wind farms will reduce the electric cost, in fact we will see increased costs.	Thank you for your comment.
13198-003	These Wind Farms will have a negative impact on our fishing industry. The Commercial fishing industry is critical to America for not only food supply but employment of many. Has there been consideration and compensation for the fishing community?	Section 3.10.1.1 and 3.10.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries and Section 3.7 discusses impacts on employment and economic activity in the commercial fishing industry. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13199-001	This will cause harm to our domestic commercial and recreational fishing industries. What considerations have been made for the fishing industry, how will they be compensated?	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all

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		substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13199-002	It is known that wind energy from ocean wind turbines is only effective about 1/3 of the time. Our electric bills go up, not down.	Thank you for your comment.
13199-003	The wind developers talk about job creation but they forget to tell us that the factories making the turbines and cables are in Europe and China and they use European ships and crews to install and maintain.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13200-001	I am writing because I am astonished that our US Government is considering to allow a wind farm like Vineyard Wind to be built while knowing the harm and devastation it will cause to our domestic fishing community and Industry without any consideration or compensation.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13200-002	The developers talk about job creation, yet forget to tell us they will be using European crews, ships and materials to build these wind farms which produce energy about 2/3 less effectively than stated. Oh yes, and they are European developers so all Americans will see is big bills.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13201-001	It is well known that ocean wind energy is only effective about a third of the time and electric bills go up, not down.	Thank you for your comment.

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13201-002	The fishing industry will lose revenue and jobs, has any consideration or compensation been developed for our Americans?	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries and Section 3.7 discusses impacts on employment and economic activity in the commercial fishing industry. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13201-003	The Wind Developers talk about creating American jobs but are foreign companies using foreign workers and foreign supplies and equipment. This does not have any positive impact on us, they get the work, we get big bills.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13202-001	I write to you in strong support of the Vineyard Wind 1 project...The offshore wind industry offers tremendous potential to create thousands of jobs, secure the United States' energy future, and supply reliable power to millions of homes and businesses.	Thank you for your comment.
13202-002	Advancing Vineyard Wind 1 is the first step in what could be a transformative industry for New England and the whole United States. This approval will unlock the offshore wind industry and usher in a new era of manufacturing and energy independence. Analysis by the American Wind Energy Association (AWEA) concludes the offshore wind industry could support over 83,000 US jobs by 2030. In the wake of a global pandemic that has left millions of Americans unemployed, the offshore wind industry is poised to become a cornerstone of our recovery.	Thank you for your comment.
13202-003	The industry has already begun investing in the US. We at MHI Vestas have invested \$35 million in a gearbox testing facility at Clemson University. Last year we opened our first US office in Boston, MA, and we continue to grow	Thank you for your comment.

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	our team. Advancing the Vineyard Wind 1 project will accelerate the growth not only of MHI Vestas, but of the entire offshore wind industry.	
13202-004	Offshore wind has the power to revolutionize the US energy sector, put thousands of Americans back to work, and supply clean, reliable, and affordable domestic power to our families and businesses.	Thank you for your comment.
13203-001	I am surprised that the US Government would consider to allow a wind farm like Vineyard Wind to be built all while knowing the negative impact it will have on our country's fishing industry without any consideration or compensation of the harm it would cause.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13203-002	It is well known that all the electric consumer will get out of the wind farm is an increased electric bill as ocean wind energy is only effective one third of the time.	Thank you for your comment.
13203-003	The wind developers talk about job creation but yet forget to tell Americans that the factories, crews and ships are all foreign and all Americans will get out of this is higher bills.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13204-001	LFF strongly supports Alternative G, No Action, at this time, in the Supplement to the Draft Environmental Impact Statement (SEIS) and requests the Bureau of Energy Management (BOEM) to immediately implement a 5 year moratorium on the development of offshore wind energy projects because the process of developing wind energy in the Exclusive Economic Zone (EEZ) has been fraught with improper planning, mismanagement, and total disregard for current stakeholders whose livelihoods and fishing communities depend on their continued safe operations in areas that BOEM has misguidedly leased to wind energy companies for development. Alternative G, No Action is supported by the	Thank you for your comment.

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	recognition in the SEIS that there will be major negative impacts on commercial fisheries and scientific surveys and research due to the cumulative impacts in the foreseeable future from the development of 17 commercial and 1 research identified wind energy lease areas from ME through NC covering 1.7 million acres.	
13204-002	Coexistence has to be part of the leasing conditions. There are ways to build wind farms without eliminating fishing access to those areas, but that can only happen when the developers work closely with the fishing industry. Coexistence will require more work but will yield better outcomes.	Thank you for your comment.
13204-003	The surfclam industry has repeatedly advised BOEM that the following minimum specifications must be followed by wind energy companies when constructing wind energy fields: 1. Vertical structures within the array must be spaced a minimum of 12,000 feet (approximately 2 nautical miles) apart. 2. All vertical structures must be placed in straight rows in both directions. 3. The rows of vertical structures must be pointed into the tide or any other prevailing current along the long axis of the array. 4. Submerged cables must be a minimum of 2 meters below grade and the cables must be run to the bottom of all turbines. 5. Transit zones through wind farms, if necessary, should be 4 nautical miles wide to allow for the safe passage of many vessels in transit through highly used portions of the EEZ.	The FEIS addresses this comment in Section 3.10.1.1 and 3.11.2. The Final MARIPARS study report (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study report (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Section 3.10.1 and 3.11.2 of the FEIS addresses this comment. According to the AIS data, trawling vessels required 180-degree turning diameters between 0.16 nautical mile and 0.86 nautical mile in good weather and sea conditions (larger diameters would be required in poor weather and sea conditions, and to account for trawling equipment) (COP Volume III, Appendix III-I; Epsilon 2020b). These diameters were found to be possible within the Vineyard Wind turbine layout, where vessels could turn either within a row of WTGs or from one row to another (COP Volume III, Appendix III-I, Epsilon 2020a). The offshore export cables would have a target burial depth of 5-8 feet (1.5 - 2.5 meters). A 4 nautical-mile wide transit lane, Alternative F, is analyzed in the EIS (Section 3.11.5 for Navigation and Vessel Traffic).
13204-004	If Vineyard Wind has seen fit to ignore the needs of the surfclam industry, it has also failed to recognize the major impacts that will be experienced by scientific and research surveys necessary for the sustainable harvest of surfclams and every other species monitored by the Northeast Fisheries Science Center (NEFSC) managed through the Greater Atlantic Fisheries Regional Office (GARFO).	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential impacts on radar. The Final MARIPARS study report (USCG 2020) states that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study report (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report (USCG 2020). Further, the analysis of AIS data in Section 3.11.1 indicates that many vessels already transit north of the WDA. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly

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		trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. As discussed in Section 3.10.2, Vineyard Wind’s proposal includes establishment of a voluntary financial compensation program for documented loss of income due to inability of fishing vessels to access previously fished locations within the WDA and temporary loss of use during cable maintenance. Direct impacts or losses for which claims may be filed include, but are not necessarily limited to, lost or damaged gear associated with fishing within the Project area and lost revenues related to the Project’s interference with fishing activities (if any). Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. The level of impacts was determined to be major. Therefore, no change to the FEIS is warranted.
13204-005	If vertical structures are sited at only 1 nautical mile apart and contain no acceptable transit zones, the surfclam industry will be faced with a series of exclusion zones all along the Atlantic coast from NC to ME.	The FEIS discusses navigational safety in Sections 3.11.1, 3.11.2, 3.11.4, and 3.11.5. Section 3.11 of the SEIS and Section 3.10 of the FEIS acknowledges that some fisheries would require greater than 1 nautical miles between vertical structures.
13204-006	The lease areas were not selected and auctioned to the potential wind energy developers with the consideration of where commercial fisheries operate and the wind energy companies secured purchase power agreements with the states before engaging with the commercial fisheries which has all resulted in COPs that make commercial fishing in wind energy arrays unsafe and/or prohibitive.	This comment does not concern the adequacy of the FEIS; therefore, no changes to the document are needed. Chapter 1 of the FEIS provides a description of the background that BOEM has undergone for the lease areas. The potential effects of commercial wind lease issuance and site assessment activities offshore Rhode Island and Massachusetts were initially evaluated and presented in an Environmental Assessment in 2013. A link to that document can be found here: https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/State_Activities/BOEM%20RI_MA_Revised%20EA_22May2013.pdf That process included public input, and took into account commercial fisheries concerns as well as other factors and use conflict concerns as specified in Section 1.5 of that document. Since that time, BOEM has continued to engage with the commercial fishing industry as well as other interested stakeholders throughout the NEPA process.
13204-007	Any state's commercial fishing industry is a water dependent entity, either within a State's waters or in the EEZ and, by rights, should take precedence over proposed construction projects, especially if non water dependent in the	The comment does not concern the adequacy of this EIS and, thus, no changes to the document are needed. Both the State of Rhode Island and the Commonwealth of Massachusetts have concurred that the proposed activities

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	EEZ that are likely to impact their continued safe operations. The development of wind farms in the EEZ are not water dependent activities and, as per the priorities of a State's CZM Rules and Program, must accommodate the water dependent activity, in this case, commercial fishing, by minimizing and/or eliminating impacts.	are consistent to the maximum extent practicable with the enforceable policies of the state's coastal management plans. Appendix C, Section C.1.2.1 of the FEIS provides additional information on the Coastal Zone Management Act.
13204-008	A major failing of the wind energy companies has been the inability to display the grid of buried transmission cables that unite the wind turbines within an array. The wind energy companies have only, thus far, displayed options for the transmission of electricity from the turbine grid through substations to the shore. Surfclam vessels using mobile bottom tending hydraulic dredges are particularly susceptible to possible interactions with cables that are not buried deep enough or become exposed following initial installation. The interaction between a bottom tending dredge and a live electric transmission line is a serious threat to the surfclam vessel and this threat goes way beyond the possible loss of a valuable dredge due to entanglement with an underwater cable.	Sections 3.10.2 and 3.10.8 of the FEIS have been updated to discuss potential mitigation measures, long-term monitoring of cable burial and cable protection to help avoid conflicts with bottom-directed fishing gear.
13204-009	...at a BOEM outreach meeting on wind energy, BOEM stated that the contractors for wind farms must post sufficient bond to cover the costs of removals of wind farms after they become obsolete or the lease agreement ends for some other reason. BOEM was unable, however, to document who would be the owner of the electric power grid, the underground cables that transmit the generated electricity. The owner of the transmission lines must have similar financial demands for the removal of these submerged cables.	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.
13204-010	These submerged cables will not only pose a potential risk to the surfclam industry's bottom tending mobile hydraulic dredges while the wind farm is active, but equally important is the fact that in any decommissioning of a wind farm, there must be money obligated to the removal of all submerged cables. It is equally important that all submerged cables also be removed immediately following the decommissioning of any wind farm array.	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.
13204-011	The cumulative impacts of a string of approximately 2,000 turbines, scattered throughout the series of wind farm arrays from ME to NC, in the foreseeable future will cripple the ability of the NEFSC to continue decades long fishery independent surveys that, by design, must have sampling stations chosen randomly in pre-determined sampling strata that share common	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes

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	environmental attributes. This inability to collect samples within wind farm arrays will leave data gaps in long term data bases that cannot be simulated....This is a major consequence for the entire domestic commercial fishing industry which is touted as the world's best managed program under the Magnuson Fishery Conservation and Management Act.	to surveys. The level of impacts was determined to be major. Therefore, no change to the FEIS is warranted.
13204-012	What happens to the multitude of organisms in the Mid-Atlantic and New England waters and their associated habitats when over 2,000 pilings are driven into the sea floor and allowed to operate over a 20 year lease period?...That is an unfortunate but true assessment of what the cumulative impacts will be on the marine resources and their habitats in the next 20 years or so. The federal regional fishery management councils have put a premium on the essential fish habitat for every stage in an organism's life, from egg to adult, and have mapped essential fish habitat for every species managed in the EEZ. Before and after resource monitoring programs are a necessity when considering the development of any one of these wind farms and those data are lacking.	Section 3.3 of the FEIS has been revised to consider the impacts of the proposed Project in the context of environmental trends and planned actions. This is a single-project EIS, not a Programmatic EIS, and it complies with the requirements of NEPA. The COP includes before-and-after monitoring plans for benthic resources and fisheries.
13204-013	It has become readily apparent over the last three years, at least, to anyone associated with any commercial fishery in the EEZ where wind energy development is being planned that the entire process has not been SMART FROM THE START, as promised by BOEM many years ago....However, the leasing, bidding, and planned development of a series of lease areas extending from ME to NC are all moving forward in a disconcerted manner where lease areas have been inappropriately outlined and unrealistic power purchase agreements have been made for a leased area that have not taken into consideration major stakeholders whose livelihoods may very well be sacrificed as a result of poor planning and greed.	Chapter 1 of the FEIS provides a description of the background that BOEM has undergone for the lease areas. The potential effects of commercial wind lease issuance and site assessment activities offshore Rhode Island and Massachusetts were initially evaluated and presented in an Environmental Assessment in 2013. A link to that document can be found here: https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Renewable_Energy_Program/State_Activities/BOEM%20RI_MA_Revised%20EA_22May2013.pdf That process included public input, and took into account commercial fisheries concerns as well as other factors and use conflict concerns as specified in Section 1.5 of that document. Since that time, BOEM has continued to engage with the commercial fishing industry as well as other interested stakeholders throughout the NEPA process for the proposed Project.
13205-001	Therefore, we are left with no options but to strongly demand that the permitting process be stopped until either the developers layout the wind farms to allow large fishing and clam vessels to operate efficiently and safely with enough space between the turbines.	Thank you for your comment.
13205-002	In addition, to provide adequate turbine spacing that allows the National Marine Fisheries Service's research vessels to conduct finfish, scallop, and clam surveys within the leases areas. The clam survey had been ongoing since mid-1960s and will not be possible if the current turbine spacing is the	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to

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	final layout. If the developers will not make concessions then they need to compensate these vessel and ITQ owners for the clams that they have exclusive rights to harvest and that they will not be available for them to harvest.	assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted.
13205-003	The clam industry would like to point out the obvious, if Vineyard Wind is allowed to proceed with construction of their wind farm as currently proposed, that will set a precedent that will undermine every fishery in New England and the Mid Atlantic. The long-term effect is going to have, as BOEM put it, a MAJOR negative impact on the U.S. fishing industry and is a violation of the idea that the U.S. needs food security.	Thank you for your comment.
13205-004	With the proposed 1 X 1 nautical mile separation of the turbines in both direction, there will be no large fishing vessels operation within the lease areas. That is a violation of the entire Magnuson /Steven Fisheries Conservation and Management Act, (MSFCMA) ... These leases would in fact create de facto Marine Protected Areas (MPAs} which legally undermines the fishery management council's responsibility under the MSFCMA principle of sustainable food production by protecting the fish population, fishers, and the marine habitat and providing food and recreation.	Section 3.11 of the SEIS and Section 3.10 of the FEIS acknowledges that some fisheries would require greater than 1 nautical miles between vertical structures and that offshore wind development could indirectly influence regulated fishing effort by influencing the management measures chosen to support fisheries management goals, which may alter the nature, distribution, and intensity of fishery-related impacts on finfish, invertebrates and EFH (Table 3.11-1 pg. B-20 of SEIS). Therefore, no change to the FEIS is warranted.
13205-005	A complete disregard by the developers is managed under Individual Transferable Quotas (ITQ} . ITQs are a fishery management tool that gives the ITQ owners the exclusive rights to the clam biomass. However, if the clams are in an area that has become controlled by some other entity other than the regional councils then the clam fishery cannot fish there for non-fishery management reasons, the restricting party must be responsible for the harm that they causes. Clam ITQs are a valuable commodity.	Section 3.10 and Appendix D of the FEIS discuss the details of the voluntary revenue compensation funds. Vineyard Wind has established voluntary gear loss and revenue compensation funds for fishing interests based in Rhode Island, Massachusetts, and other states, which includes owners and operators of vessels, vessel crews, shoreside processors, vessel supplier and support services, and other entities that can demonstrate losses directly related to the Vineyard Wind 1 Project.
13205-006	The surfclam and ocean quahog fishery represented by this office strongly demands that BOEM not Issue any additional permits to any of the wind developers until a fair and reasonable set of rules are put together by all ocean users and BOEM incorporates them into the final COP for every ocean wind project in the north east United States.	The comment does not concern the adequacy of this EIS and, thus, no changes to the document are needed.
13205-007	The developers say that one by one mile layout is safe to transit even when approaching another ship going in opposite direction or meeting in a crossing pattern. The fishing industry strongly disagrees. While some of the other fisheries wanted four NM transit lanes the clam industry suggested that the turbines be spaced in the same pattern but Two X Two NM apart.	The DEIS (Section 2.1.7), SEIS (Section D.1 of Appendix D) and FEIS (Section C.5 in Appendix C) include a discussion of alternatives considered but not analyzed in detail.
13205-008	...interference from the turbines on the ship's radar makes that tool almost useless when it is needed most. Therefore, all vessels that must steam many	Sections 3.11.1 and 3.11.2 of the FEIS include discussions of potential impacts on radar. The Final MARIPARS study report (USCG 2020) states

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	miles to navigate around this large wind array in time lost and extra fuel burned and under the worst circumstances... Steaming many extra hours cost them time that is only an extra expense and reduced fishing time that equates in less income. So steaming around the wind farms is more expensive and cause lost income, which is a double loss.	that vessel transit lanes that are 0.6 NM to 0.8 NM wide are wide enough to allow vessels the ability to maneuver in accordance with the [International Regulations for Preventing Collisions at Sea 1972 (COLREGS)] while transiting through the MA/RI WEA. Additionally, the Final MARIPARS study report (USCG 2020) states that east-west vessel corridors are wide enough to facilitate the traditional fishing activity in the MA/RI WEA. Additional rationale is provided in the Final MARIPARS study report (USCG 2020). Further, the analysis of AIS data in Section 3.11.1 indicates that many vessels already transit north of the WDA. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. Finally, as discussed in Section 3.10.2, mitigation includes Vineyard Wind's proposal to establish a voluntary financial compensation program for documented loss of income due to inability of fishing vessels to access previously fished locations within the WDA and temporary loss of use during cable maintenance. Direct impacts or losses for which claims may be filed include, but are not necessarily limited to, lost or damaged gear associated with fishing within the Project area and lost revenues related to the Project's interference with fishing activities (if any).
13205-009	There is no known information what effect [the 1 x 1 NM array] will have on the climate, fisheries, oceanography, Essential Fish Habitats, or marine protect species. However, we know that if they are developed as design it will cause substantial damage to the fishing industry for loss of fishing ground especially for those that fish for shellfish that do not move.	Section 3.4 of the SEIS discusses impacts from the 1 x 1 nautical mile design on finfish, invertebrates, and EFH. Section 3.5 of the SEIS discusses impacts from the 1 x 1 nautical mile design on marine mammals. Section 3.11 of the SEIS discusses impacts from the 1 x 1 nautical mile design on commercial and for-hire fisheries. Therefore, no change to the FEIS is warranted.
13205-010	There are many [federal fisheries] sample stations within the lease area for fisheries and protected species but because of the turbine, spacing the NOAA research vessels will not be able to do their surveys in the areas leave big holes in the data that has been collected for years on most of the species that are found in the area. Because fisheries is managed under a precautionary approach, if data is not validated on a regular basis then it must be assumed the species is not there, which reduces the biomass estimate which then reduces in fin fish or shellfish quotas. This is a very serious and expensive problem for the fishing industry.	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail and discussed the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted.
13205-011	...the U.S. has neither the equipment nor the skilled workers to build the turbines or install them. While the U.S. could build and install them, it would require a design of all the components parts for the turbines, cables, at sea substations and construction ships. The supply chain here in the U.S. does not exist and there is a great risk in building the construction ship because the	Section 3.6.1.1 of the FEIS references several studies that provide projections of economic investment from offshore wind. The numbers of estimated jobs shown in the FEIS are only domestic jobs, and for the Vineyard Wind 1 Project are specifically jobs in Massachusetts. Referenced studies incorporate varying projections of foreign versus domestic economic activity, depending

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	developers want to install the largest turbines possible but it is very expensive to build a ship that can construct a 12 MW turbine and then use it to build an 8 MW array...The point is that most of the turbines that are going to be installed here will come from Europe for at least years while U.S. yards gear up to build the components. The blades must also be made in a factory on the water because they cannot be shipped over land at about 320+ feet in length. Moreover, the shaft bearing is very complex and is about 12 feet in diameter. So at this time all of these turbine parts must be made elsewhere.	upon the anticipated growth of the domestic offshore wind supply chain, and the FEIS consistently uses the base or lower projections of domestic economic activity in arriving at conclusions. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
13205-012	There is a lot of hype about wind farms having a near zero carbon footprint. That is not the case...Most of [a turbine's] components are made of steel except for the blades and the cables. All of those components require energy generated from mostly fossil fuels to make the steel and then installing the turbines, substations and cables. Decommissioning the wind farms requires... will require large amount of energy to transport then melting down the steel and finding a place to bury the cables ..and the blades, which will also last for hundreds if not thousands of years. In the case of the blades, there is no materials that can be recycled. .. Therefore, they would put them in a landfill or dump them in the deep ocean. Alternatively, leave them on the bottom in the lease area. The developers intend to cut the tower off just below the bottom. They may attempt to leave the tower foundation and the cables where they are if they can get away with it. The government does not have to go far to see outdated ocean structures owners attempt not to removal old oilrigs in the Gulf of Mexico.	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS. All foundations would need to be removed 15 feet (4.6 meters) below the mudline (30 CFR § 585.910(a)). The direct effects of manufacturing components of the proposed Project are outside the scope of this FEIS.
13205-013	Wind Turbines operate at about 35 percent efficiency so an 800 MW array produces about 300 MW per year and in no order of when the wind is going to blow. The result is that conventional power plants must be on line, all of the time, to carry the power load for the other two thirds of the time when the wind stops blowing. The conventional power plants using natural gas, coal, or nuclear fuel to carry the load most of the time. Therefore, the questions is, if you build these wind arrays, have you reduced the carbon footprint? The answer is there is a very small amount of carbon reduction. Nuclear power plants are much more reliable and cleaner with a low carbon overall footprint while providing power to the customer 100 percent of the time.	Please note that the capacity of an energy facility (MW) is not necessarily the same as the energy generated at any given time (MWh). A discussion of power plants, generation, and capacity can be found here: https://www.eia.gov/energyexplained/electricity/electricity-in-the-us-generation-capacity-and-sales.php In addition, a detailed analysis regarding the comparison of energy efficiency of the proposed Project to alternate sources is outside of the scope of this NEPA analysis. BOEM's NEPA process for the proposed Project evaluates the potential effects of an 800 MW facility as presented in the COP as well as a range of reasonable alternatives.
13205-014	Is the federal government going to allow the clam fishermen that invested millions to purchasing clam ITQs [Individual Transferrable Quotas] to have them taken away by European companies free? The developers have two options, install much larger turbines spread out to two X two NM or pay the ITQ holders for the loss of their valuable assets.	Section 3.11 of the SEIS acknowledges that some fisheries would require greater than 1 nautical miles between vertical structures. It also discusses the potential revenue exposure for the surfclam/ocean quahog fishery and voluntary compensation agreements (Appendix D). Therefore, no change to the FEIS is warranted.

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13214-001	As the owner of the port, we foresee an addition of up to 50 positions being created to specifically support the OSW industry. Delays in the Vineyard Wind 1 project will delay these additional positions and slow the progress of the upcoming projects as well. This may also force the developers to look overseas for components to meet their strict timelines.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13214-002	Prior to the delay of Vineyard Wind 1, major international manufacturers and suppliers were moving operations to the United States and existing US suppliers were working to meet the unique needs of the offshore wind industry...Further delay or no action may dampen these efforts and limit local economic investment.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13214-003	If the Department of Interior gets behind this industry now, the potential for additional jobs and economic investment multiplies exponentially, with the potential for hundreds of thousands of jobs throughout the nation from shipbuilders to turbine and cable manufacturing to companies like mine in the Ports and Transportation logistics fields.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13215-001	On behalf of the town of Somerset, as the Board of Selectmen we collectively write to you regarding our strong support of Vineyard Wind's proposed 800-megawatt (MW) wind farm... We also extend our full support to the emerging offshore wind industry in our region...Currently, the former Brayton Point coal-fired power station is being redeveloped into a world class logistical port and support center for offshore wind. This redevelopment, along with port upgrades, will revitalize these areas, create new business opportunities, and result in hundreds of new jobs.	Section 3.6.1.1 of the FEIS was updated to include recent information on the redevelopment of Brayton Point as one demonstration of economic activity within the geographic analysis area that has begun in preparation for the anticipated offshore wind industry.
13215-002	Advancement of Vineyard Wind will generate at least 3,600 jobs for local residents, and reduce costs for ratepayers by \$1.4 billion according to the Massachusetts Department of Energy Resources.	Section 3.6.1.1 of the FEIS has been updated to provide more explanation of the job projections provided by Vineyard Wind, which are based on the University of Massachusetts at Dartmouth economic analysis for the COP. The total projected jobs in Massachusetts range from 3,100 FTE job years (base scenario) to 3,600 FTE job years (high scenario). The FEIS analysis relies on the more conservative base scenario (3,100 FTE jobs years). Estimated direct job creation by Vineyard Wind in Massachusetts would include 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
13215-003	In a recent report from the American Wind Energy (AWEA), the offshore wind industry will employ more than 80,000 people from North Carolina to Maine, and lead to \$25 billion in economic output by 2030.	Section 3.6.1.1 of the FEIS has been updated to provide additional detail and analysis related to the AWEA report. The FEIS cites the AWEA high scenario estimate of 82,500 FTE jobs supported by offshore wind (direct, indirect and induced) in 2030, as well as the \$25 billion in economic output, based on a projected 30 GW of east coast offshore wind development by 2030. Although the FEIS cites both the low and high scenario projections, the

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		FEIS analysis and impact findings rely on the AWEA lower scenario (20 GW of offshore wind by 2030). The lower AWEA projections are used because these are much closer to BOEM's estimates, explained in SEIS Appendix A, Section A-4, of reasonably foreseeable offshore wind projects, which would result in 22 GW by 2030.
13215-004	Just as important as the economics is the positive impact renewable energy will have on our environment and our efforts to reduce the devastating impacts of climate change. Vineyard Wind 1 will make a significant effort to tackle climate change by avoiding the emission of almost 1.7 million tons of carbon dioxide per year, the equivalent of removing 325,000 cars off the road. These benefits can be multiplied by each new project that is constructed in the near future.	Thank you for your comment.
13215-005	The fishing industry has proposed additional transit lanes of at least 4 nautical miles reflective in Alternative F in the SDEIS, a move that would constrain clean energy production, but not improve navigation. The selection of Alternative F would set a precedent for including all four nautical mile transit lanes that would result in the reduction of approximately 3,000 MW. This would threaten the viability of offshore wind in the region and their ability to address climate change with real meaning.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13218-001	It is very well known that ocean wind energy is only effective one third of the time. All energy consumers will see are increased electric costs.	Thank you for your comment.
13218-002	Job creation is mentioned by the wind developers, yet they fail to tell Americans that the jobs will be filled by European crews on European ships, using turbines and cables made in factories in Europe and China. Americans will only see increased energy costs.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13219-001	It would not only harm our domestic fishing industry but our food supply as well. This negative impact has not been addressed with the fishing community; there are no plans for compensation or consideration for the harm which will be caused.	Section 3.6.2 of the FEIS notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
13219-002	it is well known that energy from ocean wind farms is only effective about 1/3 of the time.	Thank you for your comment.

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13219-003	The wind farm developers claim US jobs will be created, but how can they be when the equipment will be made overseas and the crews and ships will be European.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13220-001	The Department of Interior's decision to delay Vineyard Wind's final permits last year reverberated through the entire industry and had a chilling effect on the industry's investment capabilities. The SEIS does not factor this into its cumulative analysis...companies need regulatory and market certainty in order to justify investment in new markets and [a delay] would be sending a signal that [the US] is not yet ready to get serious about offshore wind.	Chapter 1 of the FEIS has been updated to specify that approval of the first commercial-scale offshore wind facility in the US could lead to increased developer confidence and a mature supply stream, which would translate to additional economic and employment opportunities in the region.
13220-002	by requiring additional transit lanes through projects and reducing capacity to develop lease areas to their full extent, BOEM is effectively reducing the industry's opportunities for investment, which will translate to lost economic benefits and jobs for the US overall.	Chapter 1 of the FEIS has been updated to specify that approval of the first commercial-scale offshore wind facility in the US could lead to increased developer confidence and a mature supply stream, which would translate to additional economic and employment opportunities in the region. Additionally, Section 2.5 of the FEIS provides a description of BOEM's preferred alternative. The SEIS as well as Section 2.1.5 of the FEIS describes the technical and practical challenges that could result if Alternative F were implemented. Section 3.7 of the SEIS and Section 3.6 of the FEIS discusses potential impacts on economics and employment.
13221-001	It would knowingly hurt the U.S. fishing industry and there has been no consideration or compensation discussed for them.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13221-002	Ocean Wind Energy is known to not be very effective, in fact, it is only effective one third of the time.	Thank you for your comment.

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13221-003	the wind farm developers claim jobs will be created, but how can they be created here when the turbines, cables and other materials are made in foreign factories and the installation and maintenance crews are from Europe with European ships.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13222-001	What consideration has been made for the fishing industry, who will see significant job loss and lower food supply. How will they be compensated?	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries and Section 3.7 discusses impacts on employment and economic activity in the commercial fishing industry. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13222-002	it is well known that ocean wind energy is only effective about one third of the time.	Thank you for your comment.
13222-003	Consumer's electric bills have gone up in cost, not decreased as the developers claim.	Ratepayer costs depend on numerous variables beyond the scope of the EIS.
13222-004	Another claim is about increased US jobs, yet the wind developers are European, use European and Chinese cables and turbines and European ships and crews. It sounds like the developers get the work and all we are stuck with is the bills.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13224-001	This letter is in response to the US Government's consideration to allow a wind farm like Vineyard Wind to be built, knowing full well the harm it will	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and

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	cause to our country's fishing industry without compensation or consideration for those affected.	Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13224-002	The wind developers talk about job creation, but the job creation will not be for Americans. The wind developers are European companies using their own crews and ships. The turbines and cables are made in factories in Europe and China, not the United States.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13224-003	Since we know that ocean wind energy is only effective 1/3 of the time, all Americans will see is increased costs.	Thank you for your comment.
13225-001	It is surprising to learn that the US Government is considering to allow yet another off shore wind farm like Vineyard Wind to be built, knowing full well the harm it would cause to our fishing industry with no plans for compensation or consideration.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Table 3.10-3 shows a cumulative assessment of projected revenue exposure from all potential offshore wind lease areas if a harvester opts to no longer fish in the area and cannot recapture that income in a different location. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13225-002	It is well known that ocean wind energy is only effective one third of the time and all electric consumers get is an increased bill.	Thank you for your comment.

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13225-003	The developers talk about job creation, but do not mention that they are European companies hiring foreign crews, buying foreign made materials. All we get is the bill.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13225-004	Please do not issue the permits needed to build the wind farms.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13226-001	I am surprised the US Government is considering to allow a wind farm like Vineyard Wind to be built knowing the negative impact it will have on our country's fishing industry without compensation or consideration for the harm.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13226-002	The wind developers know, and we know that wind farm energy is only effective one third of the time, yet Americans are supposed to pay the bills for foreign companies to build these farms.	Thank you for your comment.
13226-003	All we will see is increased electric costs while European factories make the materials and European crews build the farms. Please, do not issue the permits.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.

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13227-001	I am surprised that the US Government would consider allowing a wind farm like Vineyard Wind to be built, not offering consideration or compensation to the county's fishing industry while knowing the negative impact it will have.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13227-002	It is also well known that the electric consumer will get an increased electric bill as ocean wind energy is only effective one third of the time.	Thank you for your comment.
13227-003	The wind developers forget to tell Americans that even though they talk about job creation, the factories are in Europe and China, the crews and ships are all European and all Americans will get out of this is higher bills.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside the geographic analysis area for economics and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13231-001	This letter is in response to my surprise to learn that the US Government is considering to allow an off shore Wind Farm like Vineyard Wind to be built, knowing the negative impact it would have to our country's fishing industry with no compensation or consideration.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses the impacts from offshore wind development on commercial and for-hire fisheries. Section 3.10 and Appendix D of the FEIS also discusses voluntary compensation funds related to the proposed Project and the methods used to set the value of the voluntary compensation funds. Furthermore, the FEIS includes a different methodology submitted by RIDEM (3.10-3a) to provide a greater range in the impact assessment. The data used in the FEIS are the best data available to estimate revenue exposure in wind lease areas. Additionally, the FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments.
13231-002	Ocean wind energy is only effective one third of the time and all consumers get is an increased electric bill.	Thank you for your comment.
13231-003	the developers talk about job creation, but do not mention that they are European companies using foreign factories and European crews and ships. All America gets is the bill.	Section 3.6.2 of the FEIS provides estimated job creation by the Vineyard Wind 1 Project for Massachusetts jobs only. While the Vineyard Wind 1 Project could contribute to jobs in other locations, those locations are outside

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		the geographic analysis area for economics, and thus are not considered. For Atlantic coast offshore wind development, Section 3.6.1.1 of the FEIS has been updated with data from several studies that provide projections of U.S. versus foreign economic activity, depending upon the growth of the domestic offshore wind supply chain. The FEIS relies upon the projections of jobs and investment within the United States only to determine likely impacts within the geographic analysis area.
13234-001	This domestic supply chain means good paying jobs, investment in hard hit coastal communities and a brand-new economy that promises long term environmental solutions for future generations to come. In short we feel that time is of the essence and offshore wind has the potential to drive economic recovery, stimulate coastal and inland economies, and position the US as a leader in support of renewable energy while creating energy independence.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13234-002	By the Bureau of Ocean Energy Management (BOEM) adopting Alternative D2 BOEM's will move this industry forward reflecting the care your agency has taken to ensure this industry can be a success for all. Now is the time to send a clear message that the US is committed to the Offshore Wind Renewable Energy market.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13235-001	The SEIS for Vineyard Wind's project (VW) has no tabulation nor recognition of health impacts of the project, which are substantial. Improved air quality is referred to in Table A-7, page A-50 under "power generation emissions reduction" but health is never mentioned and absolutely no use is made of the published, peer-reviewed analysis of these health impacts. Throughout the entire SEIS, the words "death" and "mortality" occur hundreds of times, every one in reference to sea creatures not to humans.	Additional health benefits of the proposed Project have been added to Section A.8.1 of the FEIS.
13235-002	Similarly, the Trump Administration's new NEPA regulations make equally clear that "effects" of actions to be evaluated under NEPA must include beneficial effects.	Thank you for your comment.
13235-003	Two peer-reviewed publications give quantitative measures of the health impacts of building offshore wind and the resulting reduction in fossil criteria pollutants due to the displaced power. This is a complex problem as a full treatment requires understanding the time of wind power production, the criteria for dispatching or turning down existing plants, the air dispersal from those plants, and the health impact of those changes in pollution. Of the two studies cited, Kempton et al 2005 estimates for two power plants in Southern Massachusetts, and Buonocore et al 2016 calculates more precisely for an offshore wind plant in Northern New Jersey. Since the 2016 study is more detailed, mortality is calculated here from that study. Both mortality and health impact in dollars are scaled by project size in MW to develop health	Additional health benefits of the proposed Project have been added to Section A.8.1 of the FEIS.

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	cost and premature deaths averted. Health costs are calculated in \$ based on standard epidemiology measures (Buonocore et al). (Although the Buonocore article shows that health benefits do not scale precisely by project size, and vary with power region, these epidemiological studies are scientifically valid and well documented, so such studies should be cited and used to judge impact for the SEIS.)	
13235-004	In sum, the Proposed Project over its 30 year lifetime, compared to No Action, will reduce health impacts of power plant pollution by \$1.8 billion, and will prevent 255 premature deaths from pollution. These figures are consistent with other epidemiological studies which have documented the cost of power plant pollution, and the corresponding value of displacing that with low-emission electricity sources. This is not correctly summarized in the SEIS.	Additional health benefits of the proposed Project have been added to Section A.8.1 of the FEIS.
13235-005	In table ES-1, row “Air quality: Direct and Indirect Impacts” Proposed action is given as “negligible to minor and minor beneficial”. I know of no logic nor moral system that would call saving 255 lives and reducing health impact by \$1.8 billion to be “negligible” nor “minor beneficial”. Similarly, the row “Air quality: Cumulative impacts” gives the impact as “minor”, a perplexing way to describe a \$51 Billion health benefit, reducing mortality by 7,000 lives. These descriptions should be replaced with “Major beneficial” in both cases.	Section A.8.1 of the FEIS has been revised to change the impact rating that was presented in the SEIS. The FEIS now has a moderate beneficial impact rating based on BOEM's revised assessment and the impact definitions outlined in the introduction section of Chapter 3 of the FEIS. BOEM understands that, individually, impacts could be different for the people who experience the adverse or beneficial impacts of the proposed Project.
13235-006	The most immediate environmental justice issues flow from the health benefits. Based on peer reviewed studies, black and hispanic populations in Massachusetts are exposed to significantly more air pollution from power plants (Levy et al). Also, nationally, blacks suffer significantly higher mortality from power plant emissions (Madinder et al 2019). Both studies show that race is a stronger predictor of exposure and health impact than is income, again confirming that this is an Environmental Justice issue. Therefore, large reductions in power plant emissions, and large reductions in mortality and health impact, as documented in the prior section, have a corresponding Environmental Justice benefit.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13235-007	The SEIC, page ES-2, row “Environmental Justice: Direct and Indirect impacts” now gives impact as “Negligible to minor, depending on the specific community affected, and beneficial” Based on the employment activity alone, this may be a reasonable impact description. However, the existing SEIS does not consider health. Per 40 CFR §1508.8, health has to be included in impacts, as argued above. The Proposed Action would save 64 minority lives, and reduce health impact by \$4.6M. The cumulative impact would save 1,800 minority lives and reduce health impact on minority communities by \$12 billion. It is difficult to see how this would not be	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).

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	described as a “Major Beneficial” impact on Environmental Justice, both for the project and the cumulative industry.	
13235-008	The SEIA treats the developer’s lease areas (including but not limited to VW’s entire lease area) as “free” space or in other words, as unlimited. Thus the SEIA treats the impact of the first VW project taking more space as having effects on wire etc but not as using up the available space for subsequent wind projects. I believe that the amount of space is, in fact, limited. For example, assuming fixed bottom structures, we would run out of ocean space before meeting the applicable load on the Eastern Interconnect. Therefore, the correct analysis is to consider reductions in area to be reducing the amount of wind power eventually developed. Therefore area reductions will have the negative impact of reduced health benefit, proportionately to the amount of power production precluded.	BOEM's analysis assumes a certain amount of energy production from each lease area using the assumptions specified in Chapter 1 of the SEIS and FEIS related to the number of turbines that could accommodate each area as well as the state demands/goals as described.
13235-009	The earlier change from the Proposed Action to alternative D-2 has been previously agreed to by the parties. I do not believe this change is consistent with an objective tabulation of the benefits and costs to all parties, including the developer, residents on land breathing air, fishermen, and other ocean users. I believe the Proposed Action would have represented a preferable alternative. However, since that has already been accepted by the parties, I here compare the benefits and costs of Alternative F with Alternative D-2, which now seems to be the question at hand. I only consider Alternative F with 2 nm spacing, as the very wide 4 nm spacing seems unlikely to be seriously considered. Because ocean space is not infinitely expandable, and because this is a cumulative environmental impact statement, removal of 16 turbines, for Alternative F at 2 nm, would reduce the benefit by 16/106 or 15%. Benefit reduction will occur either in this Proposed Project if the turbine count is reduced by 16, or more likely, a subsequent VW project will necessarily be smaller by 16 turbines. In either case, the reduction in benefit is the same, 15% reduction in benefit.	As noted in the SEIS, Alternative F would result in slightly higher emissions due to increased travel routes and distance for construction and maintenance vessels. Section A.8.1 of the FEIS has been updated to state that implementation of Alternative F would have diminished benefits in comparison to other action alternatives. The health and climate benefits associated with Alternative F would be less than Alternative A and result in diminished health and climate benefits and premature deaths avoided commensurate with the reduction in future offshore wind capacity.
13235-010	The cumulative impact of requiring transit lanes also has a direct impact in reducing the size of the initial project, and/or reducing the cumulative size of all projects, due to limited ocean space. Therefore Alternative F diminishes the goals of EO 13783 of March 28, 2017, “to promote the clean and safe development of domestic energy resources, including renewable energy”	Sections 2.2.2 and the discussion of Alternative F for multiple resource areas in the FEIS have been revised to note that Alternative F may reduce the capacity of offshore wind power generation in the RI and MA Lease Areas.
13235-011	Another type of impact of Alternative F is that it imposes a unexpected cost of business, reduces revenue, and/or increases uncertainty of disruptive changes during the EIS process. For this reason, it risks further investment in the industry, with very large costs.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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13236-001	Dramatically powerful Offshore wind is now being developed beyond the horizon line, off the SE MA coast and though Gloucester is 230 miles away from it, we are close enough to once again employ our unique seafaring skills	Section 3.6.2 of the FEIS addresses the existing workforce of marine workers as an experienced resource with relevant skills for offshore wind development. The SEIS also included this information.
13238-001	I have great fears about how this works and what benefit it will actually provide to us. I reviewed the SEIS and was surprised at the lack of involvement by the BOEM in overseeing the wind development, it is apparent with the leases that have been accepted so far.	Thank you for your comment.
13238-002	When the leased areas south of Martha's Vineyard are fully populated with wind turbines at one NM apart it will effectively shut down all vessels from the area. These vessels include federal research vessels, tugs and barges, mid-size and larger ships and most mid-size and larger fishing vessels from fishing. How is the BOEM validating the turbines to be so close together that vessels cannot get through the array and the government ships cannot do their jobs within the arrays?	Thank you for your comment.
13241-001	... the text is so small and dense as to be functionally illegible...for the public.	A large print version of the SEIS was posted to the BOEM website. BOEM has updated the FEIS to use single spacing for document layout to be more in line with the DEIS format.
13241-002	...key impact analyses are contained in appendices not in body of the SEIS itself, which means reader has to rifle through.....	BOEM has been granted a 300 page limit for the FEIS which assists with the culmination of multiple analyses into the FEIS. Even so, in order to comply with the page limits in the Department of the Interior's Secretarial Order 3355 and focus on the impacts of most concern, BOEM had to include tables, figures, and analysis of resources in appendices. The information located in the appendices is readily accessible and conveniently labeled for the review of all interested stakeholders.
13241-003	The SEIS also suffers from systemic analytical deficiencies. For example, the SEIS categorizes impacts as negligible, minor, moderate, and major, yet does not explain what those terms mean, how they were derived, or the legal authority on which they are based. Worse, the SEIS does not apply the criteria attached to these designations to the impacts of the project. In other words, the SEIS does not test any particular effect against the "major" impact criteria to determine if that effect qualifies for that designation. By failing to apply the evaluative criteria to each impact of the project, the SEIS impedes the public's effort to assess the seriousness of that impact.	The definitions for the impact ratings were included in the introduction text of Section 3.0 and presented in Tables 3-2 and 3-3 of Appendix B of the SEIS and have been carried forward to the FEIS.
13241-004	The document also fails in its stated purpose of analyzing the impacts of the Vineyard Wind Project in conjunction with the impacts of the other off-shore wind projects currently proposed for the coast of New England and elsewhere along the Atlantic seaboard. Regardless of the impact under review - be it damage to benthic fauna or disruption of marine mammal behavior - the	BOEM does not agree that with this comment as the SEIS included a detailed analysis of potential effects, including quantitative assessments when possible. Appendix H of the FEIS includes a discussion of incomplete and unavailable information for each resources.

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	SEIS does not provide the basic information necessary to qualify as a NEPA-compliant cumulative analysis.	
13241-005	For example, in its discussion of noise impacts on whales, the SEIS fails to describe quantitatively the existing underwater noise environment within the cumulative impact area near the proposed Vineyard Wind leasehold. Consequently, the reader has no idea whether the existing noise conditions are already disrupting whale behaviors and whether the addition of more than 600 wind turbines to the area might worsen the situation and damage the whales. Without a clear understanding of the ambient conditions, including ambient underwater noise, there is no way to assess the cumulative impacts of the project and the other off-shore windfarms currently being proposed adjacent to or near Vineyard Wind.	Appendix D of the FEIS provides and updated discussion of mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including the Use PAM buoys or autonomous PAM devices to record ambient noise in the lease area (before, during, and immediately (within 2 year of operation) after construction), record marine mammal vocalizations, and monitor Project noise including vessel noise, pile driving, and WTG operation. Results must be provided within 90 days of construction completion and again within 90 days of the 1-year and 2-year anniversary of commissioning.
13241-006	The SEIS makes virtually no effort to quantify the actual cumulative impacts of the project. At most, the SEIS makes the unremarkable and unhelpful conclusion that the other off-shore wind projects will have similar impacts to those of Vineyard Wind and that, together, these impacts will be greater than what any single project might generate. Such conclusions are obvious and largely beside the point. The issue to be analyzed and disclosed is whether those cumulative impacts, when subjected to a proper quantitative assessment, are intense enough to cause significant harm to the resource in question	BOEM does not agree that with this comment as the SEIS included a detailed analysis of potential effects, including quantitative assessments when possible. Appendix H of the FEIS includes a discussion of incomplete and unavailable information for each resources.
13241-007	Given that the number of wind turbines has more than tripled since the Draft EIS was prepared and released, the SEIS must make every effort to examine and explain the extent to which these wind arrays, when viewed from a cumulative impact perspective, will affect whales, fish, sea turtles, birds, and other resources.	The SEIS and FEIS fully address impacts from reasonably foreseeable offshore wind development to whales, fish, sea turtles, birds, and other resources.
13241-008	Another structural/system defect in the SEIS is that the document's impact determinations are often conclusory and not derived from any real analysis. Further, the SEIS rarely identifies any technical report or study in support of the conclusions drawn, leaving the reader to wonder how BOEM arrived at those conclusions and whether they are based on scientific evidence or mere conjecture.	The FEIS provides rationale and justification for the conclusions presented.
13241-009	The SEIS states that Table 3.3-1 contains a "detailed summary" of baseline benthic resource conditions within the Vineyard Wind cumulative impact area. (3-11.) Table 3.3-1, however, provides nothing of the sort. (Appendix B, p. B-12.) It merely lists the kind of benthic fauna typically found in sea floors along the Atlantic coast. It provides no information as to the numbers of each benthic species or to their relative abundance. Nor does the Table describe population trends among benthic fauna except to say that according	Section 3.2.1 of the FEIS has been revised to include new data sources on existing conditions of the benthic environment. However, a specific assessment of the impact on any particular species or stock is beyond the scope of this EIS and is not essential to a reasoned choice among alternatives.

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	to data collected between 1990 and 2010, benthic fauna along the Atlantic coast appear to be migrating northward in response to rising water temperature. (Ibid.) 1 Other than this brief and insufficient description of existing benthic conditions in the cumulative impact area, the SEIS provides no baseline information from which to determine the extent of the project's individual or cumulative impacts on benthic resources.	
13241-010	Next, the SEIS indicates that the wind turbine foundations will result in benthic mortality covering approximately 2,493 acres. According to the SEIS, however, "[t]he affected areas would likely be recolonized in the short term." No evidence is cited in support of this conclusion. Further, the SEIS does not examine the extent to which impacts on benthic resources will affect marine animals further up the trophic ladder.	Sections 3.2.1 and 3.2.2 of the FEIS have been revised to discuss the timing and dynamics of the recolonization of affected areas. Sections 3.3 and 3.4 of the SEIS discussed impacts on food webs and local ecosystems.
13241-011	With regard to cumulative impacts on benthic fauna, the SEIS states that "[t]he cumulative impacts of the Proposed Action when combined with past, present, and reasonably foreseeable activities would be of similar types as described in Sections 3.3.1.1 and 3.3.1.2, but may differ in intensity and extent." (3-16, emphasis added.) The highlighted text shows that BOEM does not understand what a cumulative analysis is supposed to include. It is not enough to identify the types of impacts that might occur; nor is it enough to say that the project will contribute to the cumulative effects on a given resource. Instead, a proper cumulative analysis must examine the "intensity" and "extent" of those impacts - the very thing the SEIS fails to do.	Section 3.3.2 of the SEIS discussed the intensity and extent of impacts when they differed from those discussed in Section 3.3.1. Therefore, no change to the FEIS is warranted.
13241-012	Finally, Figure A.7-3, entitled "Benthic Geographic Analysis Area", uses a purple line to mark the area evaluated for impacts to benthic resources. This area, however, fails to include most of the wind-farm leaseholds to the west, south, and east of the Vineyard Wind project. By using such a truncated study area, the SEIS underreports the cumulative impacts on benthic resources, resulting in a violation of NEPA.	The geographic analysis area for benthic resources is based on the locations that could be affected by the Proposed Action. Therefore, no change to the FEIS is warranted.
13241-013	In its discussion of cumulative noise impacts on fin fish, the SEIS indicates that "the risk of injury or mortality is expected to occur over approximately 12,102 acres." (3-22.) The SEIS, however, does not state whether this is considered a minor, moderate, or major impact. The SEIS then indicates that noise from project-related pile driving could disrupt spawning activity, resulting in reduced reproductive success among certain fish species. (Ibid.) Again, however, these statements are very general and do not disclose whether the impacts identified are minor, moderate, or major.	Section 3.4 of the SEIS addressed the intensity and extent of noise impacts likely to result from noise from the Proposed Action and other planned actions; these impacts are described in more detail than by distance or area alone. The SEIS and FEIS use summary terms for impact levels, as defined in Table 3.1-1 of the DEIS, only for impacts of the Proposed Action and other planned actions, not for the No Action Alternative. Therefore, no change to the FEIS is warranted.
13241-014	the SEIS does not explain what constitutes a negligible, minor, moderate, or major noise impact on fin fish, so those words are meaningless. Second, even if the SEIS did include some definition of these terms or provided the criteria	The SEIS defined impact levels in Table 3-1 in Appendix A, which is also included in the FEIS. Therefore, no change to the FEIS is warranted.

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	that would trigger any of those definitions, there is no evidence that the SEIS applied them in this case. That is, there is no indication that any evaluative criteria were applied with respect to noise impacts on fish; so, there is no way to test whether the EIR's conclusions are valid or arbitrary. Ultimately, the reader is left to wonder whether the project's cumulative noise effects on fin fish are serious enough to warrant mitigation or alternatives to the wind arrays currently being proposed.	
13241-015	The SEIS also acknowledges that the wind turbine structures, including their foundations, will alter sea currents and obstruct the movement of some migratory species, such as summer flounder, monkfish, and lobster. (3-23-3-24.) Nevertheless, the SEIS concludes that the project's contribution to these impacts are negligible to moderate, and even indicates that the wind turbines could have a "moderate beneficial" effect on fish. Again, however, the SEIS fails to articulate the criteria which establish whether an impact is deemed negligible or moderate or major; nor does the SEIS attempt to apply any such criteria to the impact in question. Instead, the SEIS provides only conclusory statements void of support or analysis.	The SEIS defined impact levels in Table 3-1 in Appendix A, which is also included in the FEIS. Therefore, no change to the FEIS is warranted.
13241-016	The SEIS provides little information on the current status of the NARW. It does not discuss population trends, current whale numbers, or the most recent data on threats to the species. Nor does it identify the migration routes that NARW typically use or investigate whether those routes have changed over time. The SEIS should but does not address recent information suggesting that NARW are remaining off the coast of Massachusetts for longer periods than previously assumed. Consequently, the SEIS's analysis of cumulative impacts on the NARW lacks context and hovers untethered to any understanding of existing conditions.	A detailed discussion of current marine mammal distribution and occurrence in and around the Vineyard Wind 1 WDA was provided in Appendix E of the SEIS. A discussion of current marine mammal distribution as well as population size and trends are also provided in the Biological Opinion issued by NMFS on September 11, 2020. A detailed analysis of impacts to ESA listed species, including the NARW, is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additional information regarding impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13241-017	BOEM had failed to evaluate the project's noise impacts on whale communication and echolocation, as such impacts could greatly affect the	Section 3.3.7.2 of the DEIS and 3.5.1 of the SEIS provide a discussion of auditory masking. Further, a detailed analysis of impacts to ESA listed

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	whale's ability to locate prey, avoid vessels, find mates, and navigate hazards along their migration routes. The SEIS, unfortunately, does not cure this deficiency. Nothing in the SEIS examines the cumulative impacts of the various offshore wind projects on whale communication and echolocation. Instead, the SEIS focuses almost exclusively on project-related pile driving noise and its ability to physically damage whales	marine mammal species, including the potential impacts arising from behavior avoidance during construction is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional information regarding masking impacts as a result of the Vineyard Wind 1 Project is provided in the Biological Opinion issued by NMFS on September 11, 2020. As described in the Biological Opinion, communication between animals within and located on different sides of the Project area could be intermittently masked as vessels are transiting through the area on a daily basis. This masking is expected to last intermittently while animals remain in the area. Since the greatest amount of vessel traffic will occur concurrently with pile driving activities, whales may choose to leave the area during construction. In either scenario, some short-term harassment is expected to occur due to vessel operations or pile driving during construction. As described in the Biological Opinion, "even if masking were to interfere with mother-calf communication in the action area, we do not anticipate that such effects would result in fitness consequences given their short-term nature" (NOAA 2020). As such, no change to the FEIS.
13241-018	SEIS suggests that the NARW's willingness to use "avoidance behaviors" to steer clear of piling driving activities is one reason why the project's noise impacts on whales would be manageable. (See, SEIS, p. 3-34). This, of course, begs the question - How do these "avoidance behaviors" conflict with or otherwise affect the whale's normal life-cycle activities? The SEIS does little to address this issue.	Section 3.3.7.3 of the DEIS discussed the potential impacts of behavioral avoidance during construction activities. Further, a detailed analysis of impacts to ESA listed marine mammal species, including the potential impacts of auditory masking is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional discussion regarding the consequences of avoidance behaviors is provided in the Biological Opinion issued by NMFS on September 11, 2020. Finally, the Sections 3.5.1 and 3.5.2 of the SEIS discuss the consequences of avoidance behaviors. Therefore, no change to the FEIS is warranted.
13241-019	Yet, the SEIS does not provide any measurement of existing underwater noise, so one is left to wonder what additive effect the proposed wind projects will have. Without an accurate baseline, the impact analysis is largely abstract and meaningless. Put differently, a cumulative analysis, by definition, means assessing a project's impacts in combination with (i) existing impacts and (ii) impacts that are reasonably foreseeable. The SEIS fails this basic requirement.	Appendix D of the FEIS provides an updated discussion of mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including the Use PAM buoys or autonomous PAM devices to record ambient noise in the lease area (before, during, and immediately (within 2 year of operation) after construction), record marine mammal vocalizations, and monitor Project noise including vessel noise, pile driving, and WTG operation. Results must be provided within 90 days of construction completion and again within 90 days of the 1-year and 2-year anniversary of commissioning.
13241-020	Along these same lines, the SEIS does not discuss zooplankton (copepods, including krill) abundance off the New England coast. This information is critical, given that zooplankton is the NARW's primary food source.	Section 3.3.7.1 of the DEIS and Section 3.5.1 of the SEIS discuss zooplankton abundance and distribution in the region and the importance of these species for many fish species and NARW. Further, a detailed analysis

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		of impacts to ESA listed marine mammal species, including a discussion of zooplankton abundance and distribution is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional information regarding consequences of zooplankton impacts as a result of the Vineyard Wind 1 Project is provided in the Biological Opinion issued by NFMS on September 11, 2020. Therefore, no change to the FEIS is warranted.
13241-021	It is a virtual certainty that the Vineyard Wind project, in conjunction with the other offshore wind projects being proposed, will reduce forage opportunities for the NARW, further driving the species toward extinction. Yet, the SEIS does not discuss this issue.	Section 3.3.7.1 of the DEIS and Section 3.5.1 of the SEIS discuss zooplankton abundance and distribution in the region and the importance of these species for many fish species and NARW. Further, a detailed analysis of impacts to ESA listed marine mammal species, including a discussion of zooplankton abundance and distribution is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. Additional information regarding consequences of zooplankton impacts as a result of the Vineyard Wind 1 Project is provided in the Biological Opinion issued by NFMS on September 11, 2020. As discussed in the Section 3.5.2 of the FEIS and in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, as discussed in the Biological Opinion, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals is expected to occur as a result of the project. Therefore, no change to the FEIS is warranted.
13241-022	noise impacts on whales and it also discusses the impacts of underwater structures (wind turbines) on whales, but these analyses are never combined. In other words, the Vineyard Wind project (and the other offshore wind farms) all generate noise impacts and they all place new, large structures within the existing underwater environment. Both types of impacts have the potential to adversely affect whales in a cumulative/additive way, but the SEIS does not address these impacts from this perspective. Instead, the impact analysis is atomized, with each impact type treated as if it were in a vacuum, cut off completely from other impacts. Such an approach defeats the entire purpose of a cumulative impacts assessment.	As pointed out by the commenter, a variety of anthropogenic noise sources related to the offshore wind development was discussed in Section 3.5.1 and 3.5.2 of the SEIS and Sections 3.4.1 and 3.4.2 of the FEIS. Each of the noise sources was analyzed and an impact rating was assigned. However, at the conclusion of the noise section, all noise sources collectively were assigned an overall impact rating. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Also discussed in the Biological Opinion are the potential effects to copepods and other prey items of marine mammals.

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13241-023	...the issue is not whether vessel traffic connected to offshore wind projects would be small "relative" to ongoing and future non-offshore activities. The issue is whether the offshore wind farm vessels, when added to the already-heavy boat traffic in the affected area, will increase the risk of collision with whales. The SEIS does not address that question.	As described in BOEM's National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019a), more than 12,000 vessel calls were made at ports in the North Atlantic. The expected peak of 125-230 vessels associated with offshore wind development, as described in Section 3.5.1 of the SEIS, would represent an approximate 1.0 to 1.9 percent increase in vessel traffic. In reality the increase would be even smaller as the 12,000 vessel calls represent only commercial vessels and does not include recreational vessel trips. In addition, there is currently a high degree of uncertainty regarding the number of vessels, ports to be used, and primary transit routes that future offshore wind developments use. Section 3.4.1 of the FEIS has been updated to reflect this information. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS. These measures include, but are not limited to, use of PSOs, PAM, vessel speed restrictions, and other measures
13241-024	Second, the SEIS provides no evidence as to how many vessels currently enter and cross through the cumulative impact area, so there is no support for the claim that the wind project-related vessels would have "no measurable cumulative impact". In short, BOEM has not measured anything, and thus the entire statement is misleading.	As described in BOEM's National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019a), more than 12,000 vessel calls were made at ports in the North Atlantic. The expected peak of 125-230 vessels associated with offshore wind development, as described in Section 3.5.1 of the SEIS, would represent an approximate 1.0 to 1.9 percent increase in vessel traffic. In reality the increase would be even smaller as the 12,000 vessel calls represent only commercial vessels and does not include recreational vessel trips. In addition, there is currently a high degree of uncertainty regarding the number of vessels, ports to be used, and primary transit routes that future offshore wind developments use. Section 3.4.1 of the FEIS has been updated to reflect this information. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS. These measures include, but are not limited to, use of PSOs, PAM, vessel speed restrictions, and other measures
13241-025	Third, the Jones Act restricts the ability of non-U.S. vessels to serve the offshore wind arrays, which means that many of the vessels needed to support construction, operation, and maintenance of the wind turbines must be based in U.S. ports, significantly increasing the number of vessel-miles	As described in BOEM's National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf (BOEM 2019a), more than 12,000 vessel calls were made at ports in the North Atlantic. The

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	traveled. This, in turn, increases the potential for increased vessel strikes against whales and other marine mammals. The SEIS does not discuss this impact.	expected peak of 125-230 vessels associated with offshore wind development, as described in Section 3.5.1 of the SEIS, would represent an approximate 1.0 to 1.9 percent increase in vessel traffic. In reality the increase would be even smaller as the 12,000 vessel calls represent only commercial vessels and does not include recreational vessel trips. In addition, there is currently a high degree of uncertainty regarding the number of vessels, ports to be used, and primary transit routes that future offshore wind developments use. Section 3.4.1 of the FEIS has been updated to reflect this information. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, no take of marine mammals as a result of vessel strikes are expected to occur due to the implementation of mitigation and monitoring measures outlined in Section 3.4.2 and Appendix D of the FEIS. These measures include, but are not limited to, use of PSOs, PAM, vessel speed restrictions, and other measures
13241-026	What is so striking about the SEIS's discussion of project and cumulative impacts on NARW is that it fails to refer to much of the recent scientific literature about the plight of the whale. The few technical articles cited in the SEIS are seven to ten years old and thus do not provide information on the recent drops in NARW numbers. The SEIS also includes no data as to how many NARW the Vineyard Wind project, both singly and in combination with other wind projects, is likely to "take" over the 30-year operational life of the wind array. Given that even a single NARW death pushes the species ever closer to extinction, it is imperative that the SEIS examine the "take" issue and disclose the number of NARW that will be lost. Again, however, the SEIS provides no data on this critical issue.	A detailed discussion of current marine mammal distribution and occurrence in and around the Vineyard Wind 1 WDA was provided in Appendix E of the SEIS. A discussion of current marine mammal distribution as well as population size and trends are also provided in the Biological Opinion issued by NMFS on September 11, 2020. A detailed analysis of impacts to ESA listed species, including the NARW, is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additional information regarding impacts to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process.
13241-027	The SEIS does not discuss this issue or evaluate the extent to which Vineyard Wind and the other offshore wind projects could contribute to diminished whale numbers, thereby cancelling the very CO2 reductions the wind farms are supposed to provide. In short, the entire Atlantic offshore wind program, including Vineyard Wind, would be counter-productive and self-defeating if	As discussed in the Section 3.4.2 of the FEIS and in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, as discussed in the Biological Opinion, take of whale species is expected to involve harassment and some injury to a limited number of

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	they directly or indirectly cause whale numbers to drop. We would be killing nature's "carbon sink" (i.e., whales) to install a poor manmade substitute, gaining nothing by the effort but profit for the wind-energy companies.	individuals during the course of pile driving activities. No other take of marine mammals is expected to occur as a result of the project.
13241-028	Another important factor is whale monitoring. It is our understanding that Vineyard Wind (and perhaps the other windfarm operators) will conduct both aerial and underground monitoring of NARW and other sensitive marine mammals. The SEIS, however, does not discuss whether and to what extent aerial monitoring will affect these animals. The SEIS also does not disclose whether aerial monitoring can be effectively performed after certain of the wind arrays are installed. As to underwater acoustical monitoring, the SEIS should - but does not - evaluate the extent to which the noise and vibrations of the wind turbines would mask the sounds of whales, thereby compromising the monitoring effort.	Section 3.3.7.3 of the DEIS and Section 3.5.1 of the SEIS discuss the use of helicopters and the potential consequences on marine mammals. Section 3.3.7.2 of the DEIS and Section 3.5.1 of the SEIS provide a discussion of auditory masking. Further, a detailed analysis of impacts to ESA listed marine mammal species, including the potential impacts arising from behavior avoidance during construction is provided in the revised BA that was submitted to NOAA, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . Additional information regarding masking impacts as a result of the Vineyard Wind 1 Project is provided in the Biological Opinion issued by NMFS on September 11, 2020. As described in the BA, communication between animals within and located on different sides of the Project area could be intermittently masked as vessels are transiting through the area on a daily basis. This masking is expected to last intermittently while animals remain in the area. Since the greatest amount of vessel traffic will occur concurrently with pile driving activities, whales may choose to leave the area during construction. In either scenario, some short-term harassment is expected to occur due to vessel operations or pile driving during construction. As described in the Biological Assessment, "even if masking were to interfere with mother-calf communication in the action area, we do not anticipate that such effects would result in fitness consequences given their short-term nature" (NOAA 2020). The FEIS addresses the issue of aerial monitoring surveys throughout Section 3.14 (Other Uses, Scientific Research, and Surveys). Therefore, no change to the FEIS is warranted.
13241-029	The Audubon Society reports that wind farms in the United States kill between 140,000 and 328,000 birds each year. The SEIS puts the number at 234,000... The SEIS then estimates that Vineyard Wind and the other planned wind arrays will kill 6.9 birds per turbine, for a total annual loss of 13,945 birds. (A-69.). But then the SEIS backs away from this number and claims without study or proof that the 2,021 wind turbines currently planned for the Atlantic seaboard would kill only 75 marine birds per year. Not only is this number low and unsupported, it is hard to square with the SEIS's claim that the wind turbine structures will attract fish and thereby invite more birds to forage within the wind arrays. If we accept this claim, it is likely that bird mortality will increase well beyond the numbers reported in the SEIS.	Section A.8.3.1 of the FEIS includes an updated discussion of Loss et al. (2013) and the applicability of mortality estimates derived from terrestrial WTGs to offshore WTGs. Several factors as to why potential collision mortality is expected to be much lower are presented in the FEIS. As pointed out by the commenter, and discussed in Sections A.8.3.1 and A.8.3.2, BOEM expects some level of reef affect to attract fish to the WTGS foundations, which would increase collision risk to those individuals utilizing the foundations for foraging. However, based on the biology of these species, most would be flying and foraging well below the Rotor Swept Zone and collision with operating WTG blades would not be expected.

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13241-030	The SEIS also fails to provide a true cumulative impacts analysis with regard to birds. As the SEIS points out, marine and shore birds along the Atlantic Coast are on the decline and face a host of stressors. (A-67.) Nevertheless, the SEIS makes no effort to combine these stressors with the wind farm impacts, so the reader has no means to gauge the true cumulative effect of the project on birds.	Section A.8.3.2 provides an updated discussion of bird use of the Atlantic Flyway along the North American Atlantic Coast. Within the Atlantic Flyway, much of the bird activity is concentrated along the coastline concentrated along the coastline (Watts 2010). Waterbirds use a corridor between the coast and several kilometers out onto the OCS, while land birds tend to use a wider corridor extending from the coastline to tens of kilometers inland (Watts 2010). Additionally, as depicted in Figures A.8.3-1 and A.8.3-2 in the SEIS, total avian abundance for species with high collision sensitivity and displacement sensitivity are low in the proposed Vineyard Wind 1 Project area, as well as within all of the offshore wind lease areas on the Atlantic OCS. Additionally, the SEIS discussed two studies of offshore wind facilities in Europe (Desholm 2006 and Skov et al. 2018) that used a variety of monitoring methods to monitor operating offshore WTGs for bird collision mortality. In both cases very little bird mortality was documented. The FEIS was updated to explicitly state these conclusions. Further, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices
13241-031	Neither the Draft EIS nor the SEIS provide an accounting of the fossil-fuel energy required to produce, install, and operate the wind arrays contemplated under BOEM's Atlantic offshore wind program - energy that would not be expended but for the windfarm projects....The SEIS does not disclose much less analyze the energy demands associated with material inputs for the wind turbines; nor does the SEIS disclose or analyze the fossil fuel emissions that will result from producing these material inputs.	The SEIS and Section A.8.1 of the FEIS specify that the energy required during construction, operation, and maintenance activities is more than offset by the clean energy generated over the life of the proposed Project.
13241-032	One of the dirty secrets of wind energy - and one the SEIS keeps very close to the vest - is that wind is unpredictable and wind turbines often sit idle, producing no electricity at all. Consequently, to ensure that wind farms maintain their contribution to the energy grid, the operators must use backup generators to produce electricity. These backup generators use fossil fuels and emit GHGs and other air pollutants. The SEIS does not disclose this fact, does not explain the role that such backup generators play, and does not provide a full, accurate, and cumulative accounting of the GHGs and air pollutants emitted by the backup generators.	The FEIS has been updated to specifically call out emergency generators. The emissions of backup generators are part of the total emissions considered (COP Volume III-B, page 14; Epsilon 2020b). The function of the emergency generators is to allow for protection of equipment and communication with WTGs in the event of an emergency. These generators are not commercial scale, and would not be connected to the energy grid.
13241-033	Even when the SEIS does provide emissions data, the data are not especially helpful in determining the magnitude of the impact. For example, the SEIS indicates that Vineyard Wind and the other wind project will generate 2,215,929 tons of construction-related emissions, much of which will be C02	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS. Vineyard Wind is required to have and is applying for an OCS air permit with the USEPA which includes Prevention of Significant Deterioration.

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	or other GHGs that contribute to climate change. (A-44.) And this 2.2 million-ton figure does not even account for the substantial emissions generated as a consequence of the wind turbine inputs identified by Professor Rees (see above). Yet the SEIS does not put this figure in context or compare it to the purported "reductions" in GHG emissions that the wind farms are supposed to produce. Instead, the SEIS just declares these 2.2 million tons of emissions to be "minor". (Ibid.) The SEIS does acknowledge that Vineyard Wind's construction emissions would include 4,961 tons of NO_x and 122 tons of volatile organic compounds (VOCs), which together form ozone, the one regulated pollutant for which coastal Massachusetts is out of attainment. (See, A-42.) The SEIS, however, does not assess whether such ozone emissions would contribute to any exceedances of federal ozone thresholds.	Other future offshore wind projects will require similar permitting and will require compliance with the Clean Air Act.
13241-034	As for operational air quality/GHQ impacts, the SEIS suggests that most emissions will come from vessels, helicopters, and "emergency generators." It is unclear what the SEIS means by "emergency" generators, but it appears that the SEIS has grossly underreported how often generators will be used and the amount of emissions they will produce.	The FEIS has been updated to specifically call out emergency generators. The emissions of backup generators are part of the total emissions considered (COP Volume III-B, page 14; Epsilon 2020b). The function of the emergency generators is to allow for protection of equipment and communication with WTGs in the event of an emergency. These generators are not commercial scale, and would not be connected to the energy grid.
13241-035	... the wind turbines will be 15 to 20 percent larger and taller than was previously disclosed and studied. It is unclear, however, whether the SEIS's visual impacts studies - including the visual simulations - took these increases into account.	The DEIS and Sections 3.10.1 and 3.10.2 of the SEIS addressed the visual impacts of Vineyard Wind 1 wind turbines from shorelines with views of the offshore wind development. Sections 3.9.1 and 3.9.2 of the FEIS have been updated to address new visual simulations provided by Vineyard Wind that provide views of the 14 MW wind turbines as well as simulations of Vineyard Wind 1 combined with other offshore wind development. The simulations can be viewed at https://www.boem.gov/vineyard-wind-cumulative-visual-assessment.
13241-036	In addition, the SEIS provides no photo-simulations as to the nighttime visual impacts of the red strobe lights that will be fixed atop each wind turbine. Given that such lights must be incredibly bright to serve as safety beacons for aircraft, they will certainly be visible from Nantucket and Martha's Vineyard. In fact, the SEIS should (but does not) include visual simulations - day-time and nighttime - from each tourist location on both islands. The need for such visual simulations is especially acute now that the project applicant has decided to increase the height of the wind turbines by more than 100 feet.	Section 3.9.2 of the FEIS has been updated to discuss new visual simulations provided by Vineyard Wind. The simulations show the proposed taller, 14 MW Vineyard Wind turbines and also show combined simulations for Vineyard Wind with other future offshore wind development within the same viewshed. COP Appendix III-H.a (Epsilon 2020d) describes how simulation viewpoints were selected, and discusses how those viewpoints are broadly representative of publicly accessible locations where the Project may be visible. Section 3.10.2.1 of the SEIS stated that Vineyard Wind had committed to use ADLS, which would greatly reduce the time when nighttime aviation lighting is activated. The nighttime simulations for the Vineyard Wind turbines were completed based on the COP submitted in 2017, and do not include the mid-tower lighting that will be required for the taller, 14 MW turbines that are evaluated in the FEIS. The nighttime simulations can be viewed at https://www.boem.gov/vineyard-wind.

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		Although updated simulations for the taller turbines with mid-tower lighting are not available, Section 3.9.1.1 of the FEIS has been updated to address nighttime views and night sky concerns in greater detail than in the DEIS or SEIS.
13241-037	It will take hundreds of vessels to build, install, operate, and maintain the 2,006 wind turbines discussed in the SEIS. Most of these vessels will be carrying ballast water pulled from locations other than the Atlantic seaboard and thus will be carrying aquatic species that are not native to the local environment surrounding the wind farms. These vessels may, and likely will, discharge some of their ballast water into ocean near the wind farms, potentially introducing invasive, non-native species. The SEIS does not provide an adequate assessment of this impact.	Section A.8.2.2 of the SEIS addressed control measures for non-indigenous species. The SEIS stated, "All vessels would need to comply with the USCG ballast water management requirements outlined in 33 CFR Part 151 and 46 CFR Part 162." The FEIS has been updated to reference Subpart D of 33 CFR Part 151, which specifically addresses Ballast Water Management for Control of Nonindigenous Species in Waters of the United States.
13241-038	The waters off Nantucket are clear and pristine, and the southern shoreline is especially fragile and prone to erosion. The Vineyard Wind project, by itself, will alter current and potentially effect beach sand replenishment, wave size, and sand erosion along Nantucket's coastline. The SEIS does not address this issue on a project-specific or cumulative basis.	BOEM has considered the potential for erosion of shorelines and has determined that there is no evidence that the proposed Project would have any influence on this issue. Appendix E of the FEIS has been updated to include additional information regarding the oceanographic environment, including the potential impacts to mean flows near offshore wind foundations. Information related to potential changes in mean flows provides implications for shoreline erosion. Section 3.3.2 of the FEIS explains that background hydrodynamic conditions would exist approximately 328 feet (100 meters) from each monopile foundation. Appendix E Section E.4.4 of the FEIS discusses cable installation and concludes that no increased potential for shoreline erosion is expected. Appendix E Section E.4.4 of the FEIS also discusses the potential for shoreline erosion from vessel wakes.
13241-039	A cumulative impacts analysis is only as good as the list of projects that it relies on. If the list omits key projects, whether existing or planned, the cumulative analysis suffers and ceases to be legally adequate. In this case, it appears that the SEIS 's cumulative analysis failed to include key wind energy-related projects, such as the Offshore Export Cable Corridor and Anabaric's Southern New England OceanGrid project. To comply with NEPA, the SEIS 's cumulative impact assessment must take these projects into account.	The mentioned projects are discussed in Appendix A of the SEIS and considered in the impact analyses in Chapter 3 of the SEIS, which were carried over to the FEIS.
13241-040	For the reasons provided herein, the SEIS fails to provide a legally sufficient cumulative impacts analysis. It should be withdrawn and its deficiencies corrected. Failing to do so deprives the public and decision-makers of the information they need to properly evaluate the project's environmental effects and determine whether the damage will be worth the project's purported benefits.	The expanded analysis for reasonable foreseeable planned actions complies with CEQ and DOI NEPA regulations, and the approach was detailed in Chapter 1 and Appendix A of the SEIS, as well as in the FEIS.

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13244-002	When the leased areas south of Martha's Vineyard is fully populated with wind turbines so close together it will effectively shut down federal research vessels, tugs and barges, mid-size and larger ships and most mid-size and larger fishing vessels from fishing and transiting.	Thank you for your comment.
13248-001	1) The economic impact these turbines will have on fishing industry will be severe at least and probably destroy fishing in this area permanently. The lack of baseline data for fisheries surveys shows this project is rushing to start without necessary information.	Section 3.6.2 of the FEIS notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
13248-002	2) Marine Safety is another area lacking so much it should sideline this project until Developer can prove that windmills will not cause one incident period.	The FEIS discusses navigational safety in Sections 3.11.1, 3.11.2, 3.11.4, and 3.11.5.
13248-003	3) Cost of project- both environmental and financial will be high- underwater cables that cannot be ignored what the impact is on marine life. The lack of proper engineering with cable burial, matting and landing sights is a failure waiting to happen. The financial cost to the rate payer world-wide shows cost of generated electricity from windmills to be unbearable.	Ratepayer costs depend on numerous variables beyond the scope of the EIS. The impacts of buried cables on marine life are addressed in Section 3.3.1 of the FEIS and were also addressed in the SEIS.
13248-004	4) For anyone to say that these turbines are "green" has their head in the sand. Just look at what they are made from- almost all material is oil based synthetics.	Thank you for your comment.
13248-005	5) Shoaling around the bases of turbines is another area of concern unless you don't care about the natural contour of ocean floor.	Appendix E, Section E.4.4 of the FEIS, has been updated to discuss seabed impacts at the bases of turbines.
13248-006	6) Marine life below and above ocean-whales are known to be in these areas and it is interesting how a donation can make this concern go silent. Sea birds will be decimated by the blades of turbines in thousands- again silence is deafening.	A detailed discussion of current marine mammal distribution and occurrence in and around the Vineyard Wind 1 WDA was provided in Appendix E of the SEIS. A discussion of current marine mammal distribution as well as population size and trends are also provided in the Biological Opinion issued by NMFS on September 11, 2020.
13248-007	This project should not see daylight until ALL concerns are addressed and scientifically proven to show no damage to any of the above.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13250-001	I'm worried about the Vineyard Wind Project. I'm worried about how it's promising the moon in the the way of cheap power, jobs, massive CO2 reductions and all this at virtually no cost to us.....What has been pushed aside here is the fact that Vineyard Wind is a for profit developer with a built-in incentive to minimize its costs at the expense of future problems for local residents. We shouldn't allow a situation in which some Americans line their pockets at the expense of other Americans, while foreign investors sell their stake and laugh all the way to the bank.	Thank you for your comment.

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13253-001	I am very surprised that our Government is considering to allow a wind farm like Vineyard Wind to be built knowing full well the harm it will cause to our US Fishing Industry without consideration or compensation and yet we will willingly bring foreign crews and companies into the US to build these farms. Not only are these foreign crews and ships, but they are using materials and equipment made in Europe and China. This negative impact will cause nothing except higher bills for American electric consumers.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered (including voluntary compensation agreements that Vineyard Wind has agreed to), has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information. Economic and employment information are included in Section 3.6 of the FEIS.
13254-001	The Department of Interior's decision to delay Vineyard Wind's final permits last year reverberated through the entire industry and related industries who were eager to further the build-out of United States based offshore wind. We urge against adopting Alternative F for Alternative G, the No Action Alternative.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13254-002	We also recognize the need to develop new jobs in the wake of the pandemic's economic toll. According to the American Wind Energy Association ("AWEA"), states have set offshore wind procurement goals that will invest roughly \$57 billion in the United States economy by 2030. For the East Coast alone, 30,000 MW of offshore wind energy has the potential to support over 80,000 jobs. If the Department of Interior supports the industry now without undue delay, the potential for economic investment and additional jobs would multiply exponentially throughout the nation.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13260-001	The Department of Interior's decision to delay Vineyard Wind's final permits last year reverberated through the entire industry and had a chilling effect on the industry's investment capabilities. The SEIS does not factor this into its cumulative analysis. The analysis assumes that even without a green light for Vineyard, Wind, industry investment will move forward as planned. This assumption is greatly flawed as companies need regulatory and market certainty in order to justify investment in new markets and the US would be sending a signal that it is not yet ready to get serious about offshore wind.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13260-002	In addition, by requiring additional transit lanes through projects and reducing capacity to develop lease areas to their full extent, BOEM is effectively reducing the industry's opportunities for investment, which will translate to lost economic benefits and jobs for the US overall. As a company with an interest in investing in the US market, we strongly urge BOEM to reject this Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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13260-003	As we understand, according to the American Wind Energy Association, states have set offshore wind procurement goals that will invest roughly \$57 billion in the US economy by 2030. If the Department of Interior gets behind this industry now, the potential for additional jobs and economic investment multiplies exponentially, with the potential for tens of thousands of jobs throughout the nation from shipbuilders to turbine and cable manufacturing to companies like ours.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13262-001	we recommend that offshore wind facilities should be required to “use the best available technology to monitor bird collisions, identifying birds struck to species to every feasible extent. This must include a means to identify all strikes in all light levels and weather conditions to the fullest extent possible as a way to ensure that the full impact is understood. Collision monitoring should be adaptively managed, adding and/or replacing technology as better systems become available. Collision monitoring should be conducted for a minimum of five years. Associated data must be made publicly available.” To date, no single system has yet been verified to meet this need. As such, this will currently require multiple technologies and a combination of collision monitoring and risk assessment to gather data that provide reasonable assurance that impacts are understood. Such assurance minimizes uncertainty and thus will reduce unnecessary and avoidable conflict. The following is a scenario that could provide such reasonable assurance using currently available technology: • Video monitoring to identify individual birds to species that are exposed to the turbines or struck in collisions, as well as to document avoidance rates and flight heights, and • Radar or thermal imaging to quantify the number of birds entering a wind facility and (to a lesser extent) struck in collisions in all conditions (this must have capability to measure altitude to evaluate risk), and • Nanotags and receivers or GPS tags to evaluate risks for ESA-listed species and nocturnal migrants (must have capability to measure altitude to evaluate risk), and • Acoustic monitoring to evaluate nocturnal migrant species assemblages, and the seasonal timing of their presence.	Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. At this time, the full suite of mitigation and monitoring measures that will be required as part of the proposed Project are not finalized. Additional mitigation and monitoring measures, including the use of video monitoring, thermal imaging, radar, and/or the deployment of nanotags or gps tags may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development.
13262-002	We are aware that at both the Block Island and Dominion Energy (Virginia) offshore facilities, multiple wildlife monitoring technologies are deployed. We would expect a greater effort to be expended at Vineyard Wind and other commercial-scale facilities, where bird impacts are likely to be proportionately greater.	The Block Island and Dominion Energy CVOW demonstration projects are the testing grounds monitoring and new technologies. Vineyard Wind is preparing a framework for the avian and bat monitoring plan that will build on the lessons learned from these earlier projects. Vineyard Wind has drafted a framework for their Bird Monitoring Plan which is included in Appendix F of the FEIS. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid,

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		minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. At this time, the full suite of mitigation and monitoring measures that will be required as part of the proposed Project are not finalized, nor is the scope of these measures. Additional mitigation and monitoring measures and the logistics regarding their deployment may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures, including the use of thermal imaging, radar, or ship based monitoring similar to measures used at Block Island could be considered by decision makers and incorporated into the Record of Decision. As additional monitoring methods and technologies become available, BOEM could require their use in subsequent approval processes for future offshore development.
13262-003	The lack of studies assessing the vulnerability of nocturnal migrant birds to collisions with offshore wind turbines is a concerning gap in planning for this new industry. This should be rectified by initiating radar studies at each lease area in spring 2021 (similar to the Avian Radar Project conducted by the U.S. Fish and Wildlife Service in the Great Lakes). These studies should be conducted for a minimum of two years. Data must accurately measure flight height to assess vulnerability to collisions...A study should be completed in the relatively near future using such data in combination with NEXRAD data, and existing data such as that available from Cornell Lab of Ornithology's eBird, ancillary data from offshore locales, and other sources.	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk to nocturnal passerine migrants. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Willmott and Force 2014).Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures that can refine our understanding of nocturnal migrant use of the Atlantic OCS during migration. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. At this time, the full suite of mitigation and monitoring measures that will be required as part of the proposed Project are not finalized, nor is the scope of these measures. Additional mitigation and monitoring measures, including long-term radar studies and the logistics regarding their deployment may arise from consultations and coordination

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		with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13262-004	Displacement effects will be longer-term and become more important as more facilities are constructed. As such, a plan should be developed to evaluate these impacts over the next 10-20 years. Baseline data should be collected for a minimum of two years prior to construction of any offshore facility. For Vineyard Wind, we urge that aerial surveys be initiated as soon as possible, and continued until such surveys are precluded by construction activities.	The Massachusetts Wind Energy Area was heavily surveyed with more than 3 years of surveys (totaling 10 surveys pre-season; please see Figure 5 in the USFWS Biological Assessment). These surveys were used to model the relative abundance and distribution of populations that are sensitive to displacement (Figure A.8.3-3 in FEIS) clearly showing that relatively few of these birds are likely to be present in the WDA; these results are consistent those found in a separate analysis for wintering long-tailed ducks and white winged scoters by White & Veit (2020). Vineyard Wind conducted surveys of its lease in 2018 (COP Appendix III-O, Epsilon 2020a) and in 2018-2019 (Vineyard Wind 2019). Vineyard Wind plans to conduct one year of monthly pre-construction surveys. Vineyard Wind has drafted a framework for their Bird Monitoring Plan which is included in Appendix F of the FEIS. These efforts by the developer would add to the strong existing baseline.
13187-01-001	First, let's remember the critical nature of this project and of offshore wind in general, Vineyard Wind 1 is the single most significant step that we in Massachusetts can take to advance the cause of reducing greenhouse gases and to mitigate climate change. Vineyard Wind 1 alone will generate clean, renewable and cost competitive energy for over 400,000 homes and businesses. It will reduce carbon dioxide emissions by more than 1.6 million tons per year. Putting that in more practical terms, that's 1 the equivalent of eliminating the emissions for 2 325,000 cars. We cannot make significant progress toward eliminating CO-2 emissions without a massive increase in availability of renewable, inexpensive electricity to the northeast United States. Offshore wind has the highest potential to fill that need.	Thank you for your comment.
13187-01-002	...global offshore wind supply chain companies considering the US market should see the supplemental EIS as a strong positive signal for future opportunities here.	Thank you for your comment.
13187-01-003	The build out of Vineyard Wind 1 alone will create 3,600 jobs in southeastern Massachusetts. Locally here on Martha's Vineyard, Vineyard Wind operations and maintenance center will create 40 to 50 new long-term stable, professional jobs which are intended for Vineyard residents through a local professional development program funded by Vineyard Wind.	Section 3.6.2.1 of the FEIS provides estimated economic and employment contributions of Vineyard Wind These were also included in the DEIS. Estimated job creation by Vineyard Wind would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. Section 3.6.2 notes that many of the long-term, year-round operational jobs would be located on Martha's Vineyard.
13187-01-004	There's been a long and important debate around the most practical and safest way to manage maritime traffic in the area. Many proposals have been	The FEIS addresses this comment in Section 3.11.5. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational

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	considered, as we just heard in the Q & A period a moment ago, the US Coast Guard has endorsed the one by one nautical mile layout, finding that it will create multiple safe navigation corridors without funneling vessels into congested corridors and without interfering in the Coast Guard's maritime safety and rescue activities. This was an important debate. But now the experts have spoken, we should rely on the Coast Guard's professional judgment and move forward.	matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13187-02-001	The U.S. is very late to the game and we need to avail ourselves of this very valuable resource. Wind projects off the east coast will be a big asset in helping us reduce the pace of climate change. On the Vineyard, we are looking at ways to use electricity for all our energy needs and to be 100% renewable by 2040. Vineyard Wind and other offshore projects make goals such as ours possible.	Thank you for your comment.
13187-02-002	I like that Vineyard Wind has responded to the fishing industry and provides the layout to be one by one nautical mile grid, and that the Coast Guard has endorsed this layout. I think option D-2 is adequate as stated by the Coast Guard.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13187-02-003	I like that Vineyard Wind has incorporated aircraft detection lighting system into their projects, which will make nighttime lighting impacts greatly reduced.	Section 3.10.2.1 of the SEIS stated that Vineyard Wind had committed to use ADLS to reduce the time when nighttime aviation lighting is activated. Therefore, no change to the FEIS is warranted.
13187-02-004	Vineyard Wind will create 3,600 jobs for local residents over the life of the project. We need jobs on the Vineyard that are sustainable and not reliant on the seasonal and tourist industry.	Section 3.6.2.1 of the FEIS provides estimated economic and employment contributions of Vineyard Wind. These were also included in the DEIS. Estimated job creation by Vineyard Wind would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. Section 3.6.2 notes that many of the long-term, year-round operational jobs would be located on Martha's Vineyard.
13187-02-005	And, finally, I heard you say that you've weighed the effects of climate change on the fishing industry and environmental justice communities in terms of what fish will be available or no longer available as climate change continues and ocean waters warm. I think that is correct as I believe what fishermen are able to catch is going to change radically because of climate change, and that's something that seriously needs to be considered.	Thank you for your comment.
13187-03-001	Without harnessing wind, the most abundant energy resource we've got, we would have to rely on fossil fuel sources and infrastructure that pollute our air and water, exacerbate climate change and disproportionately affect the health and wellbeing a poor and black and brown communities.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).

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13187-03-002	This site demonstrates that offshore wind energy can be developed responsibly while addressing the concerns of wildlife, fishing, and navels. We need Vineyard Wind offshore wind project to move forward. I urge you to approve it.	Thank you for your comment.
13187-04-001	So responsibly developed wind power is a key source of clean energy that will reduce pollution driving climate change. In addition, the offshore wind turbine structures are likely to become fishing hotspots due to the artificial reef effect, just as they have at Big Block Island.	Thank you for your comment.
13187-04-002	So responsibly developed wind power is a key source of clean energy that will reduce pollution driving climate change. In addition, the offshore wind turbine structures are likely to become fishing hotspots due to the artificial reef effect, just as they have at Big Block Island.	Section 3.4 of the SEIS discussed the reef effect on finfish, and Section 3.10 discussed the potential for recreational fishing opportunities. Therefore, no change to the FEIS is warranted.
13187-04-003	The SEIS has identified certain impact, and we have some concerns that we heard from recreational anglers about the impacts that include noise from surveys, pile driving during turbine construction, operation and especially EMFs or electromagnetic fields. Disturbance specifically to fish species.	Section 3.4 of the SEIS discussed the impacts of noise, EMF, and other disturbances to finfish. Therefore, no change to the FEIS is warranted.
13187-04-004	And then we've also heard about some disruption of larval transport for important species like flounder and overall changes in fish species abundance and distribution. So our best effort to review the existing science agrees with the conclusions in the SEIS that most impacts are likely to be temporary and highly localized....Larval transport, as I mentioned, we feel that's more likely to be impacted by changing water temperature and salinity rather than the presence of the structures. But we should continue to monitor this as more projects are developed.	The data used are the best available and reflect the state of the science at the time of publication of the EIS. Therefore, no change to the FEIS is warranted. BOEM continues to fund studies to address concerns raised in public comments, including larval transport modelling at a regional scale (https://www.boem.gov/environment/environmental-studies/renewable-energy-research). This is a Project-specific EIS, not a Programmatic EIS or assessment.
13187-04-005	Particular attention needs to be paid to [lobsters, sharks and rays] species moving forward but concerns raised about the EMF impacts the other species, especially at the population level, don't seem to be supported by the literature. In addition to numerous scientific studies, EMF impacts defy commonsense. And there... are numerous sea floor cables across the Northeast, which have not had an identified impact on any of the species distribution or abundance. Larval transport, as I mentioned, we feel that's more likely to be impacted by changing water temperature and salinity rather than the presence of the structures. But we should continue to monitor this as more projects are developed.	The SEIS discussed benthic monitoring plans and fisheries monitoring plans. Therefore, no change to the FEIS is warranted.
13187-04-006	And also it's important to note that the majority of the wind turbines out there will be developed in areas where fishing for highly migratory species is present. So in general, we believe that the recreational fishing impacts should be split out from commercial in the SEIS, and while there are many overlapping issues the impacts are not likely to be at the same level. So if	As was done in the DEIS and the FEIS, commercial fisheries and for-hire recreational fishing are included in Section 3.10. Section 3.9, Recreation and Tourism, also addresses recreational fishing opportunities and potential effects. Highly migratory species are targeted by both private recreational anglers and the for-hire recreational fishery and are therefore covered in the

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	you're entanglement, loss and damage is negatively impactful to a for hire recreational vessel, but seem conflated at multiple points in the SEIS. Given overall minimal temporary impact and likely benefits from the reef effect, recreational vessels will see little or no detrimental effects and some positive. The major cumulative effects concern for recreational fisherman is changes in species distribution and abundance by changing habitat types like with the change what fish are found in the wind energy areas and at what time.	respective sections. Within Section 3.10, the impacts on for-hire recreational fishing are distinguished from impacts on commercial fisheries when there are expected differences, such as maneuverability within the WDA or increased opportunities from a greater abundance of structure-oriented species being present near the structures. Additionally, some of the impact ratings for the IPFs and sub-IPFs differ between commercial fisheries and for-hire recreational fishing (e.g. space use conflicts). As stated in Section 3.10 of the SEIS and FEIS, adverse impacts to for-hire recreational fishing would occur during construction, as well as operations (impacts on vessel navigation, gear loss, space use conflicts). Table 3.10-1 of the FEIS has been updated to reflect a minor impact on the for-hire fisheries from gear loss.
13187-04-007	the SEIS should clarify that any impacts to HMS or higher vessels is likely to be constrained to construction. Because of the reef effects referred to in the SEIS, it is highly likely that the migrating HMS will be attracted to the turbine foundations. And this was clearly witnessed firsthand when Mahi-Mahi at Block Island Wind Farm and when the turbines were placed into service.	Section 3.10.1.1 and 3.10.2 of the FEIS were updated to state that HMS may be attracted to the turbine foundations. As stated in Section 3.11 of the SEIS and FEIS, impacts to for-hire recreational fishing would occur during construction, as well as operations (impacts on vessel navigation, gear loss, space use conflicts).
13187-04-008	BOEM should consider guaranteed recreational fishing access outside of construction and maintenance as a permit condition. Many developers have assured anglers that this in fact will be the case. But a permit condition will ensure it's guaranteed. This guarantee is essential to ensuring recreational anglers and benefit from the reef effect of the turbine structures.	The impacts to commercial and recreational fisheries are discussed in the Section 3.10 and 3.11 of the SEIS. Section 3.10.2 of the FEIS has been updated to state that while temporary restricted access areas (safety zones) may be set up around active construction areas where applicable, BOEM does not have the authority to restrict vessel access to the WDA during operations. In addition, the USCG has stated that they do not intend to restrict access to the WDA during operations. Further, the USCG's authority to establish safety zones only extends to the boundary of the territorial waters of the United States, which is 12 nautical miles from shore and outside the WDA. Offshore wind lease holders are not conferred any rights to restrict access to anything other than their property (infrastructure).
13187-05-001	Regarding energy benefits, climate change is coming so fast that every country, state, city and town and their inhabitants will take every step available, and as soon as possible to reduce greenhouse gas emissions. This means obtaining our electricity from renewable sources, not fossil fuels. Vineyard Wind 1 will be the first of many offshore wind projects that provide renewable energy through wind power. This project alone will make a substantial contribution to the renewable energy supplied to Martha's Vineyard Island. Under the leadership of Martha's Vineyard Commission, the island is moving on a track to 50% renewable energy consumption by 2030 and 100% by 2040. ... We can't make our goal without the help of Vineyard Wind. The Commonwealth also has a goal of becoming net zero, carbon neutral, by 2050. This goal can't be achieved either without offshore wind	Thank you for your comment.

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	energy. When energy is also cheap, Vineyard Wind will save ratepayers more than 1.4 billion during the first 20 years of the project. We need renewable energy and we need it as fast as we can get it.	
13187-05-002	Vineyard Wind will provide continuous long term benefit to local employment and local economies, and to its partner, Vineyard Power, Vineyard Wind is working with the adults and community and continuing education on Martha's Vineyard, our local Regional High School and Bristol Community College to train the workforce needed to meet the demands of this new industry.	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project is committed to, including job training for offshore wind. This information was also provided in the DEIS. The FEIS was updated to include the cooperative agreement between Vineyard Wind and Vineyard Power, and the offshore wind training program at Bristol Community College.
13187-06-001	The Vineyard is amongst the most vulnerable communities in the U.S. to the effects of climate change, sea level rise the increase in frequency and intensity of major storms, with the attendant loss of both life and property. Vineyard Wind will help us avoid almost 1.7 million tons of CO-2 emissions every year, which is our part in mitigating climate change. It's not any good to talk about doing something without making your own commitment. This is ours. The Vineyard Wind Project aligns with our goals of becoming 50% renewably powered by 2030 and 100% renewably powered by 2040, and with similar bipartisan Commonwealth of Massachusetts targets.	Thank you for your comment.
13187-06-002	Demand for electricity on Martha's Vineyard, if we achieve our goal, will at least double. And we already have some of the highest electricity costs in the U.S. The cost of energy from Vineyard Wind will be fixed and stable and not subject to international strife or politics or fuel shortages or price volatility. So a stable cost of energy is a significant economic benefit to Martha's Vineyard. I couldn't be more in support of this project.	The SEIS and Sections 3.6.1 and 3.6.2 of the FEIS include the establishment of a resilient and secure electric supply as a benefit of the Vineyard Wind 1 Project and other offshore wind projects.
13187-07-001	We cannot more strongly voice our enthusiastic support for the Vineyard Wind Project. New industries don't come along very often. The approval of the Vineyard Wind project will have significant positive, immediate and long-term benefits to local companies such as ours [Survival Systems USA]...Downstream effects from providing training to local companies such as ours will bring revenue into the local areas as the trainees, not just from the local area, from other areas around the U.S. and around the world attend training at local training centers in order to work on the wind farm.	The FEIS text in Section 3.6.2 provides estimated direct job creation in Massachusetts alone resulting from the Vineyard Wind 1 Project construction and operations. Additional economic impact is demonstrated by Table 3.6-3, which includes indirect and induced jobs and would include the benefits to other jobs such as those at training centers. This information was also discussed in the DEIS.
13187-08-001	...the approval of Vineyard Wind 1 can provide us with a reliable source of clean, renewable energy that because the reputable bid for this project will save Massachusetts ratepayers more than a billion dollars over the project's lifetime....The approval of this project will directly lead to the creation of thousands of jobs in trades that come with good pay and benefits.	Jobs created as a result of the Vineyard Wind 1 Project are addressed in Section 3.6.2 and Tables 3.6-3 and 3.6-5. This information was also provided in the DEIS. Sections 3.7.1 and 3.7.2 of the SEIS and Sections 3.6.1 and 3.6.2 of the FEIS note the benefit of offshore wind in providing a secure and resilient source of energy.
13187-08-002	In order for a domestic offshore wind industry to exist, our established marine industries will have to learn to adapt and share the vast potential that	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	does and will continue to exist on the Atlantic Outer Continental Shelf. Vineyard Winds have devoted great resources and time to engage stakeholders throughout this process. Since the release of the draft environmental impact statement in 2018, they have incorporated stakeholder concerns by agreeing to the one by one nautical mile grid placed in a turbine shown an alternative D-2 and taken steps to use Cocoa Beach for the cable landfall. Mitigation should be undertaken when it can benefit affected parties but not to undermine the economic feasibility of this project or future projects. For this reason I urge BOEM not to select alternative F using either the two nautical mile or four nautical mile transit lane.	
13187-09-001	We strongly recommend that BOEM promptly approve the Vineyard Wind 1 Project. Offshore wind is our region's best opportunity for new sources of energy. This clean energy resource is the single biggest lever we can pull to reduce emissions, address the climate crisis and grow the economy at the same time. Massachusetts and many New England states have mandated emissions limits and offshore wind energy is critical to meeting those mandates. Per ISO New England's analyses around 1/6th to 1/3rd of New England's old fossil fuel plants will likely retire over the next decade, and it is imperative that we fill this gap with clean energy. Closing these plants and replacing them with offshore wind will also reduce pollution and lead to improved air quality, which as COVID-19 has clearly demonstrated is an extremely important public health issue.	Thank you for your comment.
13187-09-002	The SEIS reinforces our belief that offshore wind energy can be developed in a manner that protects wildlife and habitat and should advance as quickly as responsible development allows.	Thank you for your comment.
13187-09-003	We support the uniform one by one nautical mile grid layout and commend the offshore wind industry for finding this compromise with the fishing industry, which the U.S. Coast Guard found allows for safe navigation through the wind energy areas. We oppose the additional transit lanes through the wind energy areas, which would severely reduce the amount of energy that could be produced, render this offshore wind project not viable and severely curtail our responsibility to mitigate the serious severe impacts of climate change.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13187-10-001	As acidity increases, shells [for shellfish] become thinner, growth becomes slower and death rates rise. Impacts from ocean acidification will be mitigated by renewable offshore wind. Because the future of offshore wind facilities would produce three fewer greenhouse gas emissions and fossil fuel power generating facilities with similar capacities, the reduction in greenhouse gas emissions due to future offshore wind projects or avoidance	Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind. Sections 3.7.1 and 3.7.2 of the SEIS and Sections 3.6.1 and 3.6.2 of the FEIS note the socioeconomic implications of climate change for coastal communities.

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	of increased greenhouse gas emissions from equivalent fossil fuel powered energy production will result in long-term beneficial impacts on demographics, employment and economics.	
13187-10-002	We encourage any future developers also to work with BOEM to incorporate aircraft detection lighting systems on their turbines as Vineyard Wind 1 has proposed for their project in order to significantly reduce the amount of time that lighting will be visible from shores on Martha's Vineyard. We applaud Vineyard Wind for taking this feedback from our community and incorporating ADLS in their project, which makes nighttime lighting impacts in our local community reduce to negligible.	Section 3.10.2.1 of the SDEIS stated that within the viewshed of the geographic analysis area, the use of ADLS for offshore wind projects would reduce the impact of nighttime aviation safety lighting to negligible. Therefore, no change to the FEIS is warranted.
13187-11-001	This is the only solution to our -- to our climate change problem. If we don't go to clean, renewable energy as soon as possible and stop burning fossil fuels, we're going to be in big trouble, and has already been mentioned, this is Martha's Vineyard, an island five miles off the coast. And we are facing dire consequences, probably even if we change completely at this point because so much has been done. So I just want to say please, please, as soon as possible, approve this project and let them get underway.	Thank you for your comment.
13187-12-001	The public benefits of the Vineyard Wind offshore wind development extend well beyond the geographic boundaries of the offtaker seeds. As other people have commented today, the American Wind Energy Association estimates that offshore wind will create 83,000 new U.S. jobs and \$25 billion in annual economic output through 2030. And Vineyard Wind as the first utility scale project is the tipping point for this pent-up commercial energy. The market signal that will come from Vineyard is clearly seen in the range of offshore stakeholders that have come here today to offer their support and hope for future investment opportunities.	Thank you for your comment.
13187-12-002	The success of Vineyard Wind is crucial to the success of the U.S. future offshore wind industry. As an equipment manufacturer, we cannot provide detailed comments on the majority of BOEM's findings in their draft SEIS that pertain to areas outside our expertise. However, we would like to express concern about alternative F and its potential impact on the capacity of the lease areas currently available to the offshore wind industry....This proposal to create additional transit lanes beyond the one by one nautical mile grid lanes that have already been established, would substantially reduce the areas available for development without significantly improving national navigational safety for vessels. Such a reduction in potential capacity for these lease areas may pose a threat to the ability for adjacent states to meet their clean energy goals.	Chapter 2 of the SEIS and FEIS address the practical and technical challenges associated with implementing Alternative F.

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13187-13-001	What are the impacts of delaying or reducing the growth of offshore wind? Delaying or reducing renewable energy growth means more climate change, more pollution, more extreme weather, and more money leaving our region to pay for fossil fuels that are brought in from elsewhere. I believe that once these offshore wind farms are operating, we will all be much more secure. By more secure I mean better energy security, better economic security, better geopolitical security, and better climate security.	Thank you for your comment.
13187-13-002	Further, fishing communities, people who are familiar with ships and machinery and working on the oceans, people with those very specialized skills will be among the first to benefit from well paid technical jobs in offshore wind. And long after construction is over, the operation and maintenance requirements are substantial and will be ongoing for decades.	Section 3.6.2 of the SEIS includes benefit of diversifying marine industries and notes that the commercial fishing industry as well as other marine sectors will provide a potential workforce for offshore wind. Section 3.6.2 of the FEIS has been updated to explain that the New Bedford Port Authority, Massachusetts Clean Energy Commission, and Vineyard Wind are cooperating to develop supply chain and support opportunities, with a focus on fishing businesses.
13187-14-001	As SEIS says, Vineyard Wind and other proposed offshore wind projects will help Massachusetts and other East Coast states to reduce their reliance on polluting fossil fuels. Once completed, the Vineyard Wind project will produce approximately 6% of the electricity consumed from Massachusetts, while avoiding 1.6 million tons of carbon dioxide annually, the equivalent of taking 325,000 cars off the road. The project will also result in a significant reduction in other pollutants like nitrogen oxides and sulfur dioxide that harm our health.	Thank you for your comment.
13187-15-001	...the 2008 Global Warming Solutions Act, which is a legally binding piece of legislation that is now statute that requires a greenhouse gas reduction in the Commonwealth, and in the process of making sure that we also have this binding legal authority to get to net zero by 2050. The administration is also on board with that. And in order for us to do that, we need this offshore wind initiative to go through off the coast of Massachusetts. The Vineyard Wind 1 project is something that deserves to be approved. It will significantly impact our public health in our air quality in a positive way. It will reduce significantly greenhouse gas emissions, it will create literally thousands and thousands of jobs, will be the leader in terms of this industry in America.	Thank you for your comment.
13187-15-002	The fishing industry when we look at that industry in Massachusetts, it's always been a big part of our culture, and a big part of our economy, and a big part of the food product here in in Massachusetts, and I see very little impact at all on the fishing industry, especially when you balance that against what will take place with the cumulative impact of ocean acidification and ocean warming on the fishing industry, which will have a serious detrimental impact on the fishing industry.	Thank you for your comment.

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13187-15-003	And finally, I just want to say that the cost of inaction here will be in the trillions of dollars. If we do not act quickly on this and send the message to the industry as a whole, that both the state and federal government and all of the state governments in the northeast that are onboard here, that this does not move forward, it will send a negative message both I think up to the federal government level and to the industry as a whole, because if you look at this anywhere else in the world, it has been a success.	Thank you for your comment.
13187-16-001	First, the visual impacts from aircraft warning lights is a concern that needs to be addressed, and its opposed use of lights activated only when aircraft approach addresses our community concerns. This has been described properly as negligible and the SEIS.	Section 3.10.2.1 of the SEIS stated that Vineyard Wind had committed to use ADLS to reduce the time when nighttime aviation lighting is activated, and that within the viewshed of the geographic analysis area, the use of ADLS for offshore wind projects would reduce the impact of nighttime aviation safety lighting to negligible. Vineyard Wind would also use white or light grey color as described in Appendix D to reduce visibility against the horizon. Therefore, no change to the FEIS is warranted.
13187-16-002	Second, importance of impacts on water users, which includes but is much larger than the group that are fishermen. So significant issue for all island residents and, in fact, all coastal dwellers in the northeast. So regarding navigation, the wind developers have agreed to a one mile by one mile and uniform layout, which the coast guard has endorsed. If this is good enough for the U.S. Coast Guard, it's good enough for the rest of us.	Thank you for your comment.
13187-16-003	The proposed action building this wind farm and the cumulative effects of building the 20 plus wind farms will reduce carbon emissions and methane emissions and help protect our harbors and our access to the waters. In closing, I want to say this is a complete and adequate environmental impact statement.	Thank you for your comment.
13187-17-001	Investing in renewable energy has the capacity to directly reduce human suffering [that results from the impacts of fossil fuel use / climate change] on a global scale. And this process here offshore in offshore wind represents an infinitely important shift away from fossil fuel and a new deviation of that burden. And I would just like to echo an individual before me talked about how the cost of inaction is just so much greater than the cost of action.	Thank you for your comment.
13187-17-002	But I would like to celebrate the consideration of marine ecosystems in this process, while urging you all to take a step back and consider how the net impact of this project is measurable gains for all ecosystems, one we've waited for for far too long, and are all deserving of.	Thank you for your comment.
13187-18-001	Economic benefits of this industry promise to be tremendous at a time when some other U.S. industries struggle or decline, offshore wind is set to take off and provide thousands of good paying jobs not only in the construction and	Section 3.6.1 of the FEIS has been updated to identify ongoing and planned port infrastructure projects within the geographic analysis area. Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of a

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	operation of the wind turbines themselves, but also indirectly through the development and expansion of ports, shipping and related industries.	wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13187-18-002	As others have noticed, the offshore wind industry is expected to create more than 80,000 jobs in the next 10 years, with private investment reaching upwards of \$25 billion per year by 2030. And Vineyard Wind alone creates 3,600 jobs for local residents over the life of the project. And because wind can now produce energy so cheaply, Vineyard Wind will save ratepayers more than \$1.4 billion in energy costs during the first 20 years of the project.	Economic and employment contributions of Vineyard Wind are covered in Section 3.6.2.1 of the FEIS. These were also included in the DEIS. Estimated job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of a wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13187-18-003	Vineyard Wind alone will remove almost 1.7 million tons of CO-2 from the atmosphere annually. Thus, it will help to achieve Martha's Vineyard's goal of being 100% renewable for electricity by 2040 and the Massachusetts target of being carbon neutral by 2050. And because offshore wind generates power at long term fixed prices, it provides a hedge against fossil fuel volatility, protecting consumers and providing greater energy security.	Thank you for your comment.
13187-19-001	We support very much the -- that the option D in the SEIS is sufficient and certainly allows for -- and that's the 1.1 nautical miles between towers allows for safe transit of the area, the Coast Guard has sent us plenty of room.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13187-19-002	This is the nuts and bolts of how the first stage of this project will happen is with skilled trades workers and men and women who make up our Local and we have worked quite well with Vineyard Wind, they have been big supporters of skilled workers....We strongly support the permitting of the Vineyard Wind 1 Project and we hope to see the permits issued soon so we can begin this work that all of us, so many people tonight have stated so many good reasons to get it going. We believe that like many of you do, it's a win. It's a win for energy independence for Massachusetts. It's a win for clean, renewable power, and it's a win for jobs for the residents of southeastern Massachusetts.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13187-19-003	We support that option, we fully respect the needs of commercial fishermen to access and transit the area. We also want to say the ocean is a shared resource and other people have to make their livings on the ocean, such as marine construction workers as well.	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.

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13187-20-001	I would also like to say that this offshore project will also help Martha's Vineyard to reach its goal of hopefully having green energy and transportation by the year 2040 at a 100% level. I don't have anything else to add except that hopefully we can get this project going quickly. And that I think that there is no need to fear this technology is so good now that it's got 30 years experience, as someone has pointed out earlier, and I just hope that we can get started sooner than later.	Thank you for your comment.
13187-21-001	We know that strong action must be taken to make a rapid transition to a responsible clean energy economy. We believe that the Vineyard Wind 1 Project will be a positive contribution to this transition and that it move forward. Responsible development of offshore wind avoids, minimizes and mitigates impact to wildlife every step of the way. Vineyard Wind has supported our high standards for wildlife protection. And last winter, they signed a historic agreement with the National Wildlife Federation and our partners at the Natural Resource Defense Council and Conservation Law Foundation to protect the critically endangered North Atlantic Right Whale.	Thank you for your comment.
13187-21-002	We must stand these projects up as soon as the responsible development will allow. Over 10,000 megawatts of coal, nuclear and oil-fired power plants providing energy to New England are likely to retire in the next few years. We have no time to lose. The technology is ready. The cost is competitive. And the time is right for launching this global industry in the United States that could create over 83,000 jobs by 2030 and invest tens of billions of dollars into our economy.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from the growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind. Sections 3.6.1 and 3.6.2 of the FEIS include the benefit of offshore wind in contributing to energy security and resiliency.
13187-22-001	For decades too long our inability to align the political will needed to harness this opportunity has wedded us to the volatile fossil fuel market, and all the environmental public health and social justice impacts that come with it. We've heard about the economic urgency of this moment, and the desperate need for long term high quality jobs, like the thousands this project will deliver, and the tens of thousands more the industry as a whole has to offer the region.	Thank you for your comment.
13187-23-001	I think that we are ready for the offshore wind industry -- overdue actually for the offshore wind industry to be involved in the United States. I think that it's well overdue. Vineyard Wind is committed to making sure that the jobs are United States jobs. With a foreign training on the onset, but very soon to be all United States jobs.	Thank you for your comment.
13187-23-002	They have contributed a lot to training not only at the trade level, but also in the colleges and in the high schools and in the areas of Southeastern Mass. I	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project would provide, including job training for offshore wind. This information was also provided in the DEIS.

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13187-23-003	I think that the federal waters that this project will be involved with is an area where everyone can benefit, not only the fishing industry, but the construction industry... And we look forward to working with Vineyard Wind and all of the other developers that will be involved in offshore wind, and I'd like to see the agency approve this permit as soon as possible. So that we can get started as soon as possible. I mean, we're looking at probably 20 to 30 years of work between construction and maintenance when the construction is over.	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
13188-01-001	Vineyard Wind has spent a decade researching, studying and planning how to build their offshore wind development in a way that is as safe as possible for marine life and our fishing fleet. We have friends and relatives who are commercial fishermen on the island and it was a comfort to me to learn that the Coast Guard reviewed Vineyard Wind's plans and deem them safe for commercial fishing. The changes Vineyard Wind has made in response to concerns from the commercial fishing industry are critical.	Thank you for your comment.
13188-01-002	But nothing threatens the future of fishing and farming here more than climate change. And the only way we can tackle the issue of climate is to stop burning fossil fuels as soon as possible and replace them with renewable energy sources. The greatest contribution our region can make to this transition is to move forward with offshore wind safely but also quickly... And these wind developments are crucial to changing the way we get our electricity so that we can give the next generation and the life in the oceans a chance at a livable future.	Thank you for your comment.
13188-01-003	Another challenge that young people face who want to stay living on the Vineyard is the ability to find good year-round jobs. Vineyard Wind has committed to base their operations and maintenance facility into Berry Harbor, and to offer offshore wind technician training to Island students at the Martha's Vineyard Regional High School. Diversifying our local economy is key to helping young people stay on the island, and these jobs will help us in that effort.	Section 3.6.2 of the FEIS addresses the location of the Vineyard Wind 1 Project operations and maintenance center on Martha's Vineyard as a source of long-term jobs for the island. The FEIS also lists the grants and community programs that Vineyard Wind 1 Project would provide, including job training for offshore wind, and has been updated to include the cooperative agreement between Vineyard Wind and Vineyard Power.
13188-02-001	And I'm speaking today in support of the development of Vineyard Wind 1 and all future offshore wind projects in the United States. Offshore wind is essential for the achievement of Massachusetts and by extension all of New England safe, clean energy goals.	Thank you for your comment.
13188-02-002	They have along with other major developers agreed to the proposed action D-2 which is the east-west one nautical mile wind turbine layout that will create hundreds of dozens of lanes for the commercial fishing industry. And we believe this is the best course of action as it allows the project to be viable	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	in order to bring much needed clean power to the region at low cost to ratepayers.	
13188-02-003	Having hundreds or thousands of megawatts of offshore wind online will decrease the likelihood of encountering high winter prices in the future.	Section 3.6.1 and 3.6.2 of the SEIS and FEIS address, as a beneficial impact of offshore wind, the long-term contribution of offshore wind to energy security and resiliency.
13188-02-004	I'd like to point out that offshore wind and other renewables have the benefit of producing zero emission electricity. It will help us decarbonize our grid as we continue to electrify operations such as heating and transportation. We hope that BOEM and the federal government look at the benefits of Vineyard Wind 1 from the development of clean energy, savings to ratepayers and also to the economic boom it is sure to bring to the region, as hundreds of new jobs will be created, and allow the project to move forward.	Thank you for your comment.
13188-03-001	Thank you for the opportunity to speak in support of building Vineyard Wind without further delay and with the existing 1.1 mile turbine layout plan. I oppose the addition of two to four mile transit lanes within wind farms, which the U.S. Coast Guard has determined is unnecessary, and which would needlessly reduce the amount of electricity Vineyard Wind can produce.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13188-03-002	Massachusetts needs clean energy and offshore wind is New England's biggest untapped clean energy source.	Thank you for your comment.
13188-03-003	Our economy needs the hundreds of local jobs Vineyard Wind will create. And our ratepayers need the energy cost savings Vineyard Wind will bring. In 2018 Massachusetts sent \$18 billion out of state to buy fossil fuels. Vineyard Wind will keep more of this money in Massachusetts, where it will be channeled into jobs and the consumer economy.	Economic and employment contributions of Vineyard Wind are covered in Section 3.6.2.1 of the FEIS. Estimated direct job creation by Vineyard Wind would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. Sections 3.7.1 and 3.7.2 of the SEIS and Sections 3.6.1 and 3.6.2 of the FEIS address the benefit of offshore wind in providing a secure and resilient source of energy.
13188-03-004	Cleaner air will reduce the adverse health impacts from air pollution caused by fossil fuel plants. It will help protect our fisheries and reduce ocean acidification that is hurting our shellfish industry.	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
13188-03-005	And who knows, some European offshore wind farms have become tourist destinations. Maybe Vineyard Wind will become a tourist attraction in the future.	The SEIS noted in Section 3.10.1 and 3.10.2 that offshore wind could be a destination for tour boats or recreational boaters. Therefore, no change to the FEIS is warranted.
13188-04-001	We have listened to them and that was one of the reasons that the one by one transit lanes were suggested and were adopted by Vineyard Wind. As somebody else said, the Coast Guard has said that lanes much more than that really don't add to anything. So I would also agree that just doing the one by one transit lanes would accomplish the goal.	The FEIS addresses this comment in Section 3.11.5. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13188-04-002	So during [offshore wind] development... there's... the concern about noise.... BOEM... had some wonderful posters showing different animals, mammals,	Thank you for your comment.

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	seals, fish, et cetera, and how noise at what distance from the construction site the noise would have an effect on them. That same sort of information is also available in a report done by Bergstrom, et al., which was done in 2014, which does talk about the noise level. And also about cables and electromagnetic current, et cetera, talks about benefits some of the detriments. And then the second stage is once... the turbines are in production, how does that affect the life in the ocean around it. So there was another report on that that was done... by Bailey... in 2014, assessing environmental impacts of offshore wind farm lessons learned and recommendations for the future. That's by Helen Bailey, Kate L. Brooks, and Paul M. Thompson, that's in 2014... Anytime you do anything, there's always going to be benefits and detriments.	
13188-04-003	We are not going to be able to eliminate all detriments, but what Vineyard Wind has tried to do and will do is to take the best information on -- at the time of construction on how to minimize sounds if at all possible. There are air curtains that can be put in place as one way to decrease the sound levels. And there are several other newer techniques that have come into play since 2014.	Thank you for your comment.
13188-04-004	There are always going to be detriments when you build something. What BOEM is trying to do as well as Vineyard Wind is to try and mitigate those as much as possible while providing what is a fossil fuel resource that will go many years into the future... the amount of turbines to generate the same amount of power is being reduced over time with a reduced the number of platforms, then obviously you reduce the impact on the life in the ocean and also the benthic impact on the soil and subsurface.	Thank you for your comment.
13188-05-001	I see what we've done to our planet through years of reliance on fossil fuels, and, yes, no solution is perfect. But here we have the opportunity to lead the way to build turbines in a way that takes into account wildlife, fishermen and local residents. There's no perfect solution to supply the energy demands of the growing world, but these turbines along with other clean energy solutions are the future.	Thank you for your comment.
13188-05-002	Overfishing, habitat destruction and an industry that has become one dominated by large conglomerates cannot possibly sit here and say that they are doing right by our planet. Yes, the project could affect people's livelihoods. But it could also put us one step closer to having cleaner energy while also showing the rest of the United States that we are serious about the future we want to secure for future generations.	Thank you for your comment.
13188-06-001	And my main concern to communicate here is that the environmental impact statement is significantly defective in its consideration of reasonable	Section C.5 in Appendix C of the FEIS, as well as the DEIS and the SEIS, include text related to alternative wind turbine foundation types. BOEM

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	alternatives regarding the type of technology to be installed. NEPA requires that all reasonable alternatives to a project be considered. The project as proposed specifies that the turbines will be installed either on monopile or jacket foundations. No consideration is given to another technology which eliminates the impacts that those technologies have...called mobile jack up platform[s]..[which] eliminates completely the need for pile driving. Almost all of the environmental impacts in the EIS are related to pile driving, and there is no mention at all that there is another technology that is proven, has been used for decades and eliminates that impact completely.	considered such alternatives but did not analyze them in detail in the NEPA document.
13188-06-002	The technology currently proposed, which is monopiles and jackets, requires the use of an offshore construction ship to lift the turbines and install them on top of the structure... Whereas, the mobile jack up platform requires no ships at all. The entire system is assembled on shore and a tugboat simply tows the whole unit out and installs it in a couple of days.	Section C.5 in Appendix C of the FEIS, as well as the DEIS and the SEIS, include text related to alternative wind turbine foundation types. BOEM considered such alternatives but did not analyze them in detail in the NEPA document.
13188-06-003	Those ships [used for the monopile jack up platform] do not exist in the United States, they will have to come from Europe where they are already built. They add hundreds of millions of dollars to a project, thus raising the cost of the electricity that is produced and that is a burden to the ratepayers. And the ships themselves have significant impacts. They have to have a port, they create air pollution and other types of pollution when they are in use.	Ratepayer costs depend on numerous variables beyond the scope of the EIS. Air emissions from Vineyard Wind 1 construction were addressed in Appendix A, Section A.8 of the SEIS. New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS. Section 3.11.2 discusses port utilization and vessel traffic due to project vessels from Europe.
13188-06-004	Similarly, when it is time to decommission the wind farm, and this has not been addressed in the EIS to my consideration, when the foundation jackets are removed, if they are driven into the seabed they have to be cut out or blown up and that creates impact. Whereas, a mobile jack-up platform simply lifts its legs up and floats back to it. So the EIS, which apparently is entire EIS, is focused on the disruption impact from the use of turbines, and there is no mention of this other technology.	Sections 2.1.1.3 and 3.2.2 of the FEIS have been updated to discuss the potential impacts of decommissioning.
13188-06-005	[Mobile jack-up platforms] eliminates most of the risks that are already addressed the EIS, and BOEM's director, Walter Cruickshank, and the National Renewable Energy Laboratory all know this and has been informed of it for over five years. We are baffled why this has not been addressed as a reasonable alternative in the EIS.	Section C.5 in Appendix C of the FEIS, as well as the DEIS and the SEIS, include text related to alternative wind turbine foundation types. BOEM considered such alternatives but did not analyze them in detail in the NEPA document.
13188-06-006	We are very concerned that the public is not being given adequate information about reasonable alternatives that the proposed technology for selling the turbines obviously has significantly more environmental and construction and demolition with it than the alternative technology we think is better. The fishermen are more at risk with the proposed technology because if something happens in the area the wind farm those devices will	Section C.5 in Appendix C of the FEIS, as well as the DEIS and the SEIS, include text related to alternative wind turbine foundation types. BOEM considered such alternatives but did not analyze them in detail in the NEPA document.

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	not be moved. Whereas, if they are floating with the mobile jack up platforms literally it takes two days to move it to somewhere else that has large impact.	
13188-06-007	The [monopile or jacket foundations] technologies proposed are unproven. No one says in that EIS that monopiles or jackets will be used. No monopile has ever been installed in the ocean with a 14 megawatt turbine in moderate or deeper water, it is absolutely not known if that will work. Whereas, the jack up will hold up to 10,000 tons.... So considering that we have unproven technology proposed, there is no reasonable alternative for those screening the EIS.	Section C.5 in Appendix C of the FEIS, as well as the DEIS and the SEIS, include text related to alternative wind turbine foundation types. BOEM considered such alternatives but did not analyze them in detail in the NEPA document.
13188-07-001	We are aware that there's a significant amount of opposition that has come from the commercial fishing community. We understand that they are, you know, an essential part of the Southeastern Mass economy... However, the ocean is a shared resource. All of us have an opportunity to make a living there, marine construction workers as well.	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind.
13188-07-002	There was a delay [for the permit], in August of 2019, I believe, based on the spacing of the monopiles and Vineyard Wind has redesigned its entire grid to allow for one nautical mile between each turbine monopile and the Coast Guard chimed in and said this is acceptable, this is more than enough space for people to transit the turbine site, the designated lease area, whether they're fishermen or pleasure boaters. The U.S. Coast Guard strongly believes this is a good, good layout. So we think this is the one to go with.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13188-07-003	We have heard that there's opposition [to the one nautical mile spacing and] that there is a request for a four nautical miles corridor and we're opposed to that. There would add extensive costs to the project. Already Vineyard Wind has agreed to do new borings at the one nautical mile mark, and that's expensive to begin with, but then to add the additional costs for all the cabling and the additional engineering needed to do this, this is going to needlessly delay the project but may imperil its financial viability.	Section 3.6.4 of the FEIS has been updated to note that the transit corridor (Alternative F) could result in lower economic investment and employment due to the lower capacity for offshore wind development in the RI and MA Lease Areas that could result from this alternative.
13188-07-004	And at this point, we don't need [project delays and imperiled financial viability due to studies for a four nautical mile corridor], we need to get out there and put some turbines up. The Coast Guard approves this is good plan, we'd like to see this project go forward.	Section 3.6.4 of the FEIS has been updated to note that the transit corridor (Alternative F) could result in lower economic investment and employment due to the lower capacity for offshore wind development in the RI and MA Lease Areas that could result from this alternative.
13188-08-001	I'm generally in favor of renewable energy as an important solution to climate change. And there's no question that climate change is one of the greatest threats to the coastal regions of New England, the United States and, in fact, the world. The rate of climate change continues to increase exponentially. But, unfortunately, the rate at which renewable offshore projects are being approved has stalled over the last two decades.	Thank you for your comment.

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13188-08-002	The research that's been done to date is exhaustive. I believe that this project has been looked at up, down, sideways and every way it could possibly be. I think that everyone's done a great job. I think that the developer, Vineyard Power, power has done a really good job in making concessions and trying to do this in a responsible manner.	Thank you for your comment.
13188-08-003	I'm happy that fishermen [had] a voice and the project developers made massive changes that they reflected initially, changes in layout, changes in spacing. And I firmly believe that this successful implementation of this project will improve our climate and improve our fisheries.	Thank you for your comment.
13188-08-004	The one mile turbine spacing in the revised layout is generous and is adequate, and I see no reason to reduce the project size for additional transit lanes and in no case should a four mile corridor be required. I mean, let's face it, Vineyard Sound itself is only three miles and navigable in only two miles. Cape Cod Canal is only 480 feet wide at its narrowest, roughly one 10th of a mile. And in 2015, the world's largest cruise ship, which at the time was 644 feet long sailed through the canal without issue, and massive freighters pass through that canal regularly, 480 feet wide.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13188-08-005	I just heard Mr. Hamner speak of the jack up foundations. Clearly, the developers are aware of all available technologies, they do use jack up platforms to work on the turbines, they use them to go out and do the testing of the sea bottom. And I'm also sure everybody trying to sell a foundation will say that theirs is the best. But, I mean, if you do look up jacked up wind arms, you'll find out that it is not really proven technology for large wind farms. Neither are floating platforms or even cold fusion for that matter.	Section C.5 in Appendix C of the FEIS, as well as the DEIS and the SEIS, include text related to alternative wind turbine foundation types. BOEM considered such alternatives but did not analyze them in detail in the NEPA document.
13188-09-001	The obvious reason to support these projects, including our local Vineyard Wind project, is for long-term environmental benefits, to help slow the devastating impacts of climate change, to move away from our dependence on fossil fuels.	Thank you for your comment.
13188-09-002	We have an opportunity to be on the forefront of a new industry harvesting clean, renewable sources of energy. This is not only a win on the environmental front, but a huge win on the economic front. The global pandemic has had a unique ability to find weak spots in almost every aspect of life. Here on Martha's Vineyard, and I think in most coastal communities, we are heavily dependent on service sector jobs, restaurants and bars, catering, hotels, taxi drivers, retail stores, the list goes on and on. And there was 13 percent unemployment in our country, 20 percent, probably more than 20 percent here in Martha's Vineyard. This is an unbelievable opportunity to create good paying year-round jobs that do not rely specifically on tourism.	The estimated direct job creation by Vineyard Wind is summarized in Section 3.6.2.1 of the FEIS (and was also in the DEIS). The FEIS addresses that establishment of the operations and maintenance center on Martha's Vineyard as a source of year-round, long-term jobs, and that the use of Vineyard Haven for operations would provide beneficial economic activity.

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13188-09-003	I believe that the Vineyard Wind estimate is 3,600 jobs over the life of the project. That has enormous economic benefits to local communities, well-paid year round stable jobs. I think the industry as a whole is estimating 80,000 jobs, which again, it's just an enormous benefit to these local communities.	Section 3.6.2.1 of the FEIS discusses the economic and employment contributions of Vineyard Wind. This information was also provided in the DEIS. Estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13188-10-001	If the state of Massachusetts is to meet the emissions reductions in the Global Warming Solutions Act, offshore wind must move forward in a timely and responsible manner. As the administrator of the Cape Light Compact, I support the findings of the SEIS and believe the SEIS demonstrates that offshore wind projects can move forward in a responsible and environmentally sound manner in the waters of the eastern United States.	Thank you for your comment.
13188-11-001	The cumulative effects succession is based upon a northeast continental shelf ecosystem conceptual model, which assumes the system is in a steady state net equilibrium, ignoring climate change and ocean noise effects. I have been involved in a dialogue on North Atlantic Right Whale deaths from entanglement to the American lobster gear in New England and Canadian waters. Both the whales and the lobsters have migrated further offshore or northeastwards as coastal waters become warmer and noisier.	Sections 3.5.1 and 3.5.2 of the SEIS and Sections 3.4.1 and 3.4.2 of the FEIS consider climate change IPFs and discuss the potential consequences to marine mammals. As discussed in the Biological Opinion issued by NMFS on September 11, 2020, the current understanding of NARW movement patterns is incomplete at this time. PAM data suggests that some individuals may be present within the WDA year-round (NMFS 2020). As such, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required.
13188-11-002	I have two potential concerns about the BOEM SEIS on wind farms along the Atlantic seaboard conflicting with the NOAA Fisheries EIS on northern right whale mortality from lobster gear entanglements under the Marine Mammal Protection Act and the Endangered Species Act. The BOEM cumulative effect analysis of 20 wind farm for fin fish and shellfish, marine mammals, benthic organisms and bottom sediments, fishery regulations, seabirds, et cetera, acknowledges the impacts can range from minimal to maximum	Section 3.5.2.1 of the SEIS discussed the potential impacts of the proposed Project on marine mammals. Additionally, Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, including NARW. These measures include, but are not limited to, avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed

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	depending on other human uses of the same ocean ranges. The North Atlantic Right Whale death limits per year from entanglements and ship strikes is less than one animal per year, given the recent deaths exceeding births, and the poor condition and many, many breeding age females from entanglements.	restrictions, injury and mortality reporting, and other measures. Additional information regarding impacts and the potential consequences to ESA listed species is provided in the Biological Opinion issued by NMFS on September 11, 2020. As discussed in the Biological Opinion issued by NOAA (NMFS 2020), no population level effects or reduced whale numbers are expected to occur as a result of the proposed Vineyard Wind 1 Project. Further, take of whale species is expected to involve harassment and some injury to a limited number of individuals during the course of pile driving activities. No other take of marine mammals, including NARW, is expected to occur as a result of the project.
13188-11-003	The Martha's Vineyard Wind SEIS contains alternatives F-1 and F-2, based on comments submitted by RODA to reduce the number of wind turbines and allow navigation channels through the wind farm footprint. The proposed marine mammal NGO proposals to NOAA fisheries for ropeless lobster gear enclosed areas when the North Atlantic Right Whales are present, which have a much greater impact on the lobster fishing industry. Scientific studies are underway to provide better understanding of these challenges.	BOEM will incorporate the identified information into future assessments as it becomes available.
13188-11-004	Recently NOAA Fisheries released the 2020 status of ecosystem reports for the Mid-Atlantic and New England regions, which made BOEM in developing the SEIS, I made some suggestions in my written comments on the use of vulnerability analysis and scenario analysis as interim tools to evaluate the effect of wind farms on marine biota and their habitat as we await the completion of scientific studies and their publication and development of appropriate policies and regulations, which can be a time-consuming process.	Thank you for your comment.
13188-12-001	So I'm very much interested in any kind of way to move quickly to decarbonize our energy sources and slow climate change. We support the work documented in the SEIS and appreciate the careful work of BOEM. And now it's time for offshore wind energy, and it's time to move ahead with it.	Thank you for your comment.
13188-13-001	I do want to state that there -- I think as the studies have shown, there will be no adverse impact on aviation in the area.	Thank you for your comment.
13188-13-002	But what I do want to say is what has happened in the last two years is we're a lot closer to the electrification of air transportation. And one of the things that Cape Air has been acutely aware of is that as we get closer to actually being able to move people through the air in a carbon free way, aircraft and aviation account for about two and a half percent of global climate change emissions. As we get closer to doing it responsibly and in a carbon free way, we really need sources of renewable energy to provide the electricity to move	Thank you for your comment.

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	our aircraft. And we have talked repeatedly to Vineyard Wind about procuring in the future electricity from them to power our aircraft. It is essential that we have that opportunity. Otherwise, what an irony it would be if we're moving aircraft around with electricity, but doing it from coal, that's just not acceptable. So we really need industrial scale, large source of of electricity in order to power our aircraft and to power all of transportation and air transportation. So specifically, today, again, in addition to the written testimony, I just want to weigh in that from an environmental standpoint, from a business standpoint, you've heard so many good people advocate relative to the beneficial impacts on an economy that is really, really hurting a lot of people right now, there are so many reasons why this is an important project and why now is the time to get it done.	
13188-14-001	We have worked to develop and shared with all an action plan and a set of specific pathways that we believe will lead to the goal of net zero emissions on Cape Cod by 2050...So the absolute key, however, to achieving that net zero goal has got to be the substantial offshore wind production starting immediately with the Vineyard Wind.	Thank you for your comment.
13188-14-002	We do support the east-west one nautical mile wind turbine spacing alternative without transit lanes, additional transit lanes, that's alternative D-2. We believe this will reduce conflicts within the existing ocean users, such as commercial fishing and marine navigation. And I would note that the Coast Guard has agreed with that and stated that additional transit lanes are unnecessary.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment.
13188-14-003	We also support alternative B for the cable landing, that's at Colwells Beach landfall.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Vineyard Wind has indicated that New Hampshire Avenue landfall location is no longer a consideration as they have received all the necessary state and local permits for the Covell's Beach landfall site.
13188-14-004	Vineyard Wind has been extremely responsive and inclusive in all events with all interested parties in developing its plans for this project. And this really in many ways set the standard for corporate responsibility in this kind of development. I only would point you to the one prime example that we've been very interested in, which is an extensive work done with conservation groups to develop innovative and wide- ranging protections for the North Atlantic White Whale.	Thank you for your comment.
13188-14-005	We believe the SEIS provides a well-documented set of facts and analyses, they address all relevant issues and we urge that it be approved without further delay.	Thank you for your comment.
13188-14-006	I keep thinking, we've heard some comments from various sectors about the potential negative impacts on whales and fisheries from this project, but I	Thank you for your comment.

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	think we all know the most devastating threat to whales and fisheries and ourselves is the rapidly warming climate and ocean waters. So the development of this offshore renewable wind energy projects and projects up and down this coast is the key part of an urgently needed response to this threat, and I thank BOEM for it's continued leadership in moving us forward.	
13188-15-001	And as we can see, with my own comments here, I really do want to speak from personal experience and say it's a Herculean high and achieved effort to execute virtual events like this. So we recognize your effort and coordination here.	Thank you for your comment.
13188-15-002	Vineyard Wind and other offshore wind projects like it that are currently under review at BOEM serve as unparalleled engines of economic development and, more importantly, economic recovery. And this is at a time when Americans need this most, particularly in light of the ongoing COVID-19 crisis and record unemployment. There are 40 million Americans that are out of work right now. The Department of the Interior approval of Vineyard Wind's construction and operations plan will unleash a wave of investment.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13188-15-003	More importantly, disapproval [of the Vineyard Wind Project] will begin a domino effect that will ultimately put tens of thousands of hardworking Americans from across the economic spectrum and from literally all walks of life -- just for example, some of whom we've heard from today, the building trades, vessel captains and deckhands, accountants, dock workers, economists, welders, divers, aircraft pilots, atmospheric and marine scientists, truck drivers, attorneys, crane operators, project managers, mechanics and every imaginable engineering discipline, among many other occupations, will go back to work as a result of Vineyard Wind and other offshore wind projects.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13188-15-004	Vineyard Wind will also significantly contribute to energy security and improve local air quality in New England.	Thank you for your comment.
13188-16-001	I'm concerned with the impact on the endangered marine life, the seabed and erosion. Those impacts appear clearly assessed.	Thank you for your comment.
13188-16-002	I do not see any assessment of cultural impact of the Vineyard Wind, for instance, the windmills will dominate views from wave screen and the north neck high ground. These grounds are where we hold ceremonies from our lost ancestors and rising sun... For 10,000 years with experience, this view has been unaffected by man-made structures. I'm compelled to speak in the interest of preserving our traditions for my children. My questions are, which category assesses cultural impacts? And how do you plan to mitigate these impacts?	BOEM utilized all information provided in the course of the NEPA review and National Historic Preservation Act Section 106 consultations to analyze the impacts on the environment, natural and cultural resources, and environmental justice communities in order that the decision maker is fully informed. The description of impacts is located in Sections 3.8.2-3.8.5, and when considered against the criteria determining the intensity of impacts (i.e., whether they are minor, moderate, etc.), located in Section 3.8.6, the impacts are of a moderate nature.

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13189-01-001	First, we strongly support the adoption of Alternative D-2 as the preferred alternative for project layout in the Rhode Island/Massachusetts contiguous lease area. As one of the participating developers to the consensus proposal for a uniform one-nautical-mile-by-one-nautical-mile east-west grid configuration for these specific lease areas, we were heartened to see the solid evidence presented in the SEIS demonstrating the superiority of this approach from a navigational safety perspective while still respecting the ability of commercial fishermen and other navigators to transit in and through our lease area.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment.
13189-01-002	We encourage BOEM to defer to judgment of the U.S. Coast Guard, which in the context of the recently released final Massachusetts Rhode Island Port Access Route Study, the MARIPARS, determined that the grid layout pattern, and I quote, will result in the functional equivalent of numerous navigational corridors that can safely accommodate both transits through and fishing within the wind -- the WEAs, and declined to recommend further formal or informal vessel routing measures.	The FEIS addresses this comment in Section 3.11.5. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13189-01-003	Diversely, we take issue with the SEIS finding that Alternative F contemplating a dedicated four-mile-wide transit corridor could, quote, technically and economically meet the purpose and need. As an example, the Responsible Offshore Development Alliance wrote a proposal for a four-nautical-mile-wide transit lane, the basis for Alternative F, if -- if adopted and extended to other projects would result in the loss of over 50 -- 50 wind turbine locations from our current three projects, South Fork, Revolution and Sunrise Wind, that have current existing PPA obligations. This equates to nearly 25% loss in the total wind turbine locations needed to support our state power purchase agreements. In light of this significant constraint on our development -- developable footprint and attendance production loss, we believe the SEIS conclusion of technical and economic feasibility with respect to Alternative F is misplaced.	Thank you for your comment.
13189-01-004	Second, it's hard to reconcile the SEIS qualitative assessment that future offshore wind development will result in only minor net economic benefits to the region with the study's recognition of significant new investment in ports and harbors, manufacturing and other supply chain activities and workforce development. Our company alone is on its way to investing 15 billion over the next decade in the U.S. The SEIS should reflect a more favorable rating of offshore wind as a domestic economic development engine consistent with ongoing and planned investments.	Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.

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13189-01-005	Third, for many of the cumulative impact parameters considered in the SEIS, BOEM chose not to incorporate widely accepted or legally mandated mitigation strategies. Thus, the bottom-line impact of the 22 gigawatt build-out must be considered a worst case scenario and not...representative of as-constructed project impacts. The SEIS should place the impact assessment in proper context.	Thank you for your comment.
13189-01-006	Fourth, since the SEIS acknowledges that ongoing climate change, which contributes to cumulative impact, it's important to reemphasize the positive climate impact that renewable energy projects will provide to terrestrial and marine fauna and local communities.	Air quality and climate change impacts are addressed in Section A.8.1 of the SEIS and FEIS.
13189-02-001	First, the supplemental EIS is, by design, focused on the cumulative impacts of the Vineyard Wind Project and other offshore wind projects that are reasonably foreseeable. But a plain reading of the SEIS could lead to the conclusion that if the Vineyard Wind 1 Project is not advanced, other projects in various stages in the pipeline inevitably will. I don't think this will be the case, and I'm going to explain why further in my testimony.	Thank you for your comment.
13189-02-002	The Vineyard Wind team of Copenhagen Investment Partners and Avangrid Renewables, as developers of the first commercial scale offshore wind proposal to advance since Cape Wind, have gone above and beyond the extensive federal, state and local requirements for offshore wind. They've done extensive due diligence, worked closely with BOEM and state and local regulators, and reached out to a wide variety of stakeholders, including commercial fishermen and environmental NGOs. They've modified the project in response to concerns and objections, and they've collaborated with other Massachusetts leaseholders. Collectively, they have voluntarily agreed to a one-by-one nautical mile spacing to address concerns raised by both commercial fishermen and the Coast Guard.	Thank you for your comment.
13189-02-003	The project has significant environmental and public health benefits. It would reduce carbon emissions by almost 1.7 million tons per year would cut NOx emissions by over 1000 tons per year and SO2 emissions by 860 tons per year.	New information quantifying averted emissions using AVERT relative to existing power generation has been added to Section A.8.2.1 of the FEIS.
13189-02-004	It has significant economic benefits. The project would generate 2.8 billion in direct private investment and provide some 3,600 family-sustaining jobs, and it would have a significant ratepayer benefit generating 1.4 billion in savings over the life of the project.	Economic and employment contributions of Vineyard Wind are covered in Section 3.6.2.1 of the FEIS. (These were also included in the DEIS.) Estimated job creation by Vineyard Wind would be approximately in Massachusetts alone 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. Section 3.6.2.1 and Tables 3.6-3, 3.6-4 and 3.6-5 also list the grants that would be provided by

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		Vineyard Wind and show economic value and first year tax revenues that would result from Vineyard Wind.
13189-02-005	As this project is the first anticipated large scale wind project in the United States, it is, in many respects, a litmus test for offshore wind development in this country. Where BOEM comes out on this project will send a message to the entire offshore wind industry and will likely determine its fate in the U.S. ... It's clear that BOEM's decision here will have ramifications well beyond the Massachusetts border. New York, for example, has three offshore wind projects in the pipeline totaling more than 1800 megawatts and has a state mandate to achieve 9000 megawatts of offshore wind energy generation by 2035. If those projects do not advance or are subject to onerous conditions, such as a four-mile-wide transit lane, New York... will not achieve its statutory clean energy standards. It's that simple. So I urge BOEM to reject the Alternative F.	Thank you for your comment.
13189-02-006	Alternative F is completely unnecessary and would severely constrain clean energy production in the Massachusetts wind energy areas and not meaningfully improve navigation or safety.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment.
13189-02-007	[Alternative F] it threatens the viability of all offshore wind projects in the region and the state's ability to meet their renewable energy goals, and in some cases, like New York's, its mandates. If it is imposed, we would lose -- lose the substantial benefits of these offshore wind projects, including emission reductions, improved human health, billions in economic investment, and thousands of family-sustaining jobs.	Section 2.1.5 of the SEIS addressed the technical and practical challenges that could occur in Alternative F were implemented. Section 3.6.4 of the FEIS has been updated to note that the transit corridor (Alternative F) could result in lower economic investment and employment due to the lower capacity for offshore wind development in the RI and MA Lease Areas that could result from this alternative.
13189-02-008	So I urge BOEM to stick to its public schedule, issue... a final EIS in November, and a record or position approving the project as proposed and modified by the applicant in December.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
13189-03-001	Our over 10,000 members, well over 10,000 members, across Rhode Island and Massachusetts, who are involved in our energy program, demonstrate that New Englanders want clean energy, and they want clean energy that is affordable and reliable in building a local green energy economy in our states... We are working together to urgently develop an energy system that is affordable, reliable, and most importantly, free of fossil fuels which create local and global air pollution problem. As such, Green Energy Consumers supports the Vineyard Wind Project.	Thank you for your comment.
13189-03-002	We believe this SEIS demonstrates that offshore wind can be constructed at minimal environmental impact and that this project will lead to affordable and reliable clean energy for New England ratepayers.	Thank you for your comment.
13189-03-003	Moreover, this project is an essential step in the larger grid decarbonization that needs to happen in New England over the coming decades. The	Thank you for your comment.

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	development of offshore wind in the region is essential for the achievement of our clean energy goals.	
13189-03-004	The recent Massachusetts power purchase agreements create savings to ratepayers as offshore wind prices have come in lower than the other resources in the wholesale market. That means that offshore wind can contribute not just to the clean aspect of our energy market in our energy system goals, but also the affordability aspect.	Appendix A, Section A.8.1 of the FEIS has been updated to address air quality benefits of the displacement of fossil fuel electricity generation by offshore wind. Ratepayer costs depend on numerous variables beyond the scope of the EIS.
13189-03-005	Significant alterations to the project, such as the incorporation of extra-wide vessel transit lanes, or reducing the overall size of the project would reduce the region's ability to meet its decarbonization targets. It would also affect the viability and cost efficiency of the project.	Thank you for your comment.
13189-03-006	Proposed Alternative D-1, the one-nautical-mile-wind-turbine spacing, does allow for both project viability and least amount of obstruction to the commercial fishing industry. As this project will be a boon to the local economy, we certainly support minimizing the amount of obstruction to the commercial fishing industry	Thank you for your comment.
13189-03-007	The development of these large-scale projects fosters economic activity and job creation. Massachusetts and Rhode Island and other states throughout New England have repeatedly committed to the development of the clean energy economy as the future of these states. And moving ahead with this project will allow the economic benefits to result from the clean energy industry that we want to see.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13189-04-001	...Sustainable Marblehead took the lead and got the town to pass a warrant article at our town meeting in 2018 committing the town to 100% carbon-free energy... Many other towns in the Boston area ...are all actively pursuing similar zero-carbon emission goals by 2040. This goal is more aggressive than Governor Baker's 2050 goal for Massachusetts... To reach these goals, all these communities will need more renewable energy sources in their portfolios. So we need more sources of renewable energy. And most of the communities in eastern Mass are too densely populated to have the land area for land-based wind or for solar at utility scale; thus the offshore wind project of Vineyard Wind holds a tremendously important potential for Massachusetts.	Thank you for your comment.
13189-04-002	There's been very careful evaluation of the current marine environment in the area preconstruction. And Vineyard Wind has committed to evaluation and assessments during construction, and after installation of the wind turbines impacts, will be closely monitored. So I think that there's a very scientific, careful, thoughtful approach that should minimize any negative effects on us.	Thank you for your comment.

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13189-04-003	The third issue is that with climate change bearing down on us rapidly, and New England expected to see higher and more rapid temperature rises... And then we have more extreme precipitation events predicted for New England; stronger hurricanes, of course, coming at the coast, and we get those intermittently; certainly more extreme wind events; many thunderstorms now result in power outages than they did, and that didn't used to happen, but the winds will be clocked at, you know, 80 or 100 miles an hour. So obtaining electricity from a carbon-free source such as wind power, which reduces carbon emissions, and, therefore, hopefully will help us get a feeling of emissions and then begin to reduce how much is in the atmosphere, is terribly important.	Greenhouse gas emissions and climate change were evaluated in Section A.8.1 of the SEIS and the FEIS has been updated to include additional information.
13189-04-004	So in Marblehead, our Municipal Light Department...is eager to be able to purchase reasonably priced electricity from renewable sources...However, local resources are very constrained so that right now we only have 12% renewable energy in our portfolio and then 26% nuclear. We purchase our power through PSA and PPAs through MMWEC, which is the Mass Municipal Wholesale Electric Corporation. MMWEC needs wind options to provide its 22 Municipal light plant members? And currently it has none. You know, we have Berkshire Wind. We jointly, with some other munis, own eight turbines in Western Mass. But clearly, there's no future wind on the horizon unless Vineyard Wind gets approved.	Thank you for your comment.
13189-05-001	Committing to a clean energy future is now viable and essential... The Scots found a way to supply all their power without exploiting or destroying the surrounding natural world, and much like the Vineyard Wind Project where the utmost care is being provided with consideration for fishing industry, marine life and birds. Mass Audubon will be monitoring bird migration behavior. National Wildlife Federation stands as the champions for marine life and wholeheartedly supports this project.	Thank you for your comment.
13189-05-002	The Coast Guard has approved adequate spacing of turbines and conclude that corridors provided will -- will create proper navigational opportunity. Please reject Option 4 and adopt Option D in that regard.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13189-05-003	So if we are responsible as a society, we're going to alleviate the devastating long-term effects of climate crisis, offshore wind is the easiest and lowest energy delivered cost.	Thank you for your comment.
13189-05-004	Let's not forget the tens of thousands of jobs that the wind power industry could generate long term.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the

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		estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13189-05-005	I'd also like to suggest that we are creating a geopolitical stability as we develop local clean energy.	Thank you for your comment.
13189-06-001	I'd like to first go on record in supporting the one-mile distancing between towers. And there was one statement in the Coast Guard report that stood out to me: Anything that can be done to reduce traffic scenarios is a prudent decision. So I'm very supportive of that.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13189-06-002	As we enter a new century, the power generation industry must now take into consideration of impact items such as climate change, carbon dioxide emissions, capacity of fossil fuels while experiencing an increase in demand for electricity. The direction taken on power generation supports concepts which was adopted with wind power. It's quite evident, based on the number of companies which have won leases for the Atlantic Coast sites, that offshore wind is where power generation wants to be.	Thank you for your comment.
13189-06-003	As I reviewed the BOEM report, I took notice of the study on avian fatality. And the model that was created indicated one fatality every 6.25 years. So it's kind of nice to know that a turbine is not a bird Cuisinart.	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling.
13189-06-004	In reading the BOEM white paper, there was one statement which was continually used, and that statement is, to the degree wind energy development offsets the use of fossil fuel used to generate power, it will reduce carbon emissions and further effects to reduce global warming. Calculated risks are necessary when adopting a new concept for the first time.	Thank you for your comment.
13189-07-001	This comprehensive and detailed analysis that you all have conducted shows that responsibly developing the offshore wind industry will create tens of thousands of quality jobs, pump billions and economic growth into coastal communities, protect wildlife, lower pollution, and safeguard navigation.	Thank you for your comment.
13189-07-002	The Coast Guard has recommended that [1x1 NM] layout as the best way to ensure everyone can use the oceans safely and prosperously. And this draft Environmental Impact Analysis verifies that such a layout is the most fair, responsible and protective of all impacted constituencies.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.

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13189-07-003	The Bureau and the Coast Guard have appropriately taken significant efforts to consider the perspectives of all stakeholders, especially the parts of the fishing industry that have been most vocal about their concerns. We thank you for your due diligence and your efforts.	Thank you for your comment.
13189-07-004	Both the robust Coast Guard study and this incredibly detailed analysis show that establishing wider transit lanes would actually make navigation more difficult for most ocean users, limit the full potential of the offshore wind lease area, and reduce tremendous economic and environmental benefits brought by this new offshore wind industry for families, workers and businesses along the coast. We urge you to finalize this environmental impact analysis. Approve the Vineyard Wind Project, as agreed to by the developers, by the end of this year.	Section 3.6.4 of the FEIS was updated to note that Alternative F could result in lower economic investment and employment due to the lower capacity for offshore wind development in the RI and MA Lease Areas that could result from the transit lanes. Section 3.11.5 discusses the potential impacts of wider transit lanes, Alternative F, on navigation and vessel traffic.
13189-08-001	As I'm sure is clear, offshore wind offers exciting prospects. It can offer large amounts of pollution-free generation, which many states, including along the Eastern Seaboard, are demanding. That matters for reducing air pollution from colossal fuel power plants; that affects, in particular, the often marginalized communities that abut those plants; and it matters for reducing climate changes, harmful impacts, including on the marine environment and all that depends on it.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13189-08-002	Offshore wind can offer savings to electricity customers thanks to the strong cost reductions that the industry has achieved which are themselves thanks in part to the strong state policies that have prompted larger projects and offered economies of scale. And offshore wind can offer economic development and jobs with the creation of an entirely new industry with all the projects, study, development, installation, maintenance, manufacturing, finance and more that the industry entails. That job creation potential seems particularly important with the high unemployment and an economy in need of rebuilding.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13189-08-003	When the five other -- when the five New England leaseholders proposed to adopt a uniform one-by-one turbine layout and the same east-west-north-south orientation, that was a solid response to many of the concerns expressed about the prior plans and navigation to the projects. And as you've heard in this recent MARIPARS study, the U.S. Coast Guard confirmed the appropriateness of that spacing.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13189-08-004	So we add our voice to the strong opposition to the SEIS Alternative F, which would require additional transit lanes beyond the hundreds provided by the one-by-one fixed orientation layout.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment.
13189-08-005	Alternative F would lead to a lot more loss potential, fewer megawatts. And less generation would mean more air pollution impacts on the fossil fuel	Section 3.6.4 of the FEIS has been updated to note that the transit corridor (Alternative F) could result in lower economic investment and employment

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	generation that those turbines could have displaced; less savings on electricity bills; fewer opportunities for economic development and jobs; and a heightened impact on marine wildlife, given the worsening impacts of climate change. None of those should be acceptable outcomes, and we ask you to reject Alternative F in particular.	due to the lower capacity for offshore wind development in the RI and MA Lease Areas that could result from this alternative.
13189-09-001	The draft Supplemental Environmental Impact Statement recently published by the Federal Bureau of Ocean Energy Management reinforces our conviction that the Vineyard Wind Project will be a huge net positive not only for the Cape and islands but for the entire northeastern region of the United States. Electrification must be a primary strategy for mitigating the release of carbon dioxide into the atmosphere, and the Vineyard Wind Project will be in a position to provide the clean energy, the clean electricity needed to revamp our heating, cooling and transportation systems.	Thank you for your comment.
13189-09-002	It's important to note that the untapped offshore wind resource along the U.S. Eastern Seaboard is one of the most powerful in the world. It is within reach or dense -- in densely populated areas along the East Coast where energy demands are high and new resource options are few. Estimates indicate that the offshore wind industry could provide as many as 83,000 jobs and deliver \$25 billion in annual economic input in this region by 2030.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13189-09-003	I commend BOEM and the other federal and state agencies and entities that have worked hard to bring together a full range of stakeholders.	Thank you for your comment.
13189-09-004	I support the east-west one-nautical-mile-wind-turbine spacing without transit lanes -- that's Alternative D-2 -- which will give fishermen and other ocean vessel captains plenty of room to maneuver as they pass through the wind ...farm... . This alternative would require that the wind turbine generators be oriented in the east-west direction and have a minimum spacing of one nautical mile between them. That's allowing for continued coexistence between a new industry and existing marine users.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment.
13189-09-005	I also support the Covell Beach landfall alternative, Alternative B, which will limit the cable landfall to only that location. This location would reduce impacts on environmental and socioeconomic resources, and especially on Lewis Bay.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13189-09-006	I'm delighted to see the SEIS provides the information needed to proceed with the development of the offshore wind industry more broadly along the East Coast of the United States, and more specifically, the Vineyard Wind Project. This much needed clean renewable energy resource must be -- must proceed with all deliberate speed and no delays. The very future of the planet depends on the responsible development of offshore wind power in the United States and abroad.	Thank you for your comment.

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13189-10-001	I feel that the BOEM, along with other governmental agencies, have worked to mediate dangers to our ocean while fostering support to the important fisheries in the area. The one-by-one NM separation distance between the wind turbines in the north-south east-west directions appears wide enough for transit and is actually a width larger than wind turbines, and -- that is standard in the North Sea.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment.
13189-10-002	Although offshore wind turbines are more expensive to build and install, their payback time is less than a year and -- to provide critical green energy for consumers. In addition, by contrast, wind turbines on land are getting substantial pushback. And in one court, a wind turbine has to be dismantled while they're being shut down in other towns. Thus, our need for electricity will be much easier to satisfy with offshore wind turbines like Vineyard Wind. Thus, I feel that the climate emergency is real and a dire threat to our wellbeing and Vineyard Wind desperately needed	Thank you for your comment.
13189-11-001	Vineyard Wind has been a collaborative, communicative and engaged partner with many stakeholder groups, and has shown genuine interest in the region's environmental and economic health. While it's clear that there will be impacts to existing uses, and that the emergence of this new industry will require changes in both practice and habit, we feel that the adjustments made to this permitting process and the mitigations put in place will minimize those impacts.	Thank you for your comment.
13189-11-002	Developers have made a commitment to coordinate a predictable layout that answers marine concerns and comes at the cost of substantial reductions in clean energy potential among the lease areas. We support the proposal, and further dilution beyond this proposal could jeopardize the project's viability, increase the cost to ratepayers, as well as increased environmental impact, rendering the existing lease areas insufficient to meet the region's clean energy mandates.	Thank you for your comment.
13189-11-003	And... if additional transit lanes are added to the plan, which the U.S. Coast Guard has asserted will not provide meaningful increases in ease of transits and actually could create increased conflict.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13189-11-004	In terms of economic development, Vineyard Wind represents a major opportunity to bring \$1.8 billion in direct economic benefits to Massachusetts, including 3,600 new jobs. The project has created a \$15 million fund to help build a sustainable offshore wind industry in Massachusetts that would bolster development of the supply chain, businesses and infrastructure. This type of economic development will play	Economic and employment contributions of Vineyard Wind are covered in Section 3.6.2.1 of the FEIS. (These were also included in the DEIS.) Estimated job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operations. Section 3.6.2.1 and Tables 3.6-3,

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	out up and down the East Coast of the United States if the nation ushers in this new renewable energy industry.	3.6-4 and 3.6-5 also list the grants that would be provided by Vineyard Wind and show economic value and first year tax revenues that would result from Vineyard Wind.
13189-11-005	We urge BOEM to arrive at a final decision on the federal permits this year. This is critical not only for the viability of Vineyard Wind but for the entire future of the U.S. offshore wind industry, including shipbuilders, suppliers and other maritime interests. Considering the nation's abrupt economic downturn this year due to COVID-19 impacts, this will help spur immediate economic growth in our nation's economy.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13189-12-001	I'd like to voice my full support for the Vineyard Wind 1 offshore wind project. The project will be crucial for fulfilling Massachusetts climate goals and will provide thousands of good paying jobs.	Thank you for your comment.
13189-12-002	I'm especially interested in voicing my support because Vineyard Wind has made outreach to organized labor a priority, pledging time on project labor agreements ensuring both fair compensation and adherence to the highest construction standards. Consciously, Vineyard Wind will help launch a dynamic industry with positive effects extending across the region. As a college student, I'm particularly excited for the long term benefits regarding both climate and employment that this project and similar ones will provide.	Although the Project Labor Agreement is not addressed in the FEIS, Section 3.6.2 provides projections of estimated direct job creation by the Vineyard Wind 1 Project in Massachusetts, and primarily in southeastern Massachusetts.
13189-13-001	I was very encouraged that the Coast Guard saw that the distance that they had between the wind turbines now is fine.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13189-14-001	Regarding the current BOEM report, Vineyard Wind responded to the fisheries' main ask for changing the spacing between lanes as to the other companies. This was and is a dramatic concession that gives up to a third of development, which, frankly, I believe is too much to concede really...Further [concessions] are unnecessary and would call damage moving forward. I ask you to reject Proposal F, as it further stalls the progress of renewable offshore wind energy.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13189-14-002	The proposal, as Vineyard Wind presents it, has the best chance of addressing many of the needs of our most marginalized citizens in the northeast. They need affordable renewable energy; they need job creation in a new industry with good paying jobs; and they need us to address climate change before its crisis affects all of us further.	Section 3.8.1 and 3.8.2 of the SEIS noted that offshore wind development could result in job creation for low and minority residents. This potential beneficial impact is carried over into the FEIS. Additionally, Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).

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13189-14-003	We need to do what Vineyard Wind has done, which is to ensure that they will do proper mitigation to impacts of marine life and to commit to ongoing monitoring and research that will help perfect the industry here in the U.S. We need every company that proposes offshore wind projects in these protected waters to be similarly diligent and collaborative.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information. Future offshore wind projects will undergo separate NEPA reviews, and similar or different measures could be required for those projects to avoid or reduce the potential effects anticipated.
13189-15-001	We believe that offshore wind generally, and the Vineyard Wind Project in particular, is a critically important part of the solution to the climate crisis. We believe that the town of Chatham stands to benefit in many ways from this project...moving forward quickly by reducing our continued reliance on fossil fuels, to provide electricity to heat our homes, by creating many new jobs and creating other economic development opportunities for our town. So here we are today here to speak in support of the Vineyard Wind Project.	Thank you for your comment.
13189-15-002	We specifically want to support Alternative D-2, the east-west one-nautical-mile turbine spacing without transit lane. This alternative will reduce conflict with commercial fishing and marine navigation. It recognizes and protects existing ocean uses, such as the commercial fishing industry, while protecting the marine environment and setting the path forward in a fair and responsible way to protect all stakeholders, particularly the commercial...fishing industry.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. Section 3.11.2.4 of the SEIS discusses the impacts of Alternative D2 on commercial fisheries, including improved maritime navigation; therefore, no change to the FEIS is warranted.
13189-15-003	Requiring additional transit lanes has been deemed unnecessary by the U.S. Coast Guard, and we agree. This would result in more complex -- more delay and damage to our industry and potentially making ocean transit even more complex and dangerous to the fisherman. So we are therefore opposed to alternative asks requiring additional transit lanes and support Alternative D-2.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13189-15-004	We believe that this SEIS provides more than sufficient information and support of the development of the offshore wind industry and the much needed clean, renewable energy resource it will provide including the Vineyard Wind Project. So we urge BOEM to complete this review in a timely fashion in accordance with the -- with the timeline that was laid out and referred to earlier and provide a pathway for this project to move forward recognizing all the compromise that has been made and avoid any serious	Thank you for your comment.

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	consequences that could only further delay and jeopardize our ability to at last move forward beyond reliance on fossil fuel.	
13190-01-001	The climate emergency is chipping away at our identity. It's impacting -- it's adversely impacting our biodiversity, our fisheries and our coastline. Homes across Cape Cod, Nantucket and Martha's Vineyard are literally falling into the sea. Warming waters are disrupting our coastal habitats, adversely affecting our fisheries and aquaculture, and even raising our insurance rates. In the Northeast, offshore wind is our renewable source with the potential to supply a third of our energy needs in the coming decades. The policies alone don't cut it. We need to permit and build offshore wind now.	Thank you for your comment.
13190-01-002	Vineyard Wind 1 alone is estimated to save ratepayers well over a billion dollars, and we expect comparable benefits for all future projects, all of which rely on local well-paid workers to construct these projects.	Ratepayer costs depend on numerous variables beyond the scope of the EIS. Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13190-01-003	It was distressing last summer to find the Federal Government would delay approval of Vineyard Wind setting offshore wind in this country back by more than a year. But I was pleased with the reasoned findings of the report which clearly show that the impacts are moderate and manageable. Importantly, the report acknowledged that whether it's marine mammals, birds, fish, or even cultural resources, the climate of urgency is a real threat and offshore wind can provide solutions. I urge BOEM to continue the course to properly approve Vineyard Wind and to efficiently permit the projects that will come after it.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-01-004	I also ask that you accept the uniform layout as agreed to by developers and reject the proposal for additional transit lanes. The Coast Guard has said they are unnecessary, and your report has asserted that they may cause delays, threaten projects, and create more environmental impact. But most importantly, expanded transit lanes will leave Massachusetts and other states unable to meet our clean energy mandates.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-01-005	Many of our region's old, dirty and dangerous power plants are coming offline. Vineyard Wind and related projects offer a welcomed opportunity but also a challenge to redefine our energy grids in an affordable, equitable and environmentally responsible way.	Thank you for your comment.
13190-02-001	As a 25-year-old acutely aware of the impacts climate change has and continues to have globally and on the island, I enthusiastically support Vineyard Wind 1, which clearly demonstrates responsible offshore wind development.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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13190-02-002	Public health, the economy, environmental justice, and climate change are interwoven with offshore wind development. .. We have a once-in-a-generation opportunity to put ourselves in the path to a low carbon future, while creating new quality careers that provide family sustaining wages and benefits for communities across the nation. ..Vineyard Wind will propel the United States offshore wind industry and deliver clean, renewable and cost effective power to Massachusetts.	Thank you for your comment.
13190-02-003	In addition, this project will provide thousands of good union jobs and attract global supply chain manufacturers to the northeast. Vineyard Wind 1 is expected to create 3,600 local jobs that provide good wages and benefits.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
13190-02-004	We support the one-by-one nautical mile layout compromise that responds to commercial fisheries' concerns. Not only does the Coast Guard approve of this mitigation effort, but adding additional mileage to the layout would only take away from the efficiency and carbon reduction potential the project is meant to address.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-02-005	To maximize the economic development and job opportunities in offshore wind, the industry and its potential workforce needs confidence that demand in the US offshore wind market is real. This means we need to move forward promptly in the permitting process, set the stage for this nascent industry. This starts with Vineyard Wind 1.	Thank you for your comment.
13190-02-006	I urge BOEM to follow the current permitting schedule for this project and to move forward expeditiously on this and other offshore wind projects... the only way to achieve 9 gigawatts of offshore wind energy by 2035, the state's goal, enshrined last year in legislation, is to advance permitting in a timely manner and develop safe and fair conditions with community stakeholders, as was done in Vineyard Wind 1.	Thank you for your comment.
13190-03-001	[recreational anglers] are supportive because it's renewable energy in the structure, which the pylons actually create for recreational fishing. But this support comes as long as wind farms are developed responsibly with research before, during and after construction to measure any negative or positive impacts on fishing habitat. And, yes, I say positive impacts because I, as other anglers, believe that offshore wind farms will have a major positive impact on habitat and fish, just as the Block Island Wind Farm research has shown in angler experiences there, as well as a recent peer reviewed study that indicated that fish abundance inside European offshore wind farms is much greater than the abundance of fish outside of the wind farm and control areas. The study was published in the March issue of Fishery Science and	Thank you for your comment.

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	Agriculture Magazine, and it was titled "Mega analysis of Fish Abundance of Offshore Wind Farms."	
13190-03-002	[Block Island wind farm] is now a destination, just as all wind farms will be a destination for recreational anglers in the future. At the Block Island Wind Farm, there are gillnets, commercial gillnets set right up to the turbines and close by. There are commercial fishermen culling alongside the wind farm. And ... in the wind farm, and recreational anglers fish right up to the pylon. So all this activity occurs just how fishing should be in wind farm areas. The cumulative impact and benefit to recreational fishing of offshore wind farms will be a major not a minor benefit as outlined in the FDIC.	Section 3.4 of the SEIS discussed the reef effect on finfish, and Sections 3.10 and 3.11 discussed that recreational fishing may improve near structures offshore. Therefore, no change to the FEIS is warranted.
13190-03-003	It is clear offshore wind will have a positive cumulative impact on recreational fishing, as there will be more fish, which will impact commercial fishing in a positive way as well. To this end, as some of my colleagues have suggested, additional scow protection and structure should be placed at the base of pylons to create habitat and fish for recreational anglers.	Thank you for your comment.
13190-04-001	Secondly, I want to address the economic advantages that the Vineyard Wind Project offers us... Economic growth depends on three inputs: Investment, an increased demand in labor and an increase in productivity. Clearly, the Vineyard Wind is a major investment. It will increase the demand for labor, as other speakers have already mentioned, and it will result in increased productivity. And it will be an important step in helping to offset the unfortunate economic damage that the continuing COVID pandemic is likely to have.	Section 3.6.2 of the FEIS and Tables 3.6-3, 3.6-4 and 3.6-5 provide estimated job growth, tax revenues, and economic input from the Vineyard Wind 1 Project within Massachusetts and specifically within southeastern Massachusetts. Additionally, Section 3.6.1.1 of the FEIS has been updated with estimates from several sources of projected employment and investment in offshore wind resulting from growth of a wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13190-04-002	So I had had the opportunity to talk to the Minister for Environment, Lisa Vermillion, to really interrogate her as to what did Denmark learn from the adverse impact of offshore wind? There was absolutely no adverse development of offshore wind, nothing the cables were causing. And she repeated many of the points that Captain Monti had made [about recreational fishing increasing around the pylons], which I already tended to believe, but I wanted to hear from an authority in a country which had been engaged in offshore wind since the early 1990s, which I think is a good -- it's comforting, and I think we can rely on that as a basis for making this decision.	Thank you for your comment.
13190-04-003	But I would hope that we would advance and start constructing this project as soon as -- as soon as possible, because anything we can do to increase our use of renewable energy to address climate change is the only way that our grandchildren who are under 10 will live to see the same things that we see.	Table 1.3-1 in Appendix B of the FEIS has been updated to reflect the most recent status of the required environmental permits and consultations for the proposed Project.
13190-05-001	While CVEC [Cape and Vineyard Electric Cooperative] accomplishments on behalf of the municipalities, counties and schools we serve are significant	Thank you for your comment.

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	and unparalleled in Massachusetts, we recognize the need to do more to meet the larger national demand for renewable energy amidst climate change. As the first mover in renewable energy development in our region for the past 13 years, the Cape and Vineyard Electric Cooperative is here today to support the Commonwealth and Federal Government's efforts to responsibly site and develop the proposed Vineyard Wind 1 Offshore Wind renewable energy project.	
13190-05-002	We recognize that offshore wind is a sustainable and clean source of energy in one of several -- several renewable energy options that has significant potential to advance the diversification of energy sources and meet Governor Baker's goals for greenhouse gas reductions here in the Commonwealth. We know that it is the policy of the United States to promote the clean and safe development of domestic energy resources to ensure the nation's geopolitical security, and provide electricity that is affordable, reliable, safe and secure and clean.	Thank you for your comment.
13190-05-003	For our region, we believe that offshore wind will have a positive impact on meeting the seasonal changes. We are hopeful and do believe that Vineyard Wind, along with the offshore wind industry, will take sufficient action to mitigate the impacts on the environment, marine life, the fishing industry, and navigation and vessel traffic. Thank you, and we hope that BOEM will approve the Vineyard Wind 1 Project within the lease areas to meet the New England's demand for renewable energy as soon as possible.	Thank you for your comment.
13190-06-001	We have the chance to build an entirely new domestic industry in the form of offshore wind. Doing so will contribute to tens of thousands of new jobs, revitalized ports, and expanded manufacturing, among other benefits.	Thank you for your comment.
13190-06-002	First, BOEM appropriately acknowledges the many beneficial aspects of offshore wind, including economic and environmental benefits.	Thank you for your comment.
13190-06-003	Second, AWEA concurs with BOEM finding little cause for concern for most of the areas it analyzed. BOEM comprehensively reviewed nearly two dozen potential areas of impact, including various species, tourism, sediment, lighting and air traffic. For all but a few, BOEM found the impacts, both from Vineyard Wind and the cumulative offshore wind built, to be negligible, minor, or in a few cases, moderate. BOEM's analysis in these areas was well reasoned and cited key scientific literature and other evidence.	Thank you for your comment.
13190-06-004	Contrary to some of the messaging around the DSEIS, it is important to recognize that BOEM only found major impacts on commercial fishing in the cumulative analysis, not with respect to Vineyard Wind. I would add that major does not mean unmanageable. Further, two of the most significant drivers for the major finding are actually beyond the control of offshore wind	Thank you for your comment.

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	projects. One, changes in distribution and availability of fish due to climate change; and two, reduce stock levels due to fishing related mortality. As a carbon-free energy source, offshore wind is, in fact, part of the solution to the first of these drivers.	
13190-06-005	With respect to safe navigation, for example, AWEA agrees with a BOEM finding when analyzing alternative D-2, which heavily rely on evidence and analysis from the U.S. Coast Guard -- that one-by-one nautical spacing with a uniform east-west grid layout for turbines in the adjacent Massachusetts Rhode Island lease area reduces the potential impacts to commercial fishing, provides sufficient transit pathways through the wind farm, protects search-and-rescue capabilities and protects safe vessel navigation... Because Alternative F is worse for vessel navigation, and because it would significantly harm the economic prospects of the projects in this area, AWEA urges BOEM to reject Alternative F and adopt Alternative D-2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-07-001	Alternative D-2 is the only alternative in the SEIS that meets all three of the Coast Guard's criteria for navigation safety. Notably, the Coast Guard has clearly stated that not only would transit lanes as proposed in Alternative F fail to preserve navigation safety, such lanes would actually increase risk and make navigation more dangerous. Notably, the Coast Guard has clearly stated that not only would transit lanes as proposed in Alternative F fail to preserve navigation safety, such lanes would actually increase risk and make navigation more dangerous....The Coast Guard further concluded that the spacing and layout, as recommended in the MARIPARS report, and as proposed in Alternative D-2, would provide sufficient space for certain vessels that fish in the wind energy area to continue fishing after the wind farms are constructed. Moreover, the Coast Guard found that wider transit lands, as proposed in Alternative F, would largely preclude fishing in the wind energy area...For these reasons, among many others, Orsted strongly endorses and supports Alternative D-2 over all others.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-07-002	And though I speak only for Orsted this evening -- or this afternoon, excuse me, I would respectfully remind BOEM that Orsted, Vineyard Wind, and all other lease holders in the Mass Rhode Island wind energy area have unanimously committed to a uniform grid layout in a north-south orientation with a minimum one-nautical-mile spacing between towers per our joint letter to the U.S. Coast Guard of November 1st, 2019, provided there is no additional requirement to accommodate transit lands as proposed an Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-08-001	And we know that offshore wind provides an enormous opportunity to provide that growth along the East Coast, and it is an enormous opportunity.	Economics and employment were addressed in Section 3.7 of the SEIS and in Section 3.6 of the FEIS.

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	According to 2019 estimates, we have a roughly \$70 billion market for America's coasts for offshore wind in the next 10 years. That's clean, reliable energy in places like New England and New York, where building infrastructure onshore is difficult. Building offshore wind will also hopefully offset some of the [unintelligible] gas that is occasionally shifting to Boston Harbor for wind energy. Offshore wind is an incredible opportunity not just for the people in communities like where I grew up in Bristol County, Massachusetts, but also for national security, and a national supply chain hungry for the business. All these opportunities will only come to pass, however, if we get the regulatory process right when we complete this Supplemental EIS.	
13190-08-002	In almost every area, the expected impacts are negligible to moderate; and in many areas, moderate benefits can be expected. For a new and significant infrastructure project that will bring electricity to communities across the region, we think this is an incredibly light touch in terms of local impacts.	Thank you for your comment.
13190-08-003	As you know, this Alternative F would establish up to four-nautical-mile-wide transit lanes to the closed wind energy areas. BOEM's analysis clearly says that this change would increase the impact producing factors, or IPFs, of offshore wind and expand the area we're looking at to produce energy significantly. NOIA firmly agrees with the concept of a uniform layout. We defer to the experts of the Coast Guard, and we've reviewed the uniform well placement layout for offshore wind projects...We also know that several of our member companies work -- WF Baird & Associates, who reviewed the matter, and found that a one-by-one nautical mile approach would be best to accommodate the existing efficient operations in the region.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-08-004	We encourage BOEM to recognize this, recognize the manageable impacts of offshore wind, the net benefits offshore wind will bring, and help these projects move forward by completing this EIS in a timely manner.	Thank you for your comment.
13190-09-001	...I request your immediate approval of Vineyard Winds 1. Your approval cannot come a moment too soon. The EPA website says that worldwide, the burning of coal, natural gas and oil for electricity and heat is the largest single source of global greenhouse gas emissions. Vineyard Wind and subsequent Atlantic corridor offshore wind projects will allow for the closure of many fossil fuel plants currently used on the East Coast.	Thank you for your comment.
13190-09-002	We cannot afford to delay any longer. Vineyard Winds is ready to go. The technology is well known and reliable. The time to approve the project is now.	Thank you for your comment.

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13190-09-003	These polluting plants are often located in poor communities and communities of color. Your approval upholds way overdue environmental justice for these community.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13190-09-004	Your approval will allow for the creation of over 3,600 local full-time jobs over the life of that project starting with instant construction in 2021. These jobs will be of a great variety from manufacturing and construction to design and engineering and more. Your approval is an easier financial decision than ever.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Examples of job types and anticipated salary ranges are also identified.
13190-09-005	However, like some of them, also, I understand that the Bureau is considering requiring additional transit lanes. These additional lanes will decrease the amount of renewable energy even more than the 30% decrease already created by the current one-by-one grid design. We cannot afford to lose any more renewable energy from this project.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-10-001	Primarily, I want to say we are asking you to outwardly reject Alternatives E, F, and G. E is obviously the alternative that would limit the amount of turbines, which we believe is a nonsensical alternative. Why would we limit the solutions to the problem we're working to solve, which is climate change? And transitioning from fossil fuels to renewable energy? One of the things that seems to perhaps be missing in the draft EIS is that we have to have a long-term view. And with Alternative E, it only addresses a short-term impact without overlaying the long-term benefits. So all large scale energy infrastructure has some impact on our environment. All of them do. But the question is, which one has the least impact and cause us to be sustainable over the long haul? And the answer to that is renewables and offshore wind.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-10-002	The other alternative, which is F, require -- or asked for a four-by -- four-nautical-miles-by-four-nautical-miles spacing, which also causes projects to really be not ones that can come to fruition because of economics.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-10-003	The greatest challenge to this viability and the sustainability and the longevity to our fishing industry is climate change. You may be aware of a recent study that just came out saying 60% of all fish species could be unable to survive in their current areas in the next 80 years. That's not a very long time... So we don't want to, on the short term, think we're helping commercial and recreational fishing industries, when in the long term, we're actually hindering them by not transitioning full speed ahead from fossil fuels to renewable energy. So we feel very strongly that when we change our energy sources, and we transition away from fossil fuels towards renewables, we	Thank you for your comment.

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	literally change the future of our planet and of our nation, and we change it for the better. So I'm asking you to please stick to the schedule of the December of this year.	
13190-11-001	Additionally, we believe that the Supplemental Environmental Impact Statement submitted in December 2019 fully addresses the concerns which were raised by other stakeholders when reviewing the first environmental impact statement. We strongly urge BOEM to approve this Supplemental Impact Statement, and allow this project which is critical to the entire U.S. offshore wind industry to move forward.	Thank you for your comment.
13190-11-002	Specifically, we want to point out that Vineyard Wind has revised the overall grid layout for the placement of turbine towers go out for one nautical mile between each tower in response to commercial fishing industry concerns for vessels transiting the lease site. We recognize they're legitimate worries for how the project will impact fishermen. It is clear that Vineyard Wind has taken their issues seriously, redesigned the layout, which has the support of the United States Coast Guard, will come at considerable expense to the developer.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-11-003	However, we believe the current demand by -- by commercial fishing interests for a four-nautical-mile-wide transit corridor is unnecessary and will make the project financially unfeasible. More to the point, it will jeopardize the a future of offshore wind industry in New England with major impacts immediately for both jobs and the regional economy. Like to point that our position that the coastal waters of New England are a shared resource, and our members have a right to make a living and support their families from these waters as well.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-11-004	Vineyard Wind will help Massachusetts produce its own clean renewable energy. For generations as citizens of the Commonwealth and dependent on imported fossil fuels to power our homes and economy and always sending a sizable portion of our earnings to out-of-state power generators. Wind energy will reverse that outward cash flow and reduce carbon emissions as well.	Thank you for your comment.
13190-11-005	Number two, careers in a changing economy. Then Vineyard Wind Project offers lifelong careers with excellent wages and benefits as our national job market is undergoing fundamental changes.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
13190-11-006	Wind Energy substantially reduces the amount of heat-trapping gases we put into the atmosphere. The project allows us the opportunity to make a difference in our own lives, but more importantly, in the lives of our children and grandchildren.	Thank you for your comment.

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13190-12-001	Our family believes that when the windmills are built, the turbine basins are going to provide fabulous habitat for fishing, and we think that the fishing is going to be unbelievable. It's gonna be beyond anything we've ever seen before. So my entire family is 100% behind offshore wind.	Thank you for your comment.
13190-12-002	Long story short, my family is 100% behind offshore wind, we think it's a magnificent opportunity for the struggling fishing communities such as Montauk, where I come from, to be able to capitalize on the offshore wind business and provide jobs for our folks... I have 50 fisherman that want to go to work offshore wind. None of the boat owners, the commercial boat owners, but the captains and crew members -- as commercial fishermen, you're only as good as your last trip anyway. But the rest of the guys that are working on deck and on the boats all want to get involved in offshore wind, and this is a magnificent opportunity to provide a really nice lifestyle for men on the water in the northeast.	Section 3.6.2 of the FEIS has been updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. Section 3.10 provides more information on impacts on commercial fishing and mitigations to be provided by Vineyard Wind. Section 3.6.2 of the FEIS is also updated to explain that the New Bedford Port Authority, Massachusetts Clean Energy Commission, and Vineyard Wind are cooperating to develop supply chain and support opportunities, with a focus on fishing businesses. The supply of marine workers provides an experienced workforce with relevant skills.
13190-13-001	The reason Vineyard Wind' Supplemental Draft Environmental Impact Statement, which expands the prior cumulative activity scenarios for offshore wind development, reveals that offshore wind can be done in an environmentally responsible way and provide the clean energy that the East Coast states are demanding. The study should help Vineyard Wind and other offshore wind projects advanced quickly now.	Thank you for your comment.
13190-13-002	While we fight climate change, we can and must also avoid, minimize and mitigate potential threats to ocean life by taking precautions while citing, constructing, and operating turbines, and committing research and project monitoring to understand the project's impacts in our oceans and wildlife.	Thank you for your comment.
13190-13-003	The expanded analysis predicts that offshore wind farms will generate approximately 22 gigawatts and enough to power nearly 8 million homes along the U.S. Atlantic Coast within the next decade. Looking at the full scale of offshore wind development reinforces how it is more important than ever to ensure that when projects adequately protect the ocean resources we rely on for food, jobs and recreation.	Thank you for your comment.
13190-14-001	Development of offshore wind cannot wait. Offshore wind energy is critical for meeting clean energy goals in New England and the emission reductions necessary to stop the most catastrophic effects of climate change.	Thank you for your comment.
13190-14-002	Vineyard Winds project is precedent setting for responsible development. Vineyard Wind signed a landmark agreement with the National Wildlife Federation, National Resources Defense Council, and Conservation Law Foundation to protect the highly endangered North Atlantic Right Whale	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of

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	during project construction and operation. This agreement should be a model for future developments.	sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13190-14-003	Vineyard Wind's contributions have helped to jump-start workforce training for offshore wind jobs on Martha's Vineyard and its six educational and workforce training institutions in the Commonwealth.	As noted in Section 3.6.2 of the FEIS, the Vineyard Wind 1 Project would create both short-term construction jobs within the geographic analysis area and long-term jobs. Many of the estimated 80 operational jobs would be located on Martha's Vineyard, due to the location of the operations and maintenance facility and use of Vineyard Haven harbor. Section 3.6.2 also lists grants that would be provided by Vineyard Wind, including job training funds. This information was also provided in the DEIS.
13190-14-004	Cumulative impact is also the smart perspective for assessing the effects of offshore wind development and operations on marine and avian populations. Going forward, monitoring and managing wildlife populations can only be done well from this macro view.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13190-14-005	The Supplemental EIS states that in the absence of offshore wind development, additional more polluting fossil fuel energy facilities would come or be kept online to meet future power demand fired by natural gas, oil or coal. So time is of the essence...So disapproval of the Vineyard Wind project at this point would create doubt and uncertainty about the regulatory and political environment for the development of offshore wind power in New England. Let us lay out a clear path for further development of offshore wind power by approving this project. The climate crisis and ensuing health crisis, demand that we stand up these projects as fast as the responsible development will allow.	Thank you for your comment.
13190-15-001	I'm here today to speak in support of the Vineyard Wind project Because we believe that clean renewable energy is essential to preserving public health and protecting both our facilities and the communities we serve from the impacts of climate change.	Thank you for your comment.
13190-15-002	By the end of the year, Boston Medical Center will be running on 100% renewable energy on the electricity side, and they're working on cleaning up their thermal load next. The Mass General Brigham system will be carbon positive by 2025, but we still have much to do and offshore wind is absolutely central to that work.	Thank you for your comment.
13190-15-003	In order to effectively combat climate change and protect the health of all the communities our hospitals serve, we must not only transition to renewable	Thank you for your comment.

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	energy but do so in a way that brings new renewable energy sources here to our region to replace the power plants that are burning fossil fuels and harming our health.	
13190-15-004	Power from offshore wind is not just cleaner, It would also reduce the cost of energy, which would help energy-intensive businesses, like healthcare, recover more quickly from the financial impacts of COVID.	Thank you for your comment.
13190-15-005	The addition of the proposed transit lanes on top of those accommodations would mean 4,000 fewer megawatts of wind power coming online, which according to the Healthcare Without Harms energy climate calculator would translate to an estimated additional 52 and a half premature deaths from air pollution and an additional 25.3 ER visits for asthma attacks every year. Over the course of that life of the project, that would be 1,325 premature deaths from air pollution, and 625 ER visits over that 25-year-life of the project. As we know the health impacts of our existing fossil fuel powered electric generation falls disproportionately on low income communities and communities of color. By failing to consider these impacts, impacts that could be mitigated by generating more clean renewable offshore power, I'm concerned that this analysis of the transit line fails to account for the negative impacts on environmental justice communities that Alternative F would have.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-16-001	This project is a really vital step forward on the path to protecting our environment and public health by transitioning to clean energy, while also creating really important year-round jobs that help boost our economy on the Cape and islands and across Massachusetts.	Thank you for your comment.
13190-16-002	Vineyard Wind will sustain year-round economy for the Cape and islands, as well as work to safeguard our communities against the increasingly severe impacts that we are facing of climate change. And so locally, it's estimated that this project will create around 3600 new jobs, both locally and in Massachusetts.	Thank you for your comment.
13190-16-003	And I'm encouraged by Vineyard Wind's commitment to organized labor, which will ensure both quality construction and fair compensation.	Thank you for your comment.
13190-16-004	And most importantly, Vineyard Winds and offshore wind projects are essential to Massachusetts and the United States reaching our climate goals. We need to transition to clean energy for -- to a clean energy future if we want to have a future.	Thank you for your comment.
13190-16-005	Vineyard Wind has been thoughtful and diligent in their planning. They have carefully weighed the potential environmental impact. And they've done a really strong job at listening to the community for feedback. I strongly support the Vineyard Wind proposal, and I hope BOEM will look favorably on the project and issue the necessary permits.	Thank you for your comment.

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13190-17-001	Bristol continues to make these investments to support the Vineyard Wind 1 Project with an expected 3600 jobs that will be created over the next few years while making a significant contribution to the efforts to tackle climate change by avoiding the emission of almost 1.7 million tons of carbon dioxide per year, the equivalent of removing 325,000 cars off the road.	Thank you for your comment.
13190-17-002	It is imperative through organizations like Bristol Community College to have a clear planned out timeline to support these and additional investments in the offshore wind workforce infrastructure... Importantly, to maximize economic development opportunities, the business sector needs confidence that demand in the U.S. offshore wind market is real with consistent and reliable projects... This means that projects in the permitting and development timeline must be permitted in a timely -- timely, reasonable manner. Bristol and its National Offshore Wind Institute will provide the needed training and educational pathways that asks for a clear and transparent timeline, starting with Vineyard Wind 1 with no further delays. Bristol Community College strongly supports Vineyard Wind 1 and the issuance of the Supplemental Environmental Impact Statement.	Thank you for your comment.
13190-18-001	State-of-the-art wind turbines along the Atlantic Coast will be among the most if not the most efficient means of generating electricity available to this country. That means we can have the direct benefits of low-cost power, more jobs, more revenue for governments and adequate profits for the investors. But of much greater significance will be the indirect benefits or externalities of less harm to public health and less poverty -- property damage from forest fires, floods and strong winds. The current COVID crisis provides a painful example of the kinds of threats that will be faced in the future if we fail to cut carbon emissions.	Thank you for your comment.
13190-18-002	A number of highly qualified companies are ready to begin construction on these projects and are just awaiting your approval. I urge you to complete this already too-lengthy review process as quickly as possible and let this most hopeful activity begin. Please	Thank you for your comment.
13190-19-001	Unfortunately, we find ourselves disappointed in the analysis of cumulative impacts to birds. At points in this section, the authors draw debatable conclusions without providing substantive supporting information or methodology. Some critically important issues are neglected altogether. This consistently minimizes the impacts of offshore wind on birds, and we are concerned that this has resulted in a substantial underestimate of the likely adverse effects.	While the overall response of marine birds to offshore wind development on the Atlantic OCS is unclear at this time, the analyses contained in the DEIS and SEIS utilized the best available science to determine potential impacts. Where appropriate, the FEIS has been updated in response to new information and comments received during public engagement. Additionally, Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of

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		digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders and will be used to further clarify bird use of the OCS and inform future developments on the OCS. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. If compensatory mitigation measures are proposed by Federal and State resource agencies with expertise on the topic, these will be considered by decision makers and may be incorporated into the Record of Decision.
13190-19-002	Among our key concerns, Table A-9 is intended to predict the number of birds that will be killed by currently anticipated offshore wind facilities on the Atlantic each year. The report acknowledges that the list of species is incomplete. Species that we know traverse wind energy areas are not considered, including species of conservation concern. The data is heavily skewed. For example, it is estimated that between zero and 1,346 Red-throated Loons will be killed each year, but the media is six birds. Perhaps this is based on sound data and analysis, but it is difficult to assess as the description of the methods is limited to a couple of sentences in footnotes. This does not provide the clear, transparent, robust analysis that we need to adequately assess the risk of bird collisions with offshore wind turbines	Section A.8.3.1 includes an updated discussion regarding the species that have some potential to encounter operating WTGs. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling. The commenter's point about the distribution of fatality estimates being skewed is correct and obvious from the table in the desist. The commenter's accusation of "minimizing" risk is misleading. To advert misinterpretation of the results, BOEM has expanded this section in the FEIS to include a full description of methods and include the data that was used in the collision modeling.
13190-19-003	The SEIS does not evaluate the impacts of offshore wind energy development on land birds.	Section A.8.3.1 of the FEIS includes an updated discussion of collision risk to nocturnal passerine migrants. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Willmott and Force 2014).
13190-19-004	Most surprisingly, the SEIS does not substantively address likely impacts to the species listed under the Endangered Species Act. This includes the endangered Roseate Tern and threatened Piping Plover, both of which are known to traverse wind energy areas.	A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/ . In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area. Additionally, Section A.8.3.2 and Appendix D of the FEIS

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		include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds, including ESA-listed species. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision. Project-specific ESA consultations will be required for all future offshore wind development.
13190-19-005	How is it that when the full complement of projects off the Atlantic Coast is considered, that it doesn't warrant discussion let alone a conclusion that significant impacts may occur? Given these concerns and others, we urge substantial revision and improvement to this portion of the analysis. First, we recommend a full review and revision of the section focused on birds, with more robust analysis and subsequently reassessed impact statements. Second, we recommend evaluation of impacts to nocturnal migrant land birds and ESA-listed species. Third, we recommend a revised estimation of the average number of birds that will be killed each year by offshore wind turbines. This estimate must provide clearly articulated methods and reference to supporting data and include all species potentially at risk. Lastly, we recommend that a blueprint be developed for compensating impacts to birds by initiating conservation work that will benefit or replace lost birds.	A detailed analysis of impacts to ESA-listed species (including roseate tern, piping plover, and Rufa red knot) is provided in the revised BA that was submitted to the USFWS, which can be found at the following link: https://www.boem.gov/Vineyard-Wind-Consultation-Documents/. In all cases BOEM determined that the Vineyard Wind 1 Project "may affect, but is not likely to adversely affect" any of the ESA-listed species that may occur in the Project Area. While there is some underlying uncertainty around the response of bird species to the introduction of operating offshore WTGs on the Atlantic OCS, BOEM believes that the impact rating determinations, as defined in Table 3-1 of the SEIS, are appropriate given the low expected use of the WDA, as discussed in the updated Section A.8.3.1 of the FEIS. Section A.8.3.1 of the FEIS includes an updated discussion of collision risk to nocturnal passerine migrants. As shown in Robinson Willmott et al. (2013), many species of nocturnal passerine migrants only cross the Atlantic OCS briefly during migration, typically flying well above the Rotor Swept Zone. Further, many of the nocturnal passerine migrants, while detected on the Atlantic OCS, were detected in low numbers and typically fly when wind speed is below the WTG cut-in speeds (Willmott and Force 2014). Section A.8.3.1 includes an updated discussion regarding the species that have some potential to encounter operating WTGs associated with the anticipated development of offshore wind facilities on the Atlantic OCS generally, and the Vineyard Wind 1 WDA specifically. Section A.8.3.1 of the FEIS also includes an updated discussion of collision risk modeling. The estimates of potential collision mortality provided in the FEIS are not relied upon to reach an impact level determination, but were provided to

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		explore the potential for collision mortality associated with the anticipated development on the Atlantic OCS generally, and the proposed Vineyard Wind 1 Project, specifically. The FEIS has been updated to include additional context on the use of collision risk modeling. Section A.8.3.2 and Appendix D of the FEIS include updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts on birds. These measures include, but are not limited to, installation of bird deterrent devices, use of ADLS, installation of digital VHF receivers and acoustic monitoring devices to estimate the exposure of ESA-listed species and other migratory birds, preparation of a post-construction monitoring plan, and other measures. Post-construction monitoring will be developed in coordination with applicable stakeholders. Additionally, annual monitoring reports will be used to assess the need for reasonable revisions to the monitoring plan. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures could be considered by decision makers and incorporated into the Record of Decision.
13190-20-001	We enrolled 18 Martha's Vineyard residents to study in a two-to-three year program that will directly prepare them as technicians working on offshore wind turbines. We expect to welcome our second cohort of students next January. And to continue this educational program into the future will meet the needs of renewable energy in Southeast Massachusetts. The response to this program has been very positive and will provide our local year-round residents with stable jobs, rewarding education, and promising opportunities.	Thank you for your comment.
13190-20-002	There's no comparison between offshore wind and mountaintop removal [for coal mining]. The erection of turbines in the ocean and the maintenance of them will have a significantly lower environmental impact and is a much more welcomed process than pursuing coal or other fuels. This may be one of the first large-scale projects in which strong employment and environmental protection coincide, and I urge BOEM to fully support this project.	Thank you for your comment.
13190-21-001	We believe the report provides sufficient information in support of the development of the offshore wind industry, including the Vineyard Wind Project, and the much needed clean, renewable energy it will provide.	Thank you for your comment.
13190-21-002	We also believe the report findings support implementation of the east-west one-by-one-nautical-mile layout without the transit lines as the alternative for the Vineyard Wind Project having the least impact and the most benefit. And this, of course, is Alternative D-2.	Thank you for your comment.
13190-22-001	as part of our U.S. build-out, Orsted has already pledged nearly \$500 million for port -- port facilities up and down the Eastern Seaboard. These ports will	Although specific investments outside the geographic analysis area for the Vineyard Wind 1 Project are not listed in the SEIS or FEIS, the FEIS was

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	serve the diverse needs of the industry for component manufacturing, staging and O&M. Recent commitments by the State of New Jersey for the establishment of a dedicated offshore wind port adjacent to the Hope Creek nuclear facility in New York's imminent \$200 million RFP for ports and harbors infrastructure demonstrates the scale and seriousness of this investment. Investments like this will create thousands of jobs, stimulate coastal economies, and revitalize U.S. port infrastructure.	updated to include additional projections of national levels of investment in the Atlantic coast offshore wind industry. These projections would include investments such as those listed in this comment.
13190-22-002	offshore wind procurements, including local content requirements, are spurring significant investments in a domestic U.S. supply chain. A prominent example of this is Orsted's recently announced partnership with EEW, one of the world's least -- leading producers of steel monopiles, to establish the first U.S. based offshore wind related manufacturing facility. As U.S. based and foreign suppliers become convinced the durability and scalability of the U.S. offshore wind market, they will make the necessary investment in local factories, people, and inventory to support a robust homegrown supply chain rather than incur the high shipping costs, logistical issues and trade risks associated with sourcing goods overseas	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13190-22-003	the efficient build-out of offshore wind farms will require fit-for-purpose installation vessels that are U.S. constructed, flagged and crewed. Dominion Energy has recently confirmed that it's leading a consortium of investors who will commission the first U.S. dedicated installation vessel at a cost of approximately half a billion dollars. Other specialized vessels will be required such as the purpose-built crew transfer vessels commissioned by Orsted in 2019 to ferry workers from shore to the wind energy area for construction and long term operation and maintenance. In short, the building of a homegrown U.S. offshore wind industry will require capital and human investment of tremendous breadth and depth. These investments are already underway. While the SEIS recognizes this trend, it nonetheless concludes that the overall economic impact will be marked -- minor. It's hard to reconcile this qualitative assessment with the body of the report and, indeed, with the public record. We respectfully request that BOEM reconsider this finding and assign an impact rating commensurate with the major domestic investments made and contemplated by the industry, including but not limited to those identified in the body of the SEIS.	Section 3.6.1 of the FEIS has been updated to provide projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be moderate beneficial. Section 3.6 of the FEIS has been updated to have a moderate beneficial rating and is a change from the minor beneficial impact given in the SEIS.
13190-23-001	One of the pivotal outstanding issues being reviewed by BOEM is that of navigational channels. RENEW supports the Alternative D-2 with its uniform one-by-one-nautical-mile layout, which the Coast Guard determined, after a robust public input process, would, quote, unquote, maximize safe navigation. The one-by-one layout, which was agreed to by all the New England offshore wind leaseholders, will provide ample and uniform	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	navigation channels and is significantly larger than the routes provided in the more mature European offshore wind industry. The Coast Guard's MARIPARS report concluded that the one-by-one nautical mile pattern, orientation and spacing will safely accommodate vessel transits, traditional fishing operations, and search -- and search-and-rescue operations as well. The recommendations on navigational safety the Coast Guard's report provide examples of how offshore wind development is totally compatible with existing commercial and recreational activity in the wind -- wind energy area. For these reasons, RENEW opposes the new Alternative F proposal that would include the insertion of unnecessary wider transit lanes. RENEW respectfully requests BOEM expeditiously approve the project consistent with the Alternative D-2 one-by-one-nautical-mile turbine layout to enable this region to meet their schedules for renewable energy deployment and carbon reduction.	
13190-24-001	our most bountiful and best options for no or low carbon energy is for Massachusetts to transition to offshore wind, and specifically, to Vineyard Wind with no further delay	Thank you for your comment.
13190-25-001	Specifically, in regards to birds, we offer the following comments: The greatest threat to birds today is climate change. Of Massachusetts' 143 breeding bird species, 43% are highly vulnerable to the effects of climate change. These impacts include warmer temperatures, altering the lengths of the seasons, and interrupting traditional migration patterns, as well as causing desynchronization with essential food sources and many other impacts. Climate change is impacting species across all habitats, both coastal and inland. It's causing accelerated sea-level rise and stronger ocean storms that wreak havoc on coastal bird habitats in particular, drowning out nesting and foraging areas for species, including the federally protected Roseate Tern and Piping Plover. The mitigation program for offshore wind should include funding for both monitoring birds and for habitat improvement projects, because we're not going to be able to detect all of the impacts. And we know that the birds need this help with their habitat, particularly coastal breeding birds and their colonies.	Climate change was addressed in the SEIS as an Impact Producing Factor and potential impacts to bird species was discussed in Sections A.8.3.1 and A.8.3.2. As such no change to the FEIS is warranted.
13190-26-001	The proposed one-by-one-nautical-mile layout, according to the Coast Guard, will maximize safe navigation in the wind energy areas. And while this will reduce possible energy generation in these areas by 30% or so, it addresses important concerns which were raised by competing users of these areas. However, increase or widening transit -- transit lanes, as in Alternative F, appears likely to cause significant cost increases to utility customers and further delays and greater environmental impacts. Alternative F would likely reduce the benefits from offshore wind projects, such as reducing emissions,	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	and economic and job creation benefits; and we, therefore, urge you to reject this alternative.	
13190-27-001	We are in a state of change, and our information clearly shows that the future for the Right Whale is under the cloud of climate change. And the hope will be that Vineyard Wind will be the first of a number of clean energy sources to change the course which seems so difficult. Critical to the whole story, in closing, is the agreement that was come to by CLF, NRDC and.. the National Wildlife Foundation. That agreement protects the Right Whales about as well as we can imagine, an adaptive management plan, one that particularly looks at development. So I thank BOEM for -- for this opportunity to make that statement. I think it's critical. And I would lastly say, I hope that BOEM will make sure that that agreement, which is so important, is applied to all future - future developments in -- in these waters.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13190-28-001	I would be remiss if I didn't also take this time to mention the substantial benefits of offshore wind energy development in general, and the Vineyard Wind Project in particular. Offshore wind energy is clean, renewable and reliable with average capacity factors similar to coal and typically higher than other renewable energy sources.	Thank you for your comment.
13190-28-002	Building commercial scale offshore wind facilities will spur over \$70 billion in private investment and grow tens of thousands of well-paying U.S. jobs. In fact, according to a recent report from the American Wind Energy Association, building out 20,000 to 30,000 megawatts of offshore wind power by 2030 will support between 45,000 and 83,000 jobs in development, construction and operations and maintenance in the same period.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13190-28-003	Offshore wind development can also help mitigate the impact of climate change, the largest threat facing our ocean ecosystems and coastal communities vulnerable to the rise of sea levels.	Thank you for your comment.
13190-28-004	Offshore wind development has been shown to improve recreational fishing opportunities and increased tourism, based on the experience of Block Island, the nation's first offshore wind facility.	Thank you for your comment.
13190-28-005	The project will provide clean, renewable and cost effective electricity to 400,000 homes and businesses in Massachusetts saving ratepayers more than \$1.4 billion in energy related cost savings over the life of the project. Also, the Vineyard Wind project will create 3600 jobs for local residents while making a significant contribution towards climate change mitigation by avoiding almost 1 7 million tons of carbon dioxide from being emitted into the air per year.	Thank you for your comment.
13190-28-006	Adding transit lanes to a uniform one-by-one-nautical-mile turbine spacing layout, spacing that is already greater than that of any existing offshore wind	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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	project in the world, would threaten the viability of all offshore wind projects in the region and their ability to meet the clean energy supply goals. Additional transit lanes will result in substantial technical challenges, delays, cost increases to consumers, and more environmental impacts from offshore wind development with marginal gains and, as identified by the Coast Guard, potentially greater conflict among transiting and fishing vessels that are funneled into the corridors thereby increasing traffic density and risks for vessel interaction. For these reasons, Alternative F should not be selected.	
13190-29-001	And so I'm speaking in favor of all this because of the opportunities to possibly create new jobs and new careers for my members and the future generations... Vineyard Wind has made a commitment to us to do a project labor agreement here in Connecticut, which is great. They've also talked about Pathways programs for training. And again, it's all about our next generation of construction workers. So on behalf of Fairfield County Building Trades, we support the one-by-one layout.	Thank you for your comment.
13190-30-001	Compliments to the Bureau of Ocean Energy Management for development of an accurate record. We believe this record supports public need for renewable energy, public value for jobs, supply chain development, economic development, review of alternatives that include -- that are necessary for the -- for the Environmental Impact Statement and review of impacts that have a theme to avoid, minimize, and mitigate these environmental impacts.	Thank you for your comment.
13190-30-002	In terms of the alternative spacing, which has come up by several of the other speakers, we -- we support the one-nautical-mile-by-one-nautical-mile spacing. I think the record is accurate and in supports the finding that this one-by-one spacing is -- is -- is adequate for passage navigation and turning for both commercial and fishing vessels. We do not support the four-mile corridor alternative. This larger, wider corridor does not -- does not seem to be supported by the record, does not seem to be necessary for navigation. If this alternative were to be elected, it would result in the sacrifice of the benefits and value of the renewable energy and the economic development value.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-31-001	... I'm enlisted in the classes to be an offshore wind technician that are being offered by ACEMV and Bristol College. Climate change has got to be the biggest thing for me, because as a 20-year-old growing up and watching water levels rise is not something I want to be a part of. So anything I can do to stop that, work towards a different path for the world and the economy in the U.S., just everything. So yeah, all in all, I'm in full support and fully invested in Vineyard Wind. It's	Thank you for your comment.

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13190-32-001	You know this is going to bring quite a bit of power, 13,000 megawatts of energy plus by -- by not going with this -- with this layout, more than then if we did. So I think it's very important for this project, and future projects, for that matter, that that the one-by-one layout be adhered to.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-32-002	And with all the plants in Southeastern Mass and the Cape that are being decommissioned, we are going to find, you know what we need to find, more power. And this couldn't be coming at a better time for our need for power.	Thank you for your comment.
13190-33-001	And I wanted to first give my thanks to BOEM for the process of moving the wind turbines off to about 15 nautical miles. The spreading out of the turbines at one nautical mile apart, I think, mitigates any historical view impacts.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-33-002	From the fishery side, I've seen the fish being really negatively impacted due to industrial fishing for the last hundred years. And so I'm really excited for the opportunity for fish to come back from these turbines. I think there's going to be a huge benefit to the marine habitat from these turbines. We've seen that in Block Island already. And I've spoken to a number of commercial fishermen on Nantucket, and they're all supportive of the project. I want to thank BOEM for moving the turbines out to about the 20,000 edge. That's an important fishing habitat, and so we appreciate that.	Thank you for your comment.
13190-33-003	The visual impacts have been mitigated. Vineyard Winds has done a phenomenal job of covering a number of the concerns with this project. And I just please strongly ask you to move this project forward in an expedient way. There is so many countless benefits for this project, and it would be a huge disservice to slow it down.	Thank you for your comment.
13190-34-001	The Vineyard Wind SEIS, which expands the prior cumulative activities scenario for offshore wind development along the Eastern Seaboard reveals that offshore wind can be done in an environmentally responsible way and provide the clean energy that East Coast states are demanding. The analysis notes that as offshore wind advances, we will see reduced emissions from polluting fossil fuel plants and improve air quality, and every investment in renewable energy helps in the fight against climate change.	Thank you for your comment.
13190-34-002	The expanded analysis produced by BOEM also predict that offshore wind farms will generate approximately 22 gigawatts, enough to power nearly 8 million homes along the U.S. Atlantic Coast within the next decade. That full scale of offshore wind development reinforces how important -- how it's more important than ever to ensure that when projects adequately protect coastal jobs and recreation and the future food that the oceans provide to the world.	Thank you for your comment.

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13190-34-003	That's why the Sierra Club is supportive of Boeing's preferred alternative to distribute Vineyard Wind's winds turbines arrangement to one-nautical-mile spacing. The arrangement of turbines in this orientation would allow vessels to travel unobstructed and help to avoid navigational impacts. The approval of this project, which will also have important economic impacts to the region.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-34-004	I urge BOEM to accept the one-nautical-mile spacing proposal, which is by far the best option on the table to create a competitive dynamic coastal marketplace for offshore wind projects that will also result in economic growth and environmental protection for states from Maine to the Carolinas.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13190-34-005	The approval of this project, which will also have important economic impacts to the region. Vineyard Wind 1 will create 3,600 good-paying jobs for local residents, and it's expected that project will save ratepayers more than \$1.4 billion in energy related cost over the 20-year contract with the State of Massachusetts. The untapped offshore wind resource along the U.S. Eastern Seaboard is one of the most powerful in the world and is within reach of densely populated areas where energy demands are high and new resource options are few. The offshore wind energy could create 83,000 jobs by 2030 and deliver over \$25 billion in annual economic input by that same year.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. While the estimates are national, jobs are anticipated to be concentrated in and near the east coast states that would host offshore wind.
13191-01-001	We firmly believe that the D-2 alternative as presented in this SEIS, including the proposed conservative mitigation put in place for the Vineyard Wind 1 Project, represent the right compromise that will allow all existing and future uses to coexist now and in the future. Other alternatives, in particular the F Alternative with additional transit lanes, should, in our opinion, not be considered as they would not provide additional navigation, search-and-rescue or fishing benefits. To the contrary, however, they would significantly impair the economic viability of existing and future offshore wind projects, including Vineyard Wind 1.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-02-001	As recognized in the draft supplementary EIS, there will be major negative impact on both commercial fisheries and fishery independent surveys, both of which cannot continue as presently conducted.	The SEIS discusses the adverse impacts on commercial fisheries throughout Section 3.11.1.1 and 3.11.2. Section 3.14 and Section 3.14.2 addresses potential project-related and cumulative impacts to scientific research and surveys in detail. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).

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13191-02-002	I have on all occasions commented that surf clam vessels using hydraulic bottom tending gear would not be able to continue operations within a wind farm array where the individual turbines are not spaced at a minimum of two nautical miles apart.	Section 3.11 of the SEIS discusses the needs of some fishing operations for greater than 1 nautical mile clearance and the potential of practical exclusion of some fishing operations from Wind Development Areas. Therefore, no change to the FEIS is warranted.
13191-02-003	I have also commented on the need for wind farms to have an orientation in line with prevailing currents, place -- placement of all vertical structures in straight rows and columns, and the need to bury all transmission cables at least two meters deep. Yet, upon reviewing all current and proposed design layouts of wind farm arrays, the comments from the surf clam industry have been ignored, essentially creating exclusion zones around wind farms in which surf clam vessels will not be able to operate.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses vessel displacement and financial impacts on commercial fisheries, including the surfclam fishery. Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS discuss that some vessels may choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures, the potential for hanging up on structures, and they have been updated to discuss potential mitigation measures. BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D for details of the FEIS.
13191-02-004	Equally important as lost access to current clamming areas would be the inability of research vessels to operate within wind farm arrays to conduct the fishery independent surveys vital to developing the stock assessments for all the species managed by the Mid Atlantic and the New England fishery management councils. With lost data, scientific uncertainty increases for any stock. And this affects how quotas would be established in future years.	Section 3.14 of the SEIS addressed potential project-related and cumulative impacts to scientific research and surveys in detail, including the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed through collaboration with NMFS and BOEM will continue to collaborate on survey protocols. It has been acknowledged that additional studies are needed and discussions are ongoing to assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no changes to the FEIS are warranted. BOEM is funding a process to begin to understand the options available to mitigate potential impacts on scientific research and surveys. Regardless of such actions, long-standing NMFS surveys would not be able to continue as currently designed and extensive costs and efforts will be required to adjust survey approaches. Therefore, potential impacts on scientific surveys and research is anticipated to be major. Please refer to the following link: https://www.boem.gov/environment/environmental-studies/20-x07 . Additionally, resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations

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		and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13191-02-005	The commercial fisheries have been engaged at every opportunity, but our concerns and needs have been summarily dismissed. There should be an immediate five-year moratorium implemented on the development of offshore wind because the cumulative impact on commercial fisheries' resources and their habitats from wind farms in the foreseeable future are poorly understood or unknown. Therefore, I support Alternative G, no action at this time.	The FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-03-001	Offshore wind presents a tremendous opportunity to fight climate change, reduce greenhouse gas emissions, and grow a new industry that supports tens of thousands of well paying jobs. CLF believes that Alternative D-2, when combined with Alternative B, to establish a one-by-one-nautical-mile wind turbine layout and make landfall on Covell Beach, is the most responsible option that has been proposed and that BOEM should reject the other alternatives analyzed in the SEIS.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Vineyard Wind has indicated that New Hampshire Avenue landfall location is no longer a consideration as they have received all the necessary state and local permits for the Covell's Beach landfall site.
13191-03-002	CLF also urges BOEM to reject Alternative F. CLF is very concerned that Alternative F and the incorporation of the RODA recommended transit lanes into the Vineyard Wind Project would reduce expected power generation capacity of offshore wind in Southern New England as noted in the SEIS. Accordingly, Alternative F is likely to produce -- or preclude Massachusetts and Rhode Island from meeting their renewable energy targets in mitigating the impacts of climate change. If that is the case, we cannot support Alternative F.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-03-003	Further, as found in the MARIPARS report, the Coast Guard concluded that the Alternative D-2 layout would meet the Coast Guard's criteria for navigational safety. Given this conclusion, the addition of transit lanes for leased area under Alternative F appears unnecessary for the purpose of increasing navigational safety.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters;

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		therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13191-03-004	Finally, the SEIS only provides cursory consideration of the impact that following vessel traffic in the transit lanes would have on marine mammals and North Atlantic Right Whales. Due to this deficiency in BOEM's analysis, we cannot support Alternative F.	Section 3.5.2 discusses the addition of Alternative F and the potential consequences of implementation of the Alternative. Therefore, no change to the FEIS is warranted.
13191-03-005	CLF appreciates that BOEM incorporated this agreement [between VW, CLF, Natural Resources Defense Council, and NWF] into the SEIS; however, the SEIS appears to assume that similar mitigation and monitoring will be put in place for future offshore wind projects. The assumption in the SEIS that similar monitoring and mitigation measures will be adopted appears to reduce the overall cumulative impact rating to our North Atlantic Right Whales. There's no guarantee that such mitigation and monitoring measures will be implemented for future offshore agreement, and the SEIS is flawed to the extent it speculates that similar measures will be adopted. CLF believes that in order to reduce impact on the North Atlantic Right Whale, it is necessary that BOEM and NOAA incorporate similar monitoring and mitigation letters into all future permits associated with offshore wind. In conclusion, Alternative D-2 is the best option for developing offshore wind responsibly. And other alternatives, including Alternative F, should be rejected.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, vessel speed restrictions, injury and mortality reporting, and other measures. Further, should a Right Whale Slow Zone or DMA overlap the proposed Project area between June 1 and October 31 implementation of enhanced monitoring/mitigation measures for NARW would be required. Project activities will be conducted under the authority of a Project-specific IHA issued by the NMFS. Project-specific ESA consultations will be required for all future offshore wind development. Monitoring and mitigation requirements for other future offshore wind development may be driven by lessons learned from the Vineyard Wind 1 Project, but will be part of a separate decision making process. Future offshore wind projects will require separate NEPA processes and impact evaluations. At that time, BOEM may require similar or different mitigation measures to reduce impacts to sensitive species as conditions of COP approval.
13191-03-006	And other alternatives, including Alternative F, should be rejected. Alternative F will prevent Massachusetts and Rhode Island from accomplishing their renewable energy targets, does not reduce the overall impact level for the fishing industry, and its uncertain impact on the North Atlantic Right Whale.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-03-007	CLF also believes that the types of mitigation and monitoring measurements that Vineyard Wind has agreed to are needed on all future offshore wind projects. There's no guarantee such measures will be adopted on future projects, and the SEIS errs to the extent it assumes that similarly robust measures will be implemented. BOEM and NOAA must ensure that similar measures are incorporated into all future projects.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS

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		has been updated to reflect this information. Future offshore wind projects will undergo separate NEPA reviews, and similar or different measures could be required for those projects to avoid or reduce the potential effects anticipated.
13191-04-001	I strongly support Vineyard Wind's offshore wind project for several reasons...I frequently go to Covell Beach where the cable will come to shore and the road will be disturbed. While this will be an inconvenience for a time, I know that Cape Cod is particularly vulnerable to the effects of climate change with the eroding coast lines, warming ocean temperatures, and severe weather. And we need to invest in renewable offshore energy now.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Vineyard Wind has indicated that New Hampshire Avenue landfall location is no longer a consideration as they have received all the necessary state and local permits for the Covell's Beach landfall site.
13191-05-001	We [commercial fishing company for squid] were never consulted on the siting of those wind farms originally. And specifically, Vineyard Wind sits on productive -- sits on and near productive squid grounds, not only for fishing, but also for squid mops for nursery grounds.	The development of wind energy areas and lease issuance goes through at least two separate public notice and comment periods, in addition to the current environmental review for proposed activities on the lease.
13191-05-002	There have been no peer-reviewed scientific studies in Europe on the impact of development operations on fisheries or fish stocks. There have also been no long term baseline studies here in the U.S. on wind energy areas that are much needed to track the changes that might happen over time. We've been asking for these baseline studies since we were first reached out to by Vineyard Wind 10 in 2016 and 2017. The development will prevent them from conducting their fishery research studies in that area, and that will create management uncertainty for the fishing industry.	Section 3.3 of the FEIS has been updated to include European studies of impacts from offshore wind facilities on finfish and Section 3.10 has been updated with a U.K. study (by Roach et al.) that shows catch rates remain the same at sites adjacent to offshore wind facilities and within offshore wind facilities. The environmental assessment for the Vineyard Wind 1 Project has relied upon the best available information regarding impacts from the proposed action by using the results of local site characterization information from the developer, the National Marine Fisheries Service, and others. Impact information from the Block Island Wind Farm and European projects are applicable to the anticipated impacts of the proposed action. Additionally, BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).
13191-05-003	we also understand that there's a need for research and monitoring. And that this needs to be done right, because it's -- once it's done, we're going to be the ones who will have to pay for this ecologically and biologically.... You know, there's lots of things that are below the ocean that lots of people don't see and don't understand. And I think for some people, it can be out of sight and out of mind, and that's concerning to those of us who depend on the ocean for a living. So, again, we have been striving for coexistence, but we've been making it -- a very strong case since the beginning, we just want this done right.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13191-05-004	... regarding this transit lane plan being put forth by Vineyard Wind and the other wind energy developers, we have sat down and worked with ...wind energy developers for years now. We've spent a lot of time and money on	The FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. Section 2.1.3

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	several meetings to sit down and discuss the issues regarding transits with them. ...after the latest submission of transit lanes from the developer to the Coast Guard, it's clear that we've been ignored on this issue. Submitting this plan without industry consultation is not a compromise. And to hear that there's lots of support for that plan is concerning because I'm sure that a lot of that support is from people who don't operate on the water as part of the commercial fishing industry. And I think it's really important to listen to the people who actually are out there making a living and to consider what they need for safety regarding weather, radar interference, and possibly collisions. Real coexistence comes from working together on all issues, and it means being transparent. And that includes working together on mitigation compensation and transit. And those issues have left a lot of transparencies, especially given the latest mitigation compensation package coming out of Vineyard Wind for Massachusetts. That didn't involve any input from any fishing industry members, and neither did this one-by-one spread across the whole lease area. So I will put my support behind Alternative F, RODA's transit lane layout, and D-2.	of the FEIS was updated to clarify that Alternatives D1 and D2 were the direct result of scoping comments received from the commercial fishing industry (see April 30, 2018 comment from Tkjedle Law on behalf of the East Farm Commercial Fisheries Center on the Notice of Intent to Prepare an EIS). Alternative F was proposed by the Responsible Offshore Development Alliance through a collaborative process with commercial fishermen and the offshore wind industry. Section 3.11 of the SEIS also notes that some fisheries may require spacing greater than 1nm between wind turbines. Furthermore, the Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-06-001	The Vineyard Wind Project is not just about energy. Choosing to build it with the one-mile spacing of the turbines under Option D-2 or to further delay and possibly kill it through proposals such as Option F is also a moral decision that may have possible life-and-death consequences...This is the alternative to Vineyard Wind. Further permitting delays to Vineyard Wind will increase the likelihood of killing it and leaving New England to the mercies of fossil fuel companies. Their environmental justice impact would far exceed the environmental justice impact on low-income fishing workers from that one-mile layout of wind turbines	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects). Sections 2.2.2, 3.6.4, and 3.7.4 of the FEIS have been revised to note that Alternative F may reduce the capacity of offshore wind power generation in the RI and MA Lease Areas, resulting in a reduction of the potential benefits to minority and low income populations that could result from reduced fossil fuel power generation.
13191-06-002	It's past time for the U.S. to join other developed nations with projects like this starting with Vineyard Wind. It can provide clean energy, local jobs, and it would have far less impact on human and environmental health and fossil fuels. Vineyard Wind has been studied for many years. There has been extensive engagement with stakeholders of all kinds. As been mentioned before, the Coast Guard states that the one-mile spacing plan is safe for shipping and fishing and deems the additional transit lanes unnecessary. The additional transit lane, as I said, would -- would probably kill the project. So please give the project a green light with that D-2 one-mile spacing plan.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-06-003	I ask that special attention be paid to training and hiring people from local communities of color and low-income communities to build and maintain Vineyard Wind as partial recompense for the disproportionate damage	Section 3.8.1 and 3.8.2 of the SEIS noted that offshore wind development could result in job creation for low and minority residents. This beneficial impact, and the local hiring plan for the proposed Project described into

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	they've already suffered from polluting energy projects. Please place climate justice, environmental and racial and economic justice at the center of your decision-making and permit this project.	Appendix D, is carried over into the FEIS. Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13191-07-001	Offshore wind is vital for meeting the clean energy goal of New England....The SEIS, I thought, was critically responsive to the impacts on the needs of the beings who call the ocean home, and the environmental justice population.	Thank you for your comment.
13191-08-001	Climate change is no longer speculative, it's here, and it's going to have a large impact on coastal communities in particular calling for expensive infrastructure adaptation and need for greater resilience for our energy systems. In fact, as I speak, sea surface temperatures in the Georges Bank area are above 80 degrees Fahrenheit. This is unprecedented and feeds into an increased probability of hurricanes and dangerous storms. Secondly, our fishing industry is threatened. It's threatened by climate change driving fish stocks northward by overfishing and by degradation of the marine environment. A third key concern is the need for high-quality jobs and a future for the next generation. The development of a responsible and responsive offshore wind industry addresses these concerns.	Thank you for your comment.
13191-08-002	Furthermore, the project is going to result in a significant lessening of the greenhouse gas emissions in the region, and it will provide renewable electricity at a significant cost savings for rate payers, particularly as compared to what is now an increasingly volatile fossil fuel industry. It's also important to note that the project financially supports community efforts to achieve our state and local renewable energy goals, and to increase the resilience of our energy systems to what is going to be an increasingly stormy future.	Thank you for your comment.
13191-08-003	The Vineyard Wind Project has done a remarkable job, in my opinion, over the last decade in making sure that the marine environment will be protected and has been responsive to the concerns of stakeholders in its exhaustive permitting process. As an example, the project has been altered to provide an improved and Coast Guard endorsed turbine layout for navigation at the cost of a reduced power output for the entire installation.	Thank you for your comment.
13191-09-001	I support the construction of Vineyard Wind 1, which would finally bring large-scale offshore wind energy to the United States.	Thank you for your comment.
13191-09-002	Vineyard Wind has built positive ties with the local community, including regional businesses and educational institutions, has pledged to act	Thank you for your comment.

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	responsibly when treating and paying its workers fairly, and protecting wildlife. For example, Vineyard Wind signed a landmark agreement to mitigate the effects of their project on the critically endangered North Atlantic Right Whale. This agreement with the National Wildlife Federation, National Resources Defense Council, and Conservation Law Foundation should be the model for all future offshore wind developers.	
13191-09-003	The draft Supplemental Environmental Impact Statement has been a productive process by, one, expanding the scope of study for offshore wind energies impacts; two, the proposal of a common one-by-one-nautical-mile grid layout known as Alternative D-2, supported by the U.S. Coast Guard; and three (inaudible) Covell Beach, Alternative B. (Inaudible) Vineyard Wind as its first offshore wind project. It has now been thoroughly reviewed by state and federal agencies, changes to the project have been made, and now Vineyard Wind should be cleared for construction without further delay.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-10-001	this is the most public process I've seen so far where you're actually sitting here taking testimony and fishermen and fishing industry has been heard. And I commend that very much. But it's -- it's a real concern to those of us that spent or lives -- livelihoods and invested a lot of money and time in our industry out here [on the West Coast] as well as on the East Coast, I'm sure. I know a number of people back there. And so that's really all I have to say right now, is I wanted to find out how this process unfolds and take what I learned back to the people I work with out here.	Thank you for your comment.
13191-11-001	we need to be able to move forward with these really important energy developments like this project, and we need to do that in a way that keeps everyone's voices involved, which I think this project has done exceptionally well. So in summarizing, we support this project, D-2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-11-002	And I think as someone else stated, obviously Wind 1 Project is not going to change everything for climate change, but it's such an important project that we bring a long process to completion with some incredible wind turbines, and a lot of them, and really start charting the way for more offshore wind development in the United States, and the momentum of this project is incredibly important.	Thank you for your comment.
13191-11-003	I first wanted to commend the ongoing years of communication on stakeholder engagement on the part of renewed wind, I think, including the fishing communities. And that has really resulted in a proposal with traditionally spaced out turbines, and then other offshore wind installation on what changes that are meant to accommodate the interest in stakeholders. So I want to commend that process.	Thank you for your comment.

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13191-12-001	And I want to give my support to Vineyard Wind. ... We have to do everything we can and whatever we can do to lower fossil fuel emissions and switch our energy production to renewable energy forms. I hope that renewable energy production like Vineyard Wind can shut down some of the existing plants that impact black and brown neighborhoods in both Massachusetts and Rhode Island.	Thank you for your comment.
13191-12-002	I appreciate the fact that the jobs that this will create will be good paying jobs and hope that you can hire black and brown workers, and also diversify and train a maintenance crew to keep up and do maintenance on the project.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS. Most jobs would occur during the construction phase.
13191-13-001	And I'm speaking in support of the Vineyard Wind offshore energy project. This project will provide new economic opportunities in the offshore wind industry. The offshore wind facilities on Martha's Vineyard alone will provide as many as 40 technical jobs, really, highly skilled positions that we are conducting already now, training programs at Martha's Vineyard High School and local community college. And that's much needed for our island community.	Section 3.6.2 of the FEIS provides information on short-term construction jobs within the geographic analysis area and long-term operations jobs that would result directly from the Vineyard Wind 1 Project. Many of the estimated 80 operational jobs would be located on Martha's Vineyard due to the location of the operations and maintenance facility and use of Vineyard Haven harbor. These data were also provided in the DEIS.
13191-13-002	The Vineyard Wind Project has recommended the one-by-one-nautical-mile transit lanes for the project. I think that's the D-2. After an exhaustive and detailed examination and analysis, U.S. Coast Guard has determined that one-by-one-nautical miles is the optimum spacing for the transit lanes for the Vineyard Wind Project. The Coast Guard is the preeminent institution for navigation in U.S. waters. It has no big, financial, any other vested interest in the spacing of the transit lanes. The Coast Guard is neutral and is the government body assigned the responsibility to ensure and facilitate the safety and smooth functioning of navigation in U.S. waters. Its analysis and conclusions on transit lanes should be afforded predominant consideration and adoption by BOEM.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13191-13-003	Support of critical offshore wind farm and infrastructure projects will be one of the very largest single measures we can take that addresses our need to mitigate climate change by reducing global greenhouse gas emissions, and it will have a positive effect on sea-level rise and reduce potential negative impacts to our coastal shorelines and ocean acidification impacts.	Thank you for your comment.
13191-13-004	The risk of the offshore wind project's impact on the environment and communities, including fisheries, is very, very low. The risk that the continued burning of fossil fuels at the current pace will cause the above-described effect, it is not only very high but virtually a certainty. So low risk	Thank you for your comment.

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	versus a virtual certainty. That makes it a clear choice. Thus -- thus, we must do all that is possible to convert to renewable clean energy.	
13191-14-001	I strongly support building and operating the Vineyard Wind Project as part of New England's renewable clean energy plan. It has clearly been well researched over a number of years, and time is of the essence.	Thank you for your comment.
13191-15-001	Mr. Peter Himchak... was right in his assessment of the process being flawed as far as coexistence and involvement and taking heed to the concerns of the commercial fisheries...probably the most preeminent concern is the safety of our crews operating within wind arrays with less than two-miles spacing.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative. Section 3.11.2 and 3.13.2 of the SEIS evaluates impacts from alternatives with different spacing of turbines and transit corridors (Alternatives D1, D2, and F) on commercial fisheries and navigation. Three of the Alternatives, D1, D2, and F, were a direct result of commercial fishing industry comments. Section 2.1.3 of the FEIS was updated to clarify that Alternatives D1 and D2 were the direct result of scoping comments received from the commercial fishing industry (see April 30, 2018 comment from Tkjedle Law on behalf of the East Farm Commercial Fisheries Center on the Notice of Intent to Prepare an EIS). Alternative F was proposed by the Responsible Offshore Development Alliance through a collaborative process with commercial fishermen and the offshore wind industry. Section 3.11 of the SEIS also notes that some fisheries may require spacing greater than 1nm between wind turbines.
13191-15-002	The -- the other thing that scares us to death, as I mentioned in New York two years ago, is the degradation of the cold pool.	Cold pool dynamics and potential impacts are addressed in Section 3.3.1 of the FEIS. This information was also presented in the SEIS.
13191-15-003	Buried cables -- we are a hydraulic dredge mobile-tending bottom gear. Buried cables are quite frightening to us. Use the only five wind turbines that are in the U.S. waters who have buried cables, and those cables have become unburied and will not be buried for another year. I think that's evidence enough that the wind energy developers do not have the proper ability to bury those cables where they won't interfere with commercial fisheries.	Section 2.1.1 of the FEIS has been updated to address cable burial risk for the proposed Project. The OECC would have a target burial depth of 5-8 feet (1.5-2.5 meters). BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details.
13191-15-004	the hindrance of federal surveys at sea [as a result of 1x1 spacing] will have terrible effects on our ability to accurately set quotas.	The SEIS addresses these issues throughout Section 3.14 (Other Uses, Scientific Research and Surveys), and Section 3.14.2 addresses potential project-related and cumulative impacts to scientific research and surveys in detail and discusses the potential for lower quotas. The discussion of impacts on scientific research and surveys was developed jointly by BOEM and NOAA, and acknowledges that additional studies are needed and ongoing to

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		assess uncertainties in scientific data collection and implement any changes to surveys. Therefore, no change to the FEIS is warranted. Additionally, resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information.
13191-15-005	We think that more science needs to be done. And you will see that in our comments on the -- on the SEIS at a later date. And we would like -- I would like to support, as Sea Watch would, a five-year moratorium to allow that science to be done.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-16-001	I would like to offer our company's support for the project layout recommendations offered by the leaseholders. As stewards of thousands of acres of land in New England, we understand the difficult job required of BOEM to safeguard the environment while we're responsibly providing for commercial development. We believe that the leaseholder recommendations, particularly that for a uniform one-by-one-nautical mile layout represent a solid balance between these two important goals. Additional fourmile -- four-mile transit lanes, which are currently being considered by BOEM, would unfortunately reduce the area available to supply wind energy to the region thereby slowing New England's transition from a world dominated by fossil fuel to a cleaner and more sustainable future....As such, we urge BOEM to adopt the one-by-one nautical mile layout provision as recommended by the leaseholders.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-17-001	If the turbines are placed too close together, then the ability for us to fish in the -- within the array is very dangerous if not impossible; and therefore, all of that area will be lost to us. And that takes up about 1400 square miles of highly productive clam grounds. The -- the measurement -- BOEM had said in their EIS that -- that the fishing industry is going to be very negatively impacted, and we want to point that out, that this is going to have a tremendous negative impact on us. And so we are going to possibly lose jobs. We surely are going to have to fish in other areas which are farther away, which means we have much more cost in catching the product that we are designed to -- to catch and to process.	Section 3.11.1.1 and 3.11.2 of the SEIS discusses vessel displacement and financial impacts on commercial fisheries, including the surfclam fishery. Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS discuss that some vessels may choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures, the potential for hanging up on structures, and they have been updated to discuss potential mitigation measures.

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13191-17-002	we have a good chance of losing jobs to thousands of people who lived in and work in Europe who build the turbines. We have no capacity -- capability of installing these turbines. The -- they will send, as there is a ship here now installing the two turbines off of Virginia Beach, Virginia, which is a European ship, European crew, European turbines. We don't have any capacity to build any of that stuff at this time. So we are -- thousands of jobs that they are talking about are all European jobs.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. The jobs and investment are anticipated to be concentrated in and near the east coast states that would host offshore wind. Over the next ten years, these studies foresee the growth of the domestic offshore wind supply chain.
13191-17-003	the turbines are only about 35 percent effective during the year. So the lights go out when the wind stops blowing, they have to have the ability to produce the maximum power necessary to sustain the -- the area that -- that that grid is supplying. So, therefore, you have -- you have to have power plants, either nuclear power plants or conventional gas power plants, online all the time running at slow speeds. And when the wind stops, then you have a lag, usually the power goes out -- the lights go out, and then they come online and start back up. And so we sort of act like a third-world country.	Thank you for your comment.
13191-17-004	we do not understand all of the negative impacts that are going to be on the habitat, the fish populations, or the fishermen, and all of the people who support the fishing industry. And we are going to be in a situation where the - - this process is -- is not in the best interest of the United States as far as trying to reduce carbon...We -- I support and the people I work with support Number G, to do nothing until a lot of studies have been done which was described by Simmons and its scientists.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-17-005	we need to also make sure that we have the capability of spreading these things out so -- and burying the cables deeply so that we can operate safely within the arrays and transit safely through the arrays, and build these turbines here in the United States.	Section 3.11 of the SEIS discusses restrictions on vessel maneuverability from the presence of structures, the potential for hanging up on structures, and alternatives with different spacing options and vessel transit lanes between wind turbines. BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D for details of the FEIS.
13191-18-001	I would like you to listen to all of the people who have spoken and come up with a plan that -- that incorporates the whole thing. So you've got deep cables, you've got batteries, you've got local jobs, you've got healthy clams, you've got a healthy clam industry. And you do it in a way that other people	Thank you for your comment.

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	can copy you. And I'm not sure how you're going to do all of that, but really what I would like to see.	
13191-19-001	The ocean is a public resource. The commercial fishing industry does not have a primary claim on it. The Atlantic Ocean is very large, and commercial fishing boats have access to the vast majority of it. This wind farm would impact them only slightly, and that impact is greatly outweighed by the positive impact on the environment through reduced fossil fuel power generation. For these reasons, I vote that BOEM support the proposed action Option A and allow this wind farm and many others be constructed as soon as possible. Further delay of this wind farm project will negatively impact the environment and raise electricity costs.	Thank you for your comment.
13191-19-002	Additionally, while the Environmental Impact Statement or report listed potential and negative impacts to commercial fisheries or fishing, any reduction in commercial fishing could positively impact the natural environment. Negative environmental impacts of commercial fishing include plastic waste from discarded fishing nets which then degrade and spread micro plastics in the water.	The scope of this SEIS is to evaluate the environmental impacts from offshore wind development, not the impacts of commercial fisheries on the environment.
13191-19-003	Climate change will negatively impact far larger industry than clam harvesting, jeopardizing livelihoods throughout the United States. Construction of this wind farm and many others will help to reduce carbon dioxide emission and thereby help the environment...Since the wind turbines and offshore wind farms have higher capacity utilization rates, building offshore wind farms take up a less overall space than other energy generation options.	Thank you for your comment.
13191-20-001	I have operated boats around the Cape islands and the wind lease area areas for 30 years. For full disclosure, I have supplied vessels for avian or bird surveys for our future wind -- Vineyard Wind Project, and worked as a guard vessel on the Coastal Virginia Offshore Wind Project this Spring. This is -- this shows that there is work for local companies in the wind industry.	Thank you for your comment.
13191-20-002	At one-mile spacing of the wind towers, these -- these channels are unnecessary. If anything, the consistent one-mile spacing throughout with east-west and north-south, letters and number markings would be best. As a comparison, Ambrose Channel, that is the main entrance of New York harbor, is one-third of a mile wide, and has 800-foot ships passing each other every day. One mile is more spacing than any good boat operator needs to transit.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-20-003	believe that the towers and the anti-scouring stones around them at the bases will create fishing opportunities for private and smaller for-hire vessels.	Section 3.10 and 3.11 of the SEIS discuss the potential for increased opportunities for recreational fishing and for-hire recreational fishing from

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		the increased presence of structures in the water column and on the ocean floor. Therefore, no change to the FEIS is warranted.
13191-21-001	I hope that BOEM considers the interests of the younger generations while making their permitting decision on Vineyard Wind. We will approve Alternative D-2 and reject Alternative F, as this will maximize future investments in offshore wind and clean energy for the United States.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-21-002	We in the United States cannot afford further delays to the Vineyard Wind proposed construction plan because we need to guarantee the stability of this industry because that will allow supply chains and work force training to take full effect for job growth in the United States.	Section 3.6.2 of the FEIS has been updated to note the importance of the Vineyard Wind 1 Project as the east coast's first large-scale offshore wind energy project. Approval could encourage and support continued investment in other offshore wind projects and the creation of a domestic supply chain for the offshore wind industry in the eastern United States.
13191-21-003	...the offshore wind industry provides a glimmer of hope and expansion for the job market. I think many [so to graduate] students want to enter the ground floor of a new and exciting career field. And the offshore wind industry can be that new, innovating and exciting job sector here in the United States. I hope that those beneficial impacts are not overlooked when drafting a final Environmental Impact Statement.	Section 3.6.1.1 of the FEIS has been updated to provide estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. The jobs and investment are anticipated to be concentrated in and near the east coast states that would host offshore wind. Over the next ten years, these studies foresee the growth of the domestic offshore wind supply chain.
13191-21-004	I've also heard some prior comments regarding impacts to fisheries. And I want to add that the small reduced revenues for fisheries from Vineyard Wind will only be realized if fishing activity stops entirely in the lease area. But the one-by-one nautical mile layout will allow for fishing to continue once Vineyard Wind is operational. So I think that needs to be taken into account when the final permitting decision is made, as well as other mitigation strategies already agreed upon by Vineyard Wind and consultation with the fishing industry.	Section 3.10 and Appendix D of the FEIS have been updated with all mitigation strategies and these are taken into account during the decision making process.
13191-22-001	We do not believe that this SEIS should be used as a template for the other developments and the other developers between Massachusetts and -- and Virginia. And I think BOEM -- while I really appreciate the opportunity to speak tonight -- has done a terrible job frankly in -- in encouraging the developers to work together to resolve issues like our ability to transit areas where we're going to be displaced because there are other areas where we can still catch fish...So I would like to see this outcome have Vineyard 1 be the leader in a rational transit system so that we can get around it and safely get through it. So, you know, maybe four miles is too long. But I wanted to point out that, you know, Alternative F -- we've heard a lot about environmental justice tonight. You know, it's a minor impact whether it's F or D-2, frankly...So that's it. Okay. Well, we'll be filing written comments and we hope BOEM does a little better job of coordinating between these projects.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.

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13191-23-001	I want to urge BOEM to expedite approval of a robust option for the Vineyard Wind Project. The scientific community agrees that we must greatly reduce our greenhouse gas emissions to mitigate the worst impacts of climate change. And we have about 10 years to accomplish this. If we fail, the cumulative impacts of climate change will likely overwhelm society's ability to adapt. The stresses induced by climate change will endanger our very civilization. I recognize that this offshore wind project has some short-term environmental and societal problems, but these risks are surely much less than the irreversible and overwhelming damage certain to hit us if we fail to curtail our dependence on fossil fuels.	Thank you for your comment.
13191-24-001	We see how the climate crisis is devastating our planet thanks to dirty fossil fuels. Vineyard Wind is a key part of solving that crisis creating a clean energy economy for New England where solar wind and other renewables create hundreds of thousands of jobs and power our lives without polluting our atmosphere. Our group gives our full support to this project, and we express our hope that permitting will go forward as soon as possible.	Thank you for your comment.
13191-25-001	So in short, adverse impact on the environment, fish stocks, and on the economics of the fishing industry have not been shown. Enough is known, however, about the adverse impact on the environment and the economy including the livelihood of fishers if nothing is done to develop renewable energy such as the Vineyard Wind Project. Warming waters due in part to carbon emissions are but one example of a far greater threat to fishers and others than Vineyard 1. Vineyard 1 has shown that the economics of moving ahead with this beneficial project are greatly diminished with additional delays or unnecessary changes to the citing plan. So time is of the essence to begin construction of Vineyard 1 so that Massachusetts and New England can begin to see the benefit of having renewable and less carbon impact on our environment.	Thank you for your comment.
13191-25-002	The issue of adding transit lanes, in my opinion, does not need to be revisited. The Coast Guard has already endorsed the one-by-one NM layout, and the Coast Guard finds that the standardized spacing layout would be best for navigational safety. They also have reported that additional transit lanes are potentially less safe than the one-by-one NM layout.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-25-003	Since the inception of Vineyard 1, the company has done an exemplary job in engaging the public and working with experts and scientists in refining their proposal. Massachusetts and New England needs ocean wind energy, and this Vineyard Wind Project, it's really essential that it gets started. We'll generate clean, sustainable injury for more than 400,000 homes and businesses. And	Thank you for your comment.

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	the most important thing, as has been said this evening, is the need to reduce carbon emissions, which this project does by nearly 2 million tons annually.	
13191-26-001	I want to commend Vineyard Wind for committing to training the local work force on Martha's Vineyard, which is critical in the diversification of our local economy. It gives a generation of people, like myself, a hope to get new jobs, especially during very challenging times. Thank you for this opportunity to provide input. I urge BOEM to submit this project to move forward without delay.	Section 3.6.2 of the FEIS lists the grants and community programs that the Vineyard Wind 1 Project is committed to, including job training for offshore wind. This information was also provided in the DEIS.
13191-27-001	In the construction of the first project [which in this case is VW], it increases our understanding and knowledge base significantly, and it will form all the projects to follow, hence reducing their risks and associated costs. What would happen if Vineyard Wind is delayed or not approved? The next project will have to carry the additional risk of being the first movers, something that they probably have not factored into their current models. A disillusioned supply chain would further compound that risk. Their risk profile has gone up significantly. Investors will be clear that they cannot be guaranteed a return on their investments. In best case, offshore wind development will be set back by years, and worst case scenario is that the projects -- projects will become financially unviable. In conclusion, in Section 3.7.2.1, and I'm quoting here, if the proposed project is not approved, it is assumed that the energy demand that the proposed project would have built would likely be met by other projects in the remaining areas off Massachusetts, Rhode Island, and New York leases. In other words, future offshore wind facilities capable of generating 9.4 megawatt -- would be 9.4 gigawatts -- would be built in the Rhode Island and Massachusetts lease areas. We believe that the premise of the assumption is incorrect, and we urge you to reassess this assumption. Further delaying the project, worst case we move not to approve Vineyard Wind, create a significant material ripple effect throughout the entire industry and the local supply chain.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
13191-28-001	As I've been reviewing the SEIS, it references the COPs in determining various impact. However, if you go to the volumes and sections of the COP referenced, they are redacted. Not one or two sections, but several sections; many sections, actually. This prevents meaningful comment and external review, and therefore, cannot be used in decision-making.	The COP references in the FEIS have been updated where appropriate. The latest COP information is also available on BOEM's website here: https://www.boem.gov/vineyard-wind
13191-28-002	Regarding a proposed action, we learned of the one-by-one-nautical-mile layout created by developers first in the media. It was not developed with us or with input from others in the commercial fishing industry who would be majorly impacted by the proposed project and cumulative projects, should they move forward. The U.S. Coast Guard Final MARIPARS, which also	The alternatives were developed using screening criteria for determining a range of reasonable alternatives, extensive coordination with state and federal agencies, and input from the public and potentially affected stakeholders through the DEIS scoping process and comment period (Appendix C). Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar

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	accepted this layout, did not analyze radar interference impact, which were well documented and acknowledged by the U.S. Coast Guard study on the previously proposed Cape Wind Project as a result of wind turbines. Furthermore, mathematical errors and omissions in the Final MARIPARS demonstrate that further work is necessary regarding layout and navigational safety. The SEIS determines that there are major impacts to navigation and, therefore, navigational safety as a result of the proposed layout. However, due to the lack of radar analysis, and the errors and omissions in the MARIPARS, and particularly, since the size of turbines in the project design envelope has now increased from a 10-megawatt-turbine to a 14-megawatt-turbine maximum, we believe more analysis, including and especially a radar modeling of the project and surrounding areas based on 14 megawatt turbines is necessary before moving forward.	interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. The USCG, a cooperating agency for the FEIS that is the leading agency on navigational matters, found the 1 x 1 nautical mile, east-west layout (consistent with Alternative D-2, as described in the FEIS) to be acceptable. The Final MARIPARS (USCG 2020) concluded that additional mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection. Further, the USCG is the consulting agency with the expertise regarding navigation impacts and, therefore, BOEM considers the MARIPARS to be the best available information for purposes of analyzing the impacts to navigation resulting from the project.
13191-28-003	The Vineyard Wind Project and the Mass/Rhode Island lease area are larger than any currently operating wind farms in the world, and it is important to get this right. Our vessels and our customers' vessels require safety at sea when transiting in the area, and they currently transit the area frequently. So we request this [radar] analysis to be done, this modeling to be done and analyzed prior to any approval.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13191-28-004	Our vessels and many customer vessels will be unable to fish in the project area during the life of the project or surrounding cumulative projects should they move forward due to being trawl vessels which are the primary fishing (inaudible) in the area. Any product these vessels and our facilities have relied on for decades will disappear. Due to cable batting on export cables, we will likely lose fishing area outside the project as well.	BOEM believes that measures proposed in the COP and enforced through terms and conditions of approval are sufficient to avoid interactions between fisheries gear and cable infrastructure. This includes a target burial depth of 5 feet (1.5 meters), cable inspection surveys, and a Distributed Temperature System on the export cable that will monitor if burial conditions have deteriorated or changed significantly and remedial actions are warranted. Additionally Vineyard Wind is required to submit an as-built cable installation report that will include location and burial depth. See the updated Sections 3.10.2, 3.10.8, and Appendix D of the FEIS for details. Sections 3.10.1, 3.10.2, and 3.10.8 of the FEIS also discuss that some vessels may choose not to fish near the Proposed Action during its operational period due to restrictions on maneuverability from the presence of structures and the potential for hanging up on structures. The FEIS states that some impacts due to the presence of structures may be permanent.
13191-28-005	The SEIS determines major impact to commercial fisheries. Cumulatively, some seasonal fisheries and reliant vessels may not survive if all of build-out occurs. In contrast, the SEIS determines negligible to minor and minor beneficial impacts to air quality, i.e., climate change and greenhouse gas reduction. Since greenhouse reduction and air quality is the primary driver of this project, minor negligible beneficial impacts would override negative	Thank you for your comment.

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	impacts to another renewable resource industry should the project move forward as proposed. Due to this fact and the lack of radar modeling for 14 megawatt turbines and the issues of the MARIPARS, we support more work on these prior to approval.	
13191-28-006	We also echo the need for a time series of baseline information prior to construction that was raised by previous commenters. Fisheries' renewable resources both inside and adjacent to the project area need to be carefully monitored for impacts before, during, and after projects are built.	The environmental assessment for the Vineyard Wind 1 Project has relied upon the best available information regarding impacts from the proposed action by using the results of local site characterization information from the developer, the National Marine Fisheries Service, and others. Impact information from the Block Island Wind Farm and European projects are applicable to the anticipated impacts of the proposed action. Section 3.3 of the FEIS has been updated to include European studies of impacts from offshore wind facilities on finfish and Section 3.10 has been updated with a U.K. study (by Roach et al.) that shows impacts to catch rates from offshore wind facilities. Section 3.10.2 of the FEIS was updated to discuss the proposed Project's plan for biological fisheries monitoring, which could provide an understanding of the effects of offshore wind development, benefit future management of commercial and for-hire fisheries, and inform planning of other offshore developments. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).
13191-28-007	A one-year baseline survey prior to construction is too statistically insignificant and uncertain to produce reliable data. Due to the very significant potential and expected impacts to the long fin squid resource, which cannot be farmed, and therefore, is important to sustain a monitor in the wild, measuring these impacts is very important, particularly due to the fact that air quality will only be affected in a minor capacity, conducting due diligence to majorly impacted natural resources and resource users is appropriate. Therefore, we support requiring this type of time series data collection as a prerequisite of permitting as well.	The environmental assessment for the Vineyard Wind 1 Project has relied upon the best available information regarding impacts from the proposed action by using the results of local site characterization information from the developer, the National Marine Fisheries Service, and others. Impact information from the Block Island Wind Farm and European projects are applicable to the anticipated impacts of the proposed action. Section 3.3 of the FEIS has been updated to include European studies of impacts from offshore wind facilities on finfish and Section 3.10 has been updated with a U.K. study (by Roach et al.) that shows impacts to catch rates from offshore wind facilities. Section 3.10.2 of the FEIS was updated to discuss the proposed Project's plan for biological fisheries monitoring, which could provide an understanding of the effects of offshore wind development, benefit future management of commercial and for-hire fisheries, and inform planning of other offshore developments. BOEM is actively working with NMFS on a process to adapt survey methodologies to the presence of offshore wind (see: https://www.boem.gov/environment/environmental-studies/20-x07).
13191-29-001	And I'm speaking in support of Alternative D-2 of Vineyard Wind 1... It's easy to get mired in the details, but the big picture is simple, we need more	Thank you for your comment.

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	renewable electricity; and then counterintuitively, we need to use more electricity for things like heating and cooling buildings and for transportation.	
13191-29-002	However, any minimal impacts from Vineyard Wind and other offshore wind projects in the queue are small compared to the massive impact of climate change, on birds, on fisheries, on humans, and especially on the most disadvantaged communities. This project is a no-brainer. Massachusetts has been working on offshore wind for two decades. This is a great project for jobs, for the economy, for the environment.	Thank you for your comment.
13191-30-001	I think that the Vineyard Wind process has really done a good job of balancing that is in the Right Whale settlement agreement. As had been stated earlier in this public comment period, or session, there's no guarantee that any future offshore wind project would achieve that same -- that same consensus and settlement around how to manage a crucial population in this ecosystem. So I think that that is -- that's one reason why I support [Alternative D-2] this project.	Section 3.4.2 and Appendix D of the FEIS discuss updated mitigation and monitoring measures that would be implemented to avoid, minimize, and mitigate adverse impacts to marine mammals, specifically the NARW, and include measures outlined in the referenced agreement. These measures include, but are not limited to avoidance of peak NARW presence, use of sound attenuation technologies, use of PSOs, PAM, soft start procedures, shut down procedures, and other measures.
13191-30-002	Vineyard Wind and other developers in the New England wind energy area agreed to develop all future projects with a uniform one-by-one-nautical-mile layout throughout the lease areas... This, I think, is another reason why this project should... go forward. This change reduces the potential output of the wind turbine projects by 30 percent, but does seem to address the main concerns that have been articulated from the commercial fishing industry raised during the comment period of the Vineyard Wind 1 Project.	Thank you for your comment.
13191-30-003	I also want to applaud Vineyard Wind for taking feedback from our island community in incorporating aircraft detection lighting systems, or ADLS, into their project, which will make nighttime lighting impacts reduced to negligible. We encourage BOEM to require future developers to incorporate ADLS on their turbines to significantly reduce the amount of time that light will be visible from the shore.	Section 3.10.2.1 of the SDEIS stated that within the viewshed of the geographic analysis area, the use of ADLS for offshore wind projects would reduce the impact of nighttime aviation safety lighting to negligible. Vineyard Wind has committed to use ADLS at night to greatly reduce nighttime impacts of aviation safety lighting on the wind turbines. BOEM is in the process of developing guidelines and minimum standards for other offshore wind development. Each applicant will be required to submit a COP that describes the proposed FAA lighting scheme. Therefore, no change to the FEIS is warranted.
13191-30-004	Development of offshore wind projects aligned with Martha's Vineyard's goal to be a hundred percent renewable for heating, electricity, and transportation by 2040, and aligned with Massachusetts' target of being net zero by 2050. Furthermore, when paired with energy storage, this project aligns with the Massachusetts Clean Peak Standard, which is designed to incentivize the use of clean energy technologies during peak hours instead of relying on fossil fuel burning plants.	Thank you for your comment.

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13191-30-005	...offshore wind projects are anticipated to have a continuous long term beneficial impact on local employment and economics. It provides new employment and economic opportunities, including for communities like the Martha's Vineyard's community to the development and expansion of port, shipping, and related industries.	Section 3.6.2 of the FEIS provides information on the jobs that would result from the Vineyard Wind 1 Project and states that operational jobs from the Vineyard Wind 1 Project would be concentrated on Martha's Vineyard. Section 3.6.1.1 of the FEIS provides estimates from several sources of projected employment and investment resulting from growth of the wind energy industry along the Atlantic coast. The jobs and investment are anticipated to be concentrated in and near the east coast states that would host offshore wind. This information was also included in the SEIS (Section 3.6.2.1), and the FEIS provides additional detail and analysis.
13191-31-001	We need the renewable energy, we need the jobs, and we need to move to non fossil fuel generated electricity. So I think Vineyard Wind 1 and Vineyard Wind has done a great job (inaudible) to move this project forward.	Thank you for your comment.
13191-32-001	The Massachusetts wind energy areas, including Vineyard Wind were chosen without any input from New York fisherman that fish in federal waters where the WEAs were selected. Massachusetts/Rhode Island state-formed task force at no point included New York representation nor did they notify federal fishery stakeholders from other states to offer input to the process from the beginning...The Rhode Island/Mass BOEM task force did not include any of New York's economic catch data and none of the historical traditional fishing grounds of importance to the trawl fleet of New York. We were removed from consideration. New York fishermen have no compensation package and no safe, direct, and four-nautical-mile-wide transit lane to either travel directly to our fishing grounds or to our home port.	The development of wind energy areas and lease issuance goes through at least two separate public notice and comment periods, in addition to the current environmental review for proposed activities on the lease. Section 3.10 and Appendix D of the FEIS discuss mitigation measures. Section 3.10 of the FEIS has been updated to include that Vineyard Wind has expressed that funding for fishing interests from all other affected states would be added to either of these existing funds or grouped into a third fund. Vineyard Wind has voluntary committed to set aside \$3.3 million and voluntary establish a fund for claims of direct compensation from other affected states. BOEM is open to working with state partners and the commercial and recreational fishing industries to investigate alternative strategies to negotiate compensatory mitigation agreements.
13191-32-002	Without wide and safe transit lanes, such as the example submitted by RODA, commercial fishermen from New York will not be allowed to directly home to their ports from fishing grounds within the Rhode Island/Massachusetts wind energy area... Now, imagine a turbine 900 feet tall a mile apart in every direction. Now add black fog, which laymen refer to as pea soup, and 20- and 30-foot seas, and winds up to 40 miles per hour or more. Those that have spoken before me...have no idea how dangerous the offshore environment is.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. Vessels that could continue to navigate within the WDA would still need to navigate with more caution than is currently necessary to avoid WTGs and ESPs, especially during inclement weather. In such adverse conditions, mariners may choose to navigate around the WDA. The USCG, a cooperating agency for the FEIS that is the leading agency on navigational matters, did not find the expanded transit lanes in Alternative F to be necessary. BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the FEIS.
13191-32-003	"Green-Energy Companies Have Human-Rights Problem", by Adam Minter, discussed a new report that uncovered striking abuses in the renewables business... [Another] report from the Business and Human Rights Resource Center ...spoke of at least 197 allegations of human rights abuses that have been leveled against renewable energy projects in recent years, including	Thank you for your comment.

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	land grab, dangerous working conditions, and even killings. Meanwhile, many of the world's largest publicly held solar and wind companies are failing to meet widely accepted human rights benchmarks. Iberdrola is a 50 percent partner in the Vineyard Wind Project through Avangrid renewables. Iberdrola is a Spanish multinational electric utility who scored a 53 percent overall in that report of 13 core indicators developed, tried and tested by the corporate human-rights benchmark to measure a company's alignment with the United Nations' guiding principle on business and human rights.	
13191-32-004	...the fish species caught within the Vineyard Wind wind energy area and the Rhode Island/Massachusetts wind energy area are not only some of the freshest and most sustainable, but are also some of the most economically attainable with a low price point by all U.S. consumers, including and especially those in the most disadvantaged communities.	Thank you for your comment.
13191-32-005	The cost alone to electric consumers for this highly subsidized project has been shown to be a real concern for environmental justice, for low-income families who cannot afford electricity at five times the average rate of power purchase agreements. While the wind subsidies are being handed out by the federal government to these foreign-owned energy and investment companies to bring double digit rates of return to their foreign country's pension funds, Americans will be forced to pay for this energy, especially, again, in the time of COVID when many Americans have lost their jobs. It is a no-win/no-win for Americans, especially those affected during this pandemic, and those in the most disadvantaged communities.	Section 3.7 of the SEIS assesses the economic impacts of offshore wind within the geographic analysis area based upon anticipated employment and economic activity, infrastructure improvements, grants and local and state tax revenue. The FEIS has been updated to provide more recent information on investments and job training. The analysis of environmental justice and economic impacts within the geographic analysis area is valid regardless of federal and state subsidies. Ratepayer costs depend on numerous variables beyond the scope of the EIS.
13191-32-006	We do not support moving forward with this project at this time. We believe a five-year moratorium should be put in place to allow for thorough scientific studies by the National Marine Fisheries Service and the Northeast Fishery Science Center.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-33-001	The design of the specific lease areas also reflected extensive public comment and built a firm foundation for the environmental review of the individual projects. BOEM fostered dialogue, conversation, which led to the process that brought the developers together to agree to the one-by-one grid that underpins the design of Vineyard Wind that should move forward at this point. ...The NEPA process ...did what it was supposed to do. It has narrowed the issues. The issue that has emerged through the process is the question of the impact on the human environment, specifically navigation, and even more specifically, the impact on navigation regarding fishing. That issue has been addressed by the most expert of those agencies, the United States Coast Guard. And BOEM is legally obligated and, ... inclined... to follow the guidance of ... that expert federal agency, the United States Coast Guard. The	Thank you for your comment.

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	issues have been raised, the issues have been discussed, the issues have been resolved. The process has been extensive. A hard look has been taken at the issues that have been raised, and it is time to bring the process to a conclusion to move forward with Vineyard Wind and to move forward with the development of this important new industry.	
13191-34-001	Adding six additional transit lanes of four nautical miles would severely constrain even further the overall clean energy production in the wind energy area. At a minimum, it would result in yet more delays and substantial cost increases to consumers. At worst, it could possibly kill wind projects. ... It would not meaningfully improve navigation or safety as the Coast Guard has indicated. In fact, they would act as funnels for traffic and actually increase risk. I urge you to reject Alternative F and select the Coast Guard recommended one-by-one-nautical-mile layout in Alternative D-2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-35-001	I represent Surfside Foods and support Option G....There's not been any modeling to see the effects of removing that wind energy from the environment and what that will do to the New York Bight. I support a five-year moratorium on build-out of wind energy areas in the New York Bight, and would support an analysis and modeling to see how much wind energy we can safely remove from these areas, just as we must do those analyses before we remove any other resource from the Mid Atlantic Bight.	BOEM is evaluating Vineyard Wind's COP which is for the development of an 800-MW offshore wind farm and the potential impacts associated with their action. Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-36-001	The process has not been adequate for the fishing industry. I am a past member of the New England Fisheries Management Council. During my time there, I heard many presentations by BOEM to the council on keeping us up to date on what was going on, and we appreciate that. However, during that process, my -- I expressed my concern many, many times of the process BOEM used in reaching out to the industry. We are federally permitted vessels working in federal waters. And the state-by-state process that BOEM has developed does not work for us.	Thank you for your comment.
13191-36-002	People have mentioned mitigation, and clearly, you know, if we're down off of New Jersey, you're running the cable in through the state of New Jersey, and you're going to do a one-off mitigation plan with them? What about us? This is federal waters.	Resource sections of the FEIS include proposed mitigation, where applicable, and Appendix D of the FEIS, which is a summary of all proposed mitigation considered, has also been updated to include modifications and/or additional mitigation and monitoring measures. Additional mitigation and monitoring measures may arise from consultations and coordination with Federal and State resource agencies. These additional mitigation measures will be considered by decision makers and could be adopted in the Record of Decision and required as conditions of approval. Section 2.2.1 of the FEIS has been updated to reflect this information. Future offshore wind projects will undergo separate NEPA reviews, and similar or different measures could

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		be required for those projects to avoid or reduce the potential effects anticipated.
13191-37-001	I fully support the Vineyard Wind 1 Project under the attachment of the supplement to the draft Environmental Impact Statement, including the one-by-one-nautical-mile turbine layout deemed acceptable by the U.S. Coast Guard. Vineyard Wind 1 has conducted the requisite survey and research to make sure that the project minimizes environmental impact, especially those associated with the critically endangered North Atlantic Right Whale	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-37-002	Vineyard Wind 1 presents an unparalleled economic opportunity. Project document and maintenance will bring billions of dollars to the region and provide well-paid jobs for thousands of workers across many disciplines.	Section 3.6.2.1 of the FEIS notes that the estimated direct job creation by Vineyard Wind in Massachusetts alone would be approximately 3,100 to 3,600 FTE job years, including 1,100 to 1,550 job years during construction and about 80 jobs lasting at least 25 years (resulting in 2,000 FTE job years) during operation. These data were also provided in the DEIS.
13191-37-003	During a time of significant economic uncertainty, with the effects of the coronavirus expected to last for years to come, Vineyard Wind offers much needed economic security for islanders and Massachusetts residents alike. In specific -- in specific regard to the SEIS, BOEM claims that Vineyard Wind 1 and offshore wind development as a whole will only have minor beneficial impact. Frankly, I believe BOEM is vastly underestimating the long-term benefits of offshore wind and should consider that environmental justice communities include diverse groups whose health and wellbeing will be positively impacted by clean offshore energy development.	Sections 3.7 and 3.8 of the SEIS and Sections 3.6 and 3.7 of the FEIS include information on economics and environmental justice, respectively. These discussions include the potential positive effects of the proposed Project on these resources.
13191-38-001	Vineyard Wind will be able to create 3600 jobs for local residents over the life of the project as an industry build-out over the next few years. ...This organization will also offset about 1.7 million tons of CO2 from the atmosphere yearly....Additionally, the development of offshore wind project aligns with Martha's Vineyard's goal to be a hundred percent renewable for electricity, heating, and transportation by 2040. ...Furthermore, offshore wind produces power at long-term fixed prices and produces a hedge against loss of field volatility... In conclusion, I support the development of offshore wind turbines for the numerous benefits that they bring, and I urge BOEM to allow this project to move forward without delay and to choose Alternative D-2.	Section 2.5 of the FEIS has been added which includes the agency-preferred alternative.
13191-39-001	And what I don't see is any -- any information on what it's going to do to the squid fishery, squid d[ie] from the low frequency vibrations from wind mills. The fish beneath our fishery in the North Sea was destroyed by the wind farms, but that's never mentioned.	Section 3.4 of the SEIS discussed the potential impacts of WTG operational noise and construction noise on squid. Given the nature and extent of impacts anticipated, BOEM has no reason to expect that finfish and invertebrate communities, or longfin squid in particular, would not fully recover, even after the impacting agent is gone and remedial or mitigating action is taken. Quantitative stock assessments are beyond the scope of this EIS. The FEIS discusses qualitative and quantitative impacts to the squid fishery throughout

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		Section 3.10, including potential impacts from construction and projected revenue exposure over 10 years during the build out of future offshore wind development. Section 3.10.2 and Appendix D of the FEIS were updated to discuss additional mitigation including daily two-way communication during construction in order to reduce conflict with the commercial squid fishery in the spring and summer.
13191-39-002	I won't transit through the wind farms, period. I won't fish through the wind farms, period. It's too dangerous for me. This morning, we had pea soup fog. We had sailboats, we had little sport boats, and they are notoriously hard to see as it is. And in a wind farm, you're not going to see them with this -- with the radar clutter.	Sections 3.11.1 and 3.11.2 of the FEIS provide discussions of potential radar interference, including an expanded discussion of potential impacts on marine radar in Section 3.11.1. As stated in Table A-4 in Appendix A, BOEM assumes that all offshore wind developments would use 1 x 1 nautical mile spacing in fixed east-to-west rows and north-to-south columns. This arrangement would reduce, but not eliminate, navigational complexity and space use conflicts during the operation phases of the projects. Navigational complexity in the area would increase during construction as WTGs and ESPs are installed, would remain constant during simultaneous operations, and would decrease as projects are decommissioned and structures are removed. The Final MARIPARS (USCG 2020) concluded that general mitigation measures, such as properly trained radar operators, properly installed and adjusted vessel equipment, marked wind turbines, and the use of AIS all enable safe navigation with minimal loss of radar detection.
13191-39-003	And I listened to somebody else say something about how easy it is for the tankers and everything to transit because with a mile separation. Well, the Nantucket to Ambrose traffic lane is not one mile wide. Each traffic lane, the east lane is two miles wide, the west lane is two miles wide with a six-mile separation zone; that's 10 miles. That's a lot more than one mile. And I've seen many close calls, many.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG is a cooperating agency for the FEIS that is the leading agency on navigational matters; therefore, BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the EIS.
13191-39-004	you're going to kill the squid to come in shore because the squid won't go through the wind farms. The recreational fisherman are going to blame the commercial fisherman because the fluke, the sea bass, the striped bass and all their other fish, aren't getting one of their prey, so commercial will be blamed for decreasing those fishies not coming in.	Thank you for your comment.
13191-39-005	New York was excluded from any compensation pack. My home port is Greenport, New York. So even though I fish in these areas, no thought was given to us.	Section 3.10 and Appendix D of the FEIS discuss mitigation measures. Section 3.10 of the FEIS has been updated to include that Vineyard Wind has expressed that funding for fishing interests from all other affected states would be added to either of these existing funds or grouped into a third fund. Vineyard Wind has voluntarily committed to set aside \$3.3 million and voluntarily establish a fund for claims of direct compensation from other affected states. BOEM is open to working with state partners and the

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		commercial and recreational fishing industries to investigate alternative strategies to negotiate compensatory mitigation agreements.
13191-39-006	Today, the wind turbines would not have turned. Zero energy from these things, that if you listen to all the other commenters, are going to save the world. So zero energy today. Zero energy yesterday. One study off of Virginia said they are going to go a week, 10 days with zero energy from the summer doldrums when we need the energy the most. So wind farms are not the panacea that all these people seem to be making it out to be.	Thank you for your comment.
13191-39-007	I'm a hundred percent against these wind farms. I'm a hundred percent against foreign companies coming in here and telling the fishermen to go blank themselves.	Section 3.6.1.1 of the FEIS has been updated to include additional projections of economic investment from offshore wind (updating information that was included in Section 3.7.2.1 of the SEIS). The projections are sufficient to support conclusions that offshore wind would support jobs and businesses within the geographic analysis area. Consideration of the nationality of the applicants is not required under NEPA and is not necessary to support the findings in Section 3.6.1.1.
13191-40-001	Yes, BOEM has done lots and lots of studies, but they haven't done studies on vibration, magnetism, electric currents, and other impacts on fisheries -- fisheries migration, fisheries spawning, fisheries habitat.	Thank you for your comment.
13191-40-002	...even though our fisheries are sustainable and clean, the fish American consumers eat is 70 to 85 percent caught by foreign fishermen and companies. We need U.S. fishing people. Just ask those people who are living through, as we all are, COVID-19, meat, chicken and other shortages in our supermarkets. And yet, out here in California, down in our commercial dockside, we supply the local people with high protein, sustainable, fresh, American-caught seafood...But it seems to me, from what I've heard, that basically what the fishermen who have spoken before me are asking for, is for a seat at the table, and for some new or renewed cooperation so that they don't lose their livelihood.	Thank you for your comment.
13191-40-003	I also am concerned by outsourcing our country's energy needs, which is pretty much what I see happening, given the rapidity with which many of these companies are pushing ahead. Haven't we learned anything from the last six months about outsourcing personal protective equipment, medicines, respirators, masks?	Section 3.7.1 and 3.7.2 of the SEIS base all impacts on projected employment and investment within Massachusetts or the geographic analysis area. Section 3.6 of the FEIS has been updated with additional data and analysis.
13191-40-004	...we're facing old enemies [in climate change] in the sense that our salmon streams were ruined by banks investing in ranching and development, and energy companies that brought in those days that the way to get energy was by building multiple dams, which actually we're tearing down now. Now we're facing another group of huge energy companies, their bankers. And	Thank you for your comment.

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	again, the solution for our energy needs seems to be just in one place, offshore wind farms.	
13191-41-001	The SEIS claims that if Vineyard Wind is not approved, the economic potential of the offshore wind industry will be realized by future projects. However, this claim ignores the possibility that the failure of Vineyard Wind 1 will have a chilling effect on future investments and could send the signal that the United States is not serious about offshore wind. If Vineyard Wind 1 is not approved, the chances this industry moves forward in the United States will be severely compromised, potentially resulting in a reduction in projects built as well as uncertainty in manufacturing supply chain investments.	BOEM determined that it is reasonable to assume that if the proposed Project is not built, another project or projects would be constructed to meet mandates/demand. This assumption was used to frame the No Action Alternative and also allowed BOEM to assess the maximum-case scenario in terms of potential impacts.
13191-41-002	In conclusion, we urge approval of Vineyard Wind 1. This is the greater renewable energy transition our economy has seen. The working men and women of the United States deserve a vision of their future that integrates economic prosperity and environmental health.	Thank you for your comment.
13191-41-003	Additionally, the industry has already conceded 13,000 megawatts of capacity in over 1,000 turbine locations by accommodating fisherman with this proposed one-by-one-nautical-mile layout. As referenced in Alternative - in Alternative F in the SEIS, additional transit lanes would reduce capacity by another roughly 4,000 megawatts in over 300 turbine locations. This translates to an estimated 1400 turbines that will not be built. Cancellation of this project would mean thousands of fewer jobs for the skilled men and women in the region, with no additional benefits to navigation safety.	Section 3.11.5 of the FEIS has been revised and contains additional information to address this comment. The USCG, a cooperating agency for the FEIS that is the leading agency on navigational matters, did not find the expanded transit lanes in Alternative F to be necessary. BOEM relies on, and does not question, the USCG's expertise and analyses for purposes of informing the navigational impacts in the FEIS.
13191-42-001	The State of Massachusetts has set goals to limit greenhouse gas emissions, and the Vineyard Wind Project is not only vital to reaching these goals, but it will also launch the industrial offshore wind industry in the U.S. which will minimize this country's polluting contributions.	Thank you for your comment.
13191-42-002	I've seen environmental racism and classism in my own backyard as children in Roxbury, Massachusetts, are diagnosed with asthma six times more often than children in Greater Boston. This is a result of heavy automobile traffic through the area, specifically the MBTA buses. Electrifying public transportation and personal vehicles is another vital part of mitigating climate change which goes hand in hand with the benefits of the Vineyard Wind.	Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects). An evaluation of electrifying vehicles is outside of the scope of the analysis for the proposed Project.
13191-42-003	It's clear when reading the document that BOEM's SEIS underestimates the benefits of offshore wind projects and renewable energy to the wider environmental justice community as well as the major positive impacts these projects would present. Vineyard Wind also offers countless benefits for local stakeholders. The project will provide 400,000 Massachusetts homes and businesses with clean and cost effective electricity. During the first 20 years of the project alone, rate payers will save \$1.4 billion in energy costs.	Section 3.8.1 and 3.8.2 of the SEIS noted that offshore wind development could result in job creation for low and minority residents. This beneficial impact, and the local hiring plan for the proposed Project described into Appendix D, is carried over into the FEIS. Section 3.6 of the FEIS has been updated to provide summary projections of regional and national job creation and investment from studies used in the analysis for the SEIS as well as additional studies. Although projections specific to the geographic analysis

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	And in addition, community members will see 3600 new jobs created over the life of the project.	area are not available, the FEIS uses the larger scale projections to support a reasonable conclusion that impacts on employment and economic activity within the geographic analysis area would be a moderate benefit. Section 3.6 of the FEIS has been updated to a moderate beneficial rating; this is a change from the minor beneficial impact given in the SEIS. Section 3.7.1 of the FEIS has been revised to discuss the health impacts of fossil fuel consumption and resulting degraded air quality on different racial groups, as well as different income groups, as well as benefits from reduction of fossil fuel power generation displaced by offshore wind energy (including the proposed Project and other projects).
13191-43-001	We fully understand the threat that climate change actually does pose to the fisheries. I don't believe our industry is anti-wind. I do believe, looking down at the process generally, that the -- the failure, and I think it has been a significant failure, is one of process. If we look at this holistically, it should have been known, it should have been obvious. It was obvious to the commercial fisheries from the outset that our industry would be the most vulnerable and negatively impacted of the ocean users with the onset of offshore wind. And so one would have assumed, one would have thought, one would have hoped, number one, that intra-governmental agencies would have been consulted with each other.	Section 3.11 of the SEIS discusses the threat of climate change on fisheries and governmental agencies are consulted during the NEPA process and comment on the DEIS and SEIS. Therefore, no change to the FEIS is warranted.
13191-43-002	And if [the locations of fishing boats] are readily available, and photographically depicted, spaghetti lines of where federally permitted fishing boats are going are actually overlaid on top of lease areas, one would immediately see the incredible conflict between these two industries. Now, that's not to say that the wind industry and the fishing industry can't coexist, but one would tend to think that... if these two industries are the most conflicted, that a process would have developed that would have attempted to accommodate both of these.	The wind energy area offshore Massachusetts was reduced by approximately 50% through the removal of the Nantucket Lightship Habitat Closure Area based on comments from the fishing industry and fisheries managers. This occurred as part of the official public notice and comment period for the Request for Information (see https://www.boem.gov/Revised-MA-EA-2014/). The area south of Cox Ledge was removed from leasing consideration by BOEM during the Area Identification process. Through this process, high value fishing areas were identified by the Rhode Island Fisheries Advisory Board and removed prior to leasing. Section 2.1.3 of the FEIS was updated to clarify that Alternatives D1 and D2 were the direct result of scoping comments received from the commercial fishing industry (see April 30, 2018 comment from Tkjedle Law on behalf of the East Farm Commercial Fisheries Center on the Notice of Intent to Prepare an EIS). Alternative F was proposed by the Responsible Offshore Development Alliance through a collaborative process with commercial fishermen and the offshore wind industry. Section 3.10 of the FEIS includes Figures 3.10-2, Figure 3.10-5, Figure 3.10-6, and Figures 3.10-12 through 3.10-19, which use chart plotter and VMS data as part of the assessment.
13191-43-003	Now, we are not interested in financial mitigation. We want to earn our money by fishing. But interestingly, because there is no regional approach	BOEM appreciates the comment and is open to working with state partners and the commercial and recreational fishing industries to investigate

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	that has been taken to that, you have two states that have come up with compensatory mitigation plans without fishermen really being involved. And we have boats that are coming out of Cape May that are fishing along New Jersey, New York, Rhode Island, Massachusetts, you know, Maine, and these boats don't know state borders, and yet the -- between the wind industry and the separate states, the fishing industry, which is a regional fishery is literally kind of cut out of these conversations because in a sense we were chopped by artificial lines. In fact, I would tend to think it may be, you know, a constitutional violation, taking a state-by-state approach when you're dealing with this type of intrastate industry such as the commercial fisheries.	alternative negotiation strategies for future projects. However, the methodology followed for the Vineyard Wind Project was sufficient to develop the mitigation measures analyzed in the FEIS.
13191-43-004	Holistic planning should have occurred in advance to minimize these impacts. So I am in favor of RODA's navigation safety corridor. I would hope that if this project is approved, it is not used as a template, and that, in fact, a vigorous process take place that actually includes the commercial fisheries, which wants to cooperate.	The FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS.
13191-44-001	So I take exception to accusations of apathy to low-income minority communities, which I heard a few of tonight. I especially take exception when these accusations are leveled at the same time that people are summarily ignoring the unanimous concerns of fishermen. I won't -- encourage you all not to lose sight of the fact that on the South Coast and islands, and also along the coast, the low-income and at-risk communities are overwhelmingly employed in the seafood industry. The seafood industry has provided continuity, stability, and culture in these places for hundreds of years. I can't speak directly on behalf of those communities since I'm not living their experience, but I do know that to the extent that offshore wind jobs are temporary or transitory in nature, they can never replace what those communities have built and maintained for generations. So we really need to figure this out.	Section 3.6.1 of the FEIS has been revised to describe communities in accordance with the National Marine Fisheries Service Social Indicator Map, which classifies fishing communities as having varying levels of social vulnerability, in part based on commercial fishing engagement and reliance. This information contributes to the FEIS findings in Section 3.6.2 that offshore wind development could have a moderate impact on employment and economics related to commercial fishing. Section 3.6.1 of the FEIS updates data from the DEIS on the size of the commercial fishing industry in relation to the coastal county economies.
13191-44-002	...to repeat what each fishing expert who had spoken tonight has voiced, most of them are very concerned about climate change and the environment, but they have also unanimously said they are concerned about ...economic and environmental uncertainty. And the SEIS with it's facts-based analysis also reflects that. ... I've heard everyone who is not a fisherman saying that these concerns have been addressed. And I just want to put these wonderful intentions that I hear voiced towards... justice and equity toward a genuine effort to hear what these communities are saying on their own behalf and to afford equity to those voices as well.	Section 3.11 of the SEIS discusses impacts of climate change on fisheries. Section 3.6.2 of the FEIS is updated to conclude that a moderate beneficial impact on employment and economic activity would result from offshore wind development in the RI and MA Lease Areas. It also notes a potential moderate adverse impact on the commercial fishing industry. The FEIS considers all substantive comments, including public testimony, received on the DEIS and SEIS.
13191-45-001	There is no set plan for the decommissioning of these wind farms, and yet the social justice people, the environmentalist, the climate change people sit idle.	As described in Section 2.1.1.3 of the FEIS, pursuant to 30 CFR Part 585 and other BOEM requirements, Vineyard Wind would be required to remove or

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	Should this type of development be on land, be a solar farm or a wind farm, there are decommissioning plans that are bonded in place before they start construction. Yet nothing like this is in place for this type of project. What they are basically going to do is they are going to litter the ocean with the worn-out turbines in to 30 years.	decommission all installations and clear the seabed of all obstructions created by the proposed Project. Vineyard Wind would need to obtain separate and subsequent approval from BOEM to retire any portion of the Proposed Action in place. If the COP is approved or approved with modifications, Vineyard Wind would have to submit a bond that would be held by the U.S. government to cover the cost of decommissioning the entire facility. This explanation has been added to Section 2.1.1.3 of the FEIS.

K.6. REFERENCES

- Ainley, D.G., E. Porzig, D. Zajanc, and L.B. Spear. 2015. Seabird flight behavior in response to altered wind strength and direction. *Marine Ornithology* 43:25-36.
- Barclay, R.M.R., E.F. Baerwald, and J.C. Gruver. 2007. "Variation in Bat and Bird Fatalities at Wind Energy Facilities: Assessing the Effects of Rotor Size and Tower Height." *Canadian Journal of Zoology* 85: 381-387.
- Bergman, Magda, Gerard Duineveld, Pieter van't Hof, and Evert Wielsma. 2010. Final Report: Impact of OWEZ Wind Farm on Bivalve Recruitment. Accessed: September 1, 2020. Retrieved from: https://www.noordzeewind.nl/en_nl/knowledge/ecology-and-environment/_jcr_content/par/tabbed_content/tab_262700658/textimage.stream/1554304934749/faea0627789bcf818af58a5900dd334d7efbc390/owez-r-262-t1-benthos-recruitment-t1.pdf
- BOEM (Bureau of Ocean Energy Management). 2019a. National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Continental Shelf. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Sterling, VA. OCS Study BOEM 2019- 036. May 2019.
- BOEM (Bureau of Ocean Energy Management). 2019b. Vineyard Wind Offshore Wind Energy Project Biological Assessment. For the National Marine Fisheries Service.
- Broström, G. 2008. "On the Influence of Large Wind Farms on the Upper Ocean Circulation." *Journal of Marine Systems* 74: 585-591.
- Causon, Paul D., and Andrew B. Gill. 2018. "Linking Ecosystem Services with Epibenthic Biodiversity Change Following Installation of Offshore Wind Farms." *Environmental Science and Policy* 89: 340-347.
- Chen, Changsheng, R.C. Beardsley, J. Qi, and H. Lin. 2016. Use of Finite-Volume Modeling and the Northeast Coastal Ocean Forecast System in Offshore Wind Energy Resource Planning. Final Report to the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. BOEM 2016-050.
- Clark, S., F. Schroeder, and B. Baschek. 2014. "The Influence of Large Offshore Wind Farms on the North Sea and Baltic Sea – A Comprehensive Literature Review." *HZG Report* 2014-6.
- Curtice, Corrie, Jesse Cleary, Emily Shumchenia, and Patrick Halpin. 2018. Marine-Life Data and Analysis Team (MDAT) Technical Report on the Methods and Development of Marine-Life Data to Support Regional Ocean Planning and Management. Prepared on behalf of the Marine-life Data and Analysis Team (MDAT). Accessed: October 30, 2018. Retrieved from: <http://seamap.env.duke.edu/models/MDAT/MDAT-Technical-Report.pdf>
- Cryan P.M., M. Gorresen, C.D. Hein, M.R. Schirmacher, R.H. Diehld, M.M. Husoe, D.T.S. Hayman, P.D. Fricker, F.J. Bonaccorso, D.H. Johnson, K. Heist, and D.C. Dalton. 2014. Behavior of Bats at Wind Turbine. *Proceedings of the National Academy of Sciences*. 11(42): 15126-15131.
- Cryan, P.M., and R.M.R. Barclay. 2009. Causes of Bat Fatalities at Wind Turbines: Hypotheses and Predictions. *Journal of Mammalogy* 90:1330-1340.
- de la Vega, David, James Matthews, Lars Norin, and Itziar Angulo. 2013. "Mitigation Techniques to Reduce the Impact of Wind Turbines on Radar Services." *Energies* 6. Accessed: September 1, 2020. Retrieved from: <https://www.mdpi.com/1996-1073/6/6/2859/htm>
- Desholm, M. 2006. Wind Farm Related Mortality Among Avian Migrants—a Remote Sensing Study and Model Analysis. PhD thesis. Dept. of Wildlife Ecology and Biodiversity, NERI, and Dept. of Population Biology, University of Copenhagen. National Environmental Research Institute, Denmark. 128 pp.
- Desholm, M., and J. Kahlert. 2005. "Avian Collision Risk at an Offshore Wind Farm." *Biology Letters* 1, no. 3: 296–298. doi:10.1098/rsbl.2005.0336.

- Dodge, K.L., B. Galuardi, T.J. Miller, and M.E. Lutcavage. 2014. “Leatherback Sea Turtle Movements, Dive Behavior, and Habitat Characteristics in Ecoregions of the Northwest Atlantic Ocean.” *PLoS One* 9(3): e91726.
- DoN (Department of the Navy). 2017. Atlantic Fleet Training and Testing Draft Environmental Impact Statement / Overseas Environmental Impact Statement. Accessed Month 17, 2020. Retrieved from: https://media.defense.gov/2018/Aug/16/2001955256/-1/-1/1/VOLUME_I_AFTT_DRAFT_EIS_OEIS.PDF
- Dowling, Zara, Paul R. Sievert, Elizabeth Baldwin, Luanne Johnson, Susanna vonOettingen, and Jonathan Reichard. 2017. Flight Activity and Offshore Movements of Nano-Tagged Bats on Martha’s Vineyard, MA. U.S. Department of the Interior, BOEM, Office of Renewable Energy Programs, Sterling, Virginia. OCS Study BOEM 2017-054. Accessed: October 30, 2018. Retrieved from: <https://www.boem.gov/Flight-Activity-and-Offshore-Movements-of-Nano-Tagged-Bats-on-Marthas-Vineyard/>
- English, P.A., T.I. Mason, J.T. Backstrom, B.J. Tibbles, A.A. Mackay, M.J. Smith, and T. Mitchell. 2017. Improving Efficiencies of National Environmental Policy Act Documentation for Offshore Wind Facilities Case Studies Report. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. OCS Study BOEM 2017-026. Accessed: September 9, 2020. Retrieved from: <https://tethys.pnnl.gov/sites/default/files/publications/English-et-al-2017-BOEM.pdf>
- Epsilon Associates, Inc. 2018a. Vineyard Wind Connector: Final Environmental Impact Report. EEA#15787.
- Epsilon Associates, Inc. 2018b. Vineyard Wind Connector: Draft Environmental Impact Report. EEA#15787.
- Epsilon Associates, Inc. 2018c. Vineyard Wind Connector: Supplemental Draft Environmental Impact Report. EEA#15787.
- Epsilon Associates, Inc. 2018d. Draft Construction and Operations Plan: Volumes II-A and II-B. Vineyard Wind Project. October 2018. Accessed: October 14, 2020. Retrieved from: <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/Vineyard-Wind/Vineyard-Wind-COP-VolumeII-Combined.pdf>
- Epsilon Associates, Inc. 2019. Draft Construction and Operations Plan, Addendum to Volumes I, II, and III. Vineyard Wind Project. May 2019. Accessed: June 20, 2019. Retrieved from: <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Vineyard-Wind-COP-Addendum.pdf>
- Epsilon Associates, Inc. 2020a. Draft Construction and Operations Plan: Volume III. Vineyard Wind Project. June 2020. Accessed: October 14, 2020. Retrieved from: <https://www.boem.gov/Vineyard-Wind/>
- Epsilon Associates, Inc. 2020b. Draft Construction and Operations Plan. Volume I. Vineyard Wind Project. September 2020. Accessed: October 14, 2020. Retrieved from: <https://www.boem.gov/Vineyard-Wind/>
- Epsilon Associates, Inc. 2020c. Draft Construction and Operations Plan: Volume III. Appendix D. Vineyard Wind Project. June 2020. Accessed: October 14, 2020. Retrieved from: <https://www.boem.gov/Vineyard-Wind/>
- Epsilon Associates, Inc. 2020d. Draft Construction and Operations Plan: Volume III. Appendix III-Ha. Vineyard Wind Project. June 2020. Accessed: October 14, 2020. Retrieved from: <https://www.boem.gov/Vineyard-Wind/>
- Erickson, W.P., M.M. Wolfe, K.J. Bay, D.H. Johnson, and J.L. Gehring. 2014. A Comprehensive Analysis of Small-passerine Fatalities from Collision with Turbines at Wind Energy Facilities. *PLoS ONE* 9(9): e107491.
- FAA (Federal Aviation Administration). 2019. Order JO 7400.2M: Procedures for Handling Airspace Matters. Effective Date February 28, 2019. Retrieved from: https://www.faa.gov/documentLibrary/media/Order/7400.2M_Bsc_w_Chg_1_2_dtd_7_16_20.pdf
- FAO (Food and Agriculture Organization of the United Nations). 2018. Fishing Techniques: Tuna Trolling Lines. Accessed: November 29, 2018. Retrieved from: <http://www.fao.org/fishery/fishtech/1015/en>

- Fox, A.D., Mark Desholm, Johnny Kahlert, Thomas Kjaer Christensen, and Ib Krag Peterson. 2006. “Information Needs to Support Environmental Impact Assessment of the Effects of European Marine Offshore Wind Farms on Birds.” *Ibis* 148: 129-144.
- Froese, M. 2017. Cracking the Icing Problem on Turbine Blades. Accessed November 17, 2020. Retrieved from: <https://www.windpowerengineering.com/cracking-icing-problem-turbine-blades/>
- García-Quismondo, M., I.C.T. Nisbet, C. Mostello, and J.M. Reed. 2018. “Modeling Population Dynamics of Roseate Terns (*Sterna dougallii*) in the Northwest Atlantic Ocean.” *Ecological Modelling* 368: 298-311.
- Hasager, Charlotte Bay, Nicolai Gayle Nygaard, Patrick J.H. Volker, Ioanna Karagali, Søren Juhl Andersen, and Jake Badger. 2017. “Wind Farm Wake: The 2016 Horns Rev Photo Case.” *Energies*, Vol. 10, Issue 3. March 7.
- Hatch, Shaylyn K., Emily E. Connelly, Timothy J. Divoll, Ian J. Stenhouse, and Kathryn A. Williams. 2013. “Offshore Observations of Eastern Red Bats (*Lasiurus borealis*) in the Mid-Atlantic United States Using Multiple Survey Methods.” *PLoS ONE* 8, no.12:e83803. doi:10.1371/journal.pone.0083803.
- Hawkes, L.A., A.C. Broderick, M.S. Coyne, M.H. Godfrey, and B.J. Godley. 2007. “Only Some Like It Hot – Quantifying the Environmental Niche of the Loggerhead Sea Turtle.” *Diversity and Distributions* 13: 447-457.
- HDR. 2019. Benthic Monitoring During Wind Turbine Installation and Operation at the Block Island Wind Farm, Rhode Island—Year 2. Final Report to the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. OCS Study BOEM 2019- 019. Accessed: February 12, 2020. Retrieved from: https://espis.boem.gov/final%20reports/BOEM_2019-019.pdf
- Hemery, L.G. 2020. “Changes in Benthic and Pelagic Habitats Caused by Marine Renewable Energy Devices”. In: *OES-Environmental 2020 State of the Science Report: Environmental Effects of Marine Renewable Energy Development Around the World*. A.E. Copping and L.G. Hemery, eds. Accessed: August 27, 2020. Retrieved from: <https://tethys.pnnl.gov/publications/state-of-the-science-2020>
- Hudecz, A., M.O.L. Hansen, L.Battisti, and A. Villumsen. 2014. Icing Problems of Wind Turbine Blades in Cold Climates. Department of Wind Energy, Technical University of Denmark.
- Hüppop, O., J. Dierschke, K. Exo, E. Frerich, and R. Hill. 2006. Bird Migration and Potential Collision Risk with Offshore Wind Turbines. *Ibis* 148: 90-109.
- Johnston, A., A.S.C.P. Cook, L.J. Wright, E.M. Humphreys, and N.H.K. Burton. 2014. Modeling Flight Heights of Marine Birds to More Accurately Assess Collision Risk with Offshore Wind Turbines. *Journal of Applied Ecology* 51, 31-41.
- Jones, I.T., J.A. Stanley, and T.A. Mooney. 2020. “Impulsive Pile Driving Noise Elicits Alarm Responses in Squid (*Doryteuthis pealeii*).” *Marine Pollution Bulletin*. Accessed: March 20, 2020. Retrieved from: <https://www.sciencedirect.com/science/article/pii/S0025326X19309488?via%3Dihub>
- Kinlan, B.P., A.J. Winship, T.P. White, and J. Christensen. 2016. Modeling At-Sea Occurrence and Abundance of Marine Birds to Support Atlantic Marine Renewable Energy Planning: Phase I Report. U.S. Department of the Interior, Bureau of Ocean Energy Management, OCS Study BOEM 2016-039. Sterling, VA.
- Kirkpatrick, A., Sharon Benjamin, Geret DePiper, Tammy Murphy, Scott Steinback, and Chad Demarest. 2017. Socio-Economic Impact of Outer Continental Shelf Wind Energy Development on Fisheries in the U.S. Atlantic. Volumes I and II. U.S Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. Prepared under BOEM Interagency Agreement No: M12PG00028. OCS Study BOEM 2017-012.
- Kneebone, J., and C. Capizzano. 2020. A Comprehensive Assessment of Baseline Recreational Fishing Effort for Highly Migratory Species in Southern New England and the Associated Wind Energy Area. New England Aquarium, Anderson Cabot Center for Ocean Life, Boston, MA, Final report to Vineyard Wind. May 4, 2020, 56 pp.

- Krijgsveld, K.L., R.C. Fijn, M. Japink, P.W. van Horssen, C. Heunks, M.P. Collier, M.J.M. Poot, D. Beuker, and S. Dirksen. 2011. Effect Studies Offshore Wind Farm Egmond aan Zee: Final Report on Fluxes, Flight Altitudes, and Behavior of Flying Birds. Bureau Waardenburg Report no. 10-219.
- Kunz, T.H., E.B. Arnett, W.P. Erickson, A.R. Hoar, G.D. Johnson, R.P. Larkin, M.D. Strickland, R.W. Thresher, and M.D. Tuttle. 2007. Ecological Impacts of Wind Energy Development on Bats: Questions, Research Needs, and Hypotheses. *Frontiers in Ecology and the Environment* 5:315–324.
- La Sorte, F.A. and D. Fink. 2017. “Migration Distance, Ecological Barriers and En-Route Variation in the Migratory Behavior of Terrestrial Bird Populations.” *Global Ecology and Biogeography* 26: 216–227.
- La Sorte, F.A., D. Fink, W.M. Hochacka, and S. Kelling. 2016. “Convergence of Broad-Scale Migration Strategies in Terrestrial Birds.” *Proceedings of the Royal Society B* 283: 20152588.
- Lefaille, N., L. Colson, U. Braeckman, and T. Moens. 2019. “Evaluation of Turbine-Related Impacts on Macrobenthic Communities Within Two Offshore Wind Farms During the Operational Phase.” In *Memoirs on the Marine Environment: Environmental Impacts of Offshore Wind Farms in the Belgian Part of the North Sea*. S. Degraer, R. Brabant, B. Rumes, and L. Vigin, eds. 73-84. Brussels: Royal Belgian Institute of Natural Sciences, OD Natural Environment, Marine Ecology and Management. Accessed: February 12, 2020. Retrieved from: https://odnature.naturalsciences.be/downloads/mumm/windfarms/winmon_report_2019_final.pdf
- Ling, H., M.F. Hamilton, R. Bhalla, W.E. Brown, T.A. Hay, N.J. Whiteloni, S. Yang, and A.R. Naqvi. 2013. Final Report DE-EE0005380 Assessment of Offshore Wind Farm Effects on Sea Surface, Subsurface and Airborne Electronic Systems. University of Texas at Austin.
- Loring P.H., P.W.C. Paton, J.D. McLaren, H. Bai, R. Janaswamy, H.F. Goyert, C.R. Griffin, and P.R. Sievert. 2019. Tracking Offshore Occurrence of Common Terns, Endangered Roseate Terns, and Threatened Piping Plovers with VHF Arrays. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2019-017. 140 pp. Retrieved from: https://espis.boem.gov/final%20reports/BOEM_2019-017.pdf
- Loss, Scott R., Tom Will, and Peter P. Marra. 2013. “Estimates of Bird Collision Mortality at Wind Facilities in the Contiguous United States.” *Biological Conservation* 168: Pages 201-209. Retrieved from: <https://doi.org/10.1016/j.biocon.2013.10.007>
- Madin, Kate. 2009. “Turtle Skulls Prove to be Shock-Resistant.” *Oceanus Magazine*. January 14, 2009. Retrieved from: <https://www.whoi.edu/oceanus/feature/turtle-skulls-prove-to-be-shock-resistant/>
- Martin, G.R. and J. Shaw. 2010. “Bird Collision with Power Lines: Failing to See the Way Ahead?” *Biological Conservation* 143(11): 2695-2702.
- Marmo, B., I. Roberts, M.P. Buckingham, S. King, C. Booth. 2013. Modelling of Noise Effects of Operational Offshore Wind Turbines Including Noise Transmission Through Various Foundation Types. Edinburgh: Scottish Government.
- Miller, J.H., and G.R. Potty. 2017. “Overview of Underwater Acoustic and Seismic Measurements of the Construction and Operation of the Block Island Wind Farm.” *Journal of the Acoustical Society of America* 141, no. 5: 3993–3993. doi:10.1121/1.4989144. Accessed: September 9, 2020. Retrieved from: <https://asa.scitation.org/doi/10.1121/1.4989144>
- Miller, L.M. and D.W. Keith. 2018. “Climactic Impacts of Wind Power.” *Joule* 2: 2618-2632.
- MMS (Minerals Management Service). 2007. Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf: Final Environmental Impact Statement. U.S. Department of the Interior. OCS EIS/EA MMS 2007-046. Accessed: July 3, 2018. Retrieved from: <https://www.boem.gov/Guide-To-EIS/>
- MMS (Minerals Management Service). 2009. Cape Wind Energy Project Final Environmental Impact Statement. January 2009. U.S. Department of the Interior. OCS Publication No. 2008-040. Accessed: July 11, 2018. Retrieved from: https://www.energy.gov/sites/prod/files/DOE-EIS-0470-Cape_Wind_FEIS_2012.pdf

- MNHESP (Massachusetts Natural Heritage and Endangered Species Program). 2019. List of Endangered, Threatened, and Special Concern vertebrate species in Massachusetts. Accessed: April 8, 2019. Retrieved from: <https://www.mass.gov/service-details/list-of-vertebrates>.
- Normandeau Associates, Inc., Exponent, Inc., T. Tricas, and A. Gill. 2011. Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species. Final Report. U.S. Department of the Interior, Bureau of Ocean Energy Management, Regulation and Enforcement, Pacific OCS Region, Camarillo, CA. OCS Study BOEMRE 2011-09. Accessed: September 9, 2020. Retrieved from: <https://espis.boem.gov/final%20reports/5115.pdf>
- NMFS (National Marine Fisheries Service). 2020. Endangered Species Act Section 7 Consultation Biological Opinion: Construction, Operation, Maintenance, and Decommissioning of the Vineyard Wind Offshore Energy Project (Lease OCS-A 0501). GAFO-2019-00343. 326 pp.
- Parsons, George, and Jeremy Firestone. 2018. Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism. U.S. Department of the Interior, Bureau of Ocean Energy Management.
- Pelletier, S.K., K. Omland, K.S. Watrous, and T.S. Peterson. 2013. Information Synthesis on the Potential for Bat Interactions with Offshore Wind Facilities—Final Report. U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM No. 2013- 01163. Accessed: September 1, 2020. Retrieved from: https://tethys.pnnl.gov/sites/default/files/publications/BOEM_Bat_Wind_2013.pdf
- Pettersson, J. 2005. “The Impact of Offshore Wind Farms on Bird Life in Southern Kalmar Sound, Sweden: a Final Report Based on Studies 1999–2003. Report for the Swedish Energy Agency, Lund University, Lund, Sweden.
- Pierdinock, Capt. Michael. 2018. Email to the MA Fisheries Working Group on Offshore Wind. September 19, 2018.
- Powell, E.N., R. Mann, K.M. Kuykendall, M.C. Long, and J.R. Timbs. 2019. “The Intermingling of Benthic Macroinvertebrate Communities during a Period of Shifting Range: the “East of Nantucket” Atlantic Surfclam Survey and the Existence of Transient Multiple Stable States.” *Marine Ecology* 40(4): e12546
- RICRMC (Rhode Island Coastal Resources Management Council). 2010. Ocean Special Area Management Plan. Chapter 7: Maritime Transportation, Navigation, and Infrastructure. Accessed: August 8, 2018. Retrieved from: http://seagrant.gso.uri.edu/oceansamp/pdf/samp_approved/700_marinetrans_OCRMchanges_5.4_Clean.pdf
- RI DEM (Rhode Island Department of Environmental Management). 2019. Rhode Island Fishing Value in the Vineyard Wind Construction and Operations Plan Area. Division of Marine Fisheries. January 14.
- Roach, M., M. Cohen, R. Forster, A.S. Revill, and M. Johnson. 2018. “The Effects of Temporary Exclusion of Activity Due to Wind Farm Construction on a Lobster (*Homarus gammarus*) Fishery Suggests a Potential Management Approach.” *ICES Journal of Marine Science*, doi:10.1093/icesjms/fsy006.
- Robinson Willmott, J., and G. Forcey. 2014. Acoustic Monitoring of Temporal and Spatial Abundance of Birds near Outer Continental Shelf Structures: Synthesis Report. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Herndon, VA. BOEM 2014-004. 172 pp. Accessed: September 7, 2020. Retrieved from: <https://espis.boem.gov/final%20reports/5349.pdf>
- Robinson Willmott, J., G. Forcey, and A. Kent. 2013. The Relative Vulnerability of Migratory Bird Species to Offshore Wind Energy Projects on the Atlantic Outer Continental Shelf: An Assessment Method Database. Final report to the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs. OCS Study BOEM 2013-207. Accessed: September 7, 2020. Retrieved from: <https://espis.boem.gov/final%20reports/5319.pdf>
- Roby, P., M. Gumbert, and M.J. Lacki. 2019. “Nine Years of Indiana bat (*Myotis sodalis*) Spring Migration Behavior.” *Journal of Mammalogy* 100 (5): 1501-1511.

- Russell, D.J.F., G.D. Hastie, D. Thompson, V.M. Janik, P.S. Hammond, L.A.S. Scott-Hayward, J. Matthiopoulos, E.L. Jones, and B.J. McConnell. 2016. “Avoidance of Wind Farms by Harbour Seals is Limited to Pile Driving Activities.” *Journal of Applied Ecology*, 53: 1642–1652. Accessed: September 9, 2020. Retrieved from: <https://besjournals.onlinelibrary.wiley.com/doi/epdf/10.1111/1365-2664.12678>
- Russell, D.J.F., S.M.J.M. Brasseur, D. Thompson, G.D. Hastie, V.M. Janik, and G. Aarts. 2014. “Marine Mammals Trace Anthropogenic Structures at Sea.” *Current Biology* 24, R638–R639. Accessed: September 9, 2020. Retrieved from: <https://www.cell.com/action/showPdf?pii=S0960-9822%2814%2900749-0>
- Scott, Kevin, Petra Harsanyi, and Alastair R. Lyndon. 2018. “Understanding the Effects of Electromagnetic Field Emissions from Marine Renewable Energy Devices (MREDs) on the Commercially Important Edible Crab, *Cancer pagurus* (L.).” *Marine Pollution Bulletin* 131: 580-588. <https://doi.org/10.1016/j.marpolbul.2018.04.062>
- Skov, H., S. Heinanen, T. Norman, R.M. Ward, S. Mendez-Roldan, and I. Ellis. 2018. ORJIP Bird Collision and Avoidance Study. Final report. The Carbon Trust. United Kingdom. April 2018.
- Smythe, T., H. Smith, A. Moore, D. Bidwell, and J. McCann. 2018. Analysis of the Effects of Block Island Wind Farm (BIWF) on Rhode Island Recreation and Tourism Activities. U.S. Department of the Interior, Bureau of Ocean Energy Management. Sterling, VA. OCS Study BOEM 2018-068.
- Stantec (Stantec Consulting Services). 2016. Long-Term Bat Monitoring on Islands, Offshore Structures, and Coastal Sites in the Gulf of Maine, Mid-Atlantic, and Great Lakes—Final Report. Prepared for the U.S. Department of Energy. Accessed: October 30, 2018. Retrieved from: <https://tethys.pnnl.gov/sites/default/files/publications/Stantec-2016-Bat-Monitoring.pdf>
- Starbuck, Kimberly, and Andrew Lipsky. 2013. 2012 Northeast Recreational Boater Survey: A Socioeconomic and Spatial Characterization of Recreational Boating in Coastal and Ocean Waters of the Northeast United States. Technical Report. Doc #121.13.10. Accessed: September 1, 2020. Retrieved from: <https://www.openchannels.org/sites/default/files/literature/2012%20Northeast%20Recreational%20Boater%20Survey.pdf>
- TEWG (Turtle Expert Working Group). 2009. An Assessment of the Loggerhead Turtle Population in the Western North Atlantic Ocean. NOAA Technical Memorandum NMFS-SEFSC-575. A Report of the Turtle Expert Working Group. U.S. Department of Commerce.
- Thompson, M., J.A. Beston, M. Etterson, J.E. Diffendorfer., and S.R. Loss. 2017. “Factors Associated with Bat Mortality a Wind Energy Facilities in the United States.” *Biological Conservation* 215: 241-245.
- USCG (U.S. Coast Guard). 2007. Guidance on the Coast Guard’s Roles and Responsibilities for Offshore Renewable Energy Installations (OREI). Navigation and Vessel Inspection Circular No. 2–7. U.S. Department of Homeland Security, Washington, DC.
- USCG (U.S. Coast Guard). 2020. The Areas Offshore of Massachusetts and Rhode Island Port Access Route Study. Final Report. Docket Number USCG-2019-0131. May 14, 2020. Accessed: October 29, 2020. Retrieved from: <https://downloads.regulations.gov/USCG-2019-0131-0101/content.pdf>
- Veit, Richard R., Timothy P. White, Simon A. Perkins, and Shannon Curley. 2016. Abundance and Distribution of Seabirds off Southeastern Massachusetts, 2011-2015: Final Report. U.S. Department of the Interior, Bureau of Ocean Energy Management, Sterling, Virginia. OCS Study BOEM 2016-067. Accessed: October 30, 2018. Retrieved from: <https://www.boem.gov/RI-MA-Seabirds/>
- Vineyard Wind. 2019. Response to “Request for Information to Vineyard Wind, Request No. 21e” for Cable installation methods refined. March 21, 2019.
- vonOettingen, Susi. Email to David Bigger and Michelle Morin. July 23, 2020

- Watts, Bryan D. 2010. Wind and Waterbirds: Establishing Sustainable Mortality Limits within the Atlantic Flyway. Center for Conservation Biology Technical Report Series, CCBTR-10-15. College of William and Mary/Virginia Commonwealth University, Williamsburg, VA. 43 pp. Accessed: September 1, 2020. Retrieved from: https://www.ccbbirds.org/wp-content/uploads/2013/12/ccbtr-10-05_Watts-Wind-and-waterbirds-Establishing-sustainable-mortality-limits-within-the-Atlantic-Flyway.pdf
- White, T.P., and R.R. Veit. 2020. Spatial Ecology of Long-tailed Ducks and White-winged Scoters Wintering on Nantucket Shoals. *Ecosphere* 11(1):e03002. 10.1002/ecs2.3002. Accessed: October 20, 2020. Retrieved from: <https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/ecs2.3002>
- Winship, A.J., B.P. Kinlan, T.P. White, J.B. Leirness, and J. Christensen. 2018. Modeling At-Sea Density of Marine Birds to Support Atlantic Marine Renewable Energy Planning: Final Report. OCS Study BOEM 2018-010. Sterling, VA. 67 pp. Accessed: September 7, 2020. Retrieved from: https://coastalscience.noaa.gov/data_reports/modeling-at-sea-density-of-marine-birds-to-support-atlantic-marine-renewable-energy-planning-final-report/

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The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the sound use of our land and water resources, protecting our fish, wildlife and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island communities.

The Bureau of Ocean Energy Management



The Bureau of Ocean Energy Management (BOEM) works to manage the exploration and development of the nation's offshore resources in a way that appropriately balances economic development, energy independence, and environmental protection through oil and gas leases, renewable energy development and environmental reviews and studies.