

New England Wind Project Scoping Summary Report

U.S. Department of the Interior
Bureau of Ocean Energy Management
Office of Renewable Energy Programs

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Acronyms and Abbreviations

AIS	Automatic Identification System
BOEM	Bureau of Ocean Energy Management
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
CZMA	Coastal Zone Management Act
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EMF	electromagnetic field
HAPC	Habitat Area of Particular Concern
ID	identification number
IPF	Impact-Producing Factor
MMPA	Marine Mammal Protection Act
MW	megawatt
NEPA	National Environmental Policy Act
NE Wind	New England Wind
NGO	non-governmental organization
NOI	Notice of Intent
OCS	outer continental shelf
PDE	project design envelope
Report	Scoping Summary Report
Q&A	questions and answers
VIA	Visual Impact Assessment
WTG	wind turbine generator

1. SCOPING SUMMARY REPORT FOR THE NEW ENGLAND WIND PROJECT ENVIRONMENTAL IMPACT STATEMENT

1.1. INTRODUCTION

Council on Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) under Title 40 of the Code of Federal Regulations (CFR) Section 1501.7(a) require agencies such as the Bureau of Ocean Energy Management (BOEM) to perform certain actions as part of the scoping process, including:

- Determining the scope and the significant issues to be analyzed in depth in the Environmental Impact Statement (EIS); and
- Identifying and eliminating from detailed study the issues that are not significant.

This document, in combination with the Draft EIS, is intended to satisfy BOEM's obligations under 40 CFR 1501.7(a).

This Scoping Summary Report (the Report) outlines the objectives, methodology, and content of the information provided by interested parties during the scoping period.

1.1.1. Public Scoping—First Round

On July 2, 2020, Park City Wind, LLC (Park City Wind) (then operating as Vineyard Wind, LLC) submitted a phased development Construction and Operations Plan (COP) to BOEM seeking approval to construct and operate a 2,004 to 2,304-megawatt (MW) wind energy facility (herein referred to as the proposed Project or Proposed Action) offshore of Massachusetts in BOEM Lease Area OCS-A 0534 and possibly the southwest portion of Lease Area OCS-A 0501. On June 30, 2021, BOEM issued a Notice of Intent (NOI) to prepare an EIS consistent with NEPA regulations (NEPA; 42 United States Code § 4321 et seq.) to assess the potential impacts of the Proposed Action and alternatives (86 Federal Register 34782).

The NOI commenced a public scoping process for identifying issues and potential alternatives for consideration in the EIS. During the formal scoping period, from June 30 through July 30, 2021, three virtual public scoping meetings were held on the dates as outlined in Table 1.

Table 1: Public Scoping Meetings

Date	Time
July 19, 2021	Presentation, public statements, and Q&A at 5:30 p.m. eastern daylight time
July 23, 2021	Presentation, public statements, and Q&A at 1:30 p.m. eastern daylight time
July 26, 2021	Presentation, public statements, and Q&A at 5:30 p.m. eastern daylight time

Q&A = questions and answers

During the formal scoping period, Federal agencies, state and local governments, and the general public had the opportunity to submit written and oral comments that would help BOEM identify potential significant resources and issues, impact-producing factors, reasonable alternatives (e.g., size, geographic, seasonal, or other restrictions on construction and siting of facilities and activities), and potential mitigation measures to analyze in the EIS, as well as provide additional information. BOEM also

indicated its intent to use the NEPA process to fulfill its review obligations under Section 106 of the National Historic Preservation Act (54 United States Code § 300101 et seq.), in lieu of the procedures set forth in 36 CFR 800.3 through 800.6 for the Project, as permitted by 36 CFR § 800.2(d)(3), which requires Federal agencies to assess the effects of projects on historic properties. Additionally, BOEM informed its Section 106 consultation by seeking public comment and input through the NOI regarding the identification of historic properties or potential effects to historic properties from activities associated with approval of the COP.

1.1.2. Public Scoping—Second Round

On August 19, 2021, Park City Wind (then operating as Vineyard Wind, LLC) notified BOEM of the potential need to establish Offshore Export Cable Corridors (OECC) for Phase 2 of the Project, beyond those previously identified in the COP. Park City Wind also notified BOEM of a change in the Project's name, from the Vineyard Wind South Project to the New England Wind Project. On November 22, 2021, BOEM issued a Notice of Additional Public Scoping and Name Change to announce the project name change, and to assess the potential impacts of the Phase 2 OECC alternative routes (86 Federal Register 66334). This Notice commenced a second public scoping process, from November 22 through December 22, 2021, that was similar in intent and purpose to the first scoping process (described in Section 1.1.1.), focusing on the newly proposed Phase 2 OECC alternative routes. Information, including a video presentation was posted to BOEM's website to provide supporting information on the Phase 2 OECC alternatives.

1.2. OBJECTIVE

This Report reviews and catalogues the information and materials provided to BOEM during the scoping periods for the proposed Project. All written and oral submissions received during the formal scoping periods were reviewed to identify substantive comments for consideration in the development of the Draft EIS. Substantive comments were categorized based on the applicable resource areas or NEPA topics. Section 1.3 describes the methodology used to identify and categorize comments. This categorization scheme allowed subject matter experts to review comments directly related to their areas of expertise, and allowed BOEM to generate statistics based on the resource areas or NEPA topics addressed in each comment. In addition, the process provided for careful consideration of the materials received and identification of materials that would contribute to the development of the Draft EIS.

1.3. METHODOLOGY

1.3.1. Terminology

The following terminology is used throughout this Report:

- **Submission:** The entire content submitted by a single person or group at a single time. For example, a 10-page letter from a citizen, an email with a portable document attachment, and a transcript of an oral comment given at a public scoping meeting were each considered to be a submission.
- **Comment:** A specific statement within a submission that expresses a sender's specific point of view, concern, question, or suggestion. One submission may contain many comments.

- **Substantive Comment:** Scoping submissions were reviewed to identify and categorize “substantive” comments. To be substantive, a comment must meet both of the following criteria:
 - Related to the proposed Project: To be substantive, a comment must first relate, even tangentially, to the proposed Project, its connected actions, planned activities, and other reasonably foreseeable actions, impacts, or conditions.
 - Consisted of more than simple opinion: This criterion requires that substantive comments provide information to help BOEM prepare the EIS by providing some level of support or basis for the commenter’s position, or some indication of issues the commenter believes are significant. As a hypothetical example, a statement that “BOEM should reject the Project” would not be considered substantive, but a statement that “The New England Wind Project should not be approved because it would harm commercial fisheries” would be considered substantive.
- **Disposition:** The overall opinion of the sender regarding the Project, expressed either as “Pro” (for the project), “Con” (against the project), or “Neutral” (neither for nor against the project, or explicitly neutral toward the project).

1.3.2. Comment Submittal

BOEM received comment submissions during the scoping process via the following mechanisms:

- Electronic submissions received via Regulations.gov on docket number BOEM-2021-0047;
- Electronic submissions received via email to a BOEM representative; and
- Comments submitted verbally at each of the public scoping meetings.

1.3.3. Comment Processing

1.3.3.1. *Compilation of Submissions*

BOEM downloaded and reviewed all submissions from Regulations.gov. The submissions, including all text and attachments provided by stakeholders as part of their Regulations.gov submission, were transferred directly into a project-specific database within the SmartComment online comment management system.

Information transferred from Regulations.gov to SmartComment included the submitter’s contact information (as provided to Regulations.gov) and the submission date. The SmartComment system also enabled BOEM to assign attributes to each submission, such as whether the submitter was a government entity or agency (see Section 1.4). Submissions provided by email were incorporated into SmartComment in a similar manner. A limited number of submissions were received after the scoping comment period ended; these were treated the same as those received before the deadline.

Each submission received a unique Submission identification (ID) number, which included prefixes to indicate the type of entity that provided the submission, as listed below (with prefixes in parentheses).

- Tribal government agency or representative (T)
- Federal government agency or representative (F)

- State government agency or representative (S)
- Local government agency or representative (L)
- Non-governmental organization (NGO) (N)
- Business or labor interest group (B)
- Individual (I) (senders who did not clearly fall into one of the categories above)

Within each category, submissions were assigned an ID corresponding to the order in which they were received. For example, amongst the submissions from individuals, the 30th submission was assigned the Submission ID of I-30. Similarly, amongst all submissions from federal agencies, the second submission was assigned the Submission ID of F-2.

Each submission was also reviewed to identify a disposition, as defined in Section 1.3.1.

1.3.3.2. Identification of Comments

Each submission and all oral testimony were read to identify substantive comments (as defined in Section 1.3.1). Each comment received a unique Comment ID number based on the submission. For example, the fourth comment identified in within Submission I-30 received the Comment ID of I-30-4.

Each substantive comment was assigned to the resource or topic area that most closely matched the comment topic. In rare cases, a comment was assigned to multiple topic areas. Resource categories and other topics are defined in Section 1.4.3. Appendix A, List of Submission IDs, Names, and Affiliations, provides a listing of all the submissions received. Appendix B, Individual Comments by Resource or NEPA Topic, presents the individual substantive comments that were extracted from each submission, and is organized by resource or NEPA topic area (as defined in Section 1.4.3). Comments in Appendix B are exact quotes taken from the individual submissions received.¹

It should be noted that many submissions included statements related specifically to the contents of the COP itself and not the NEPA process. These statements were not captured as substantive comments, unless they also related the information or analysis to be included in the EIS.

1.4. SCOPING SUBMISSION AND COMMENT SUMMARY

1.4.1. Submissions

BOEM received 93 unique submissions from the public, government agencies, and other interested groups and stakeholders. Table 2 shows the number of submissions received via each submission method, while Table 3 shows the disposition of the submissions.

¹ In rare instances, minor edits were made to some comments to fix obvious spelling or grammatical errors.

Table 2: Distribution of Submissions by Method

Submission Method	Number Received		
	Round 1	Round 2	Total
Regulations.gov submission	44	10	54
Oral comments provided at scoping meetings	38	0	38
Mailed hard copy	0	0	0
Email to BOEM representative	1	0	1
Total	83	10	93

Table 3: Distribution of Submissions by Disposition

Submission Method	Number Received		
	Round 1	Round 2	Total
Pro	62	0	62
Con	2	1	3
Neutral	19	9	28
Total	83	10	93

The totals above for both scoping periods included the following submissions by Federal, state, and local government entities:

- Five submissions from Federal government agencies: U.S. Environmental Protection Agency (two submissions), National Marine Fisheries Service, National Park Service, and U.S. Representative Jim Himes;
- Seven submissions from state government agencies or representatives: Connecticut Department of Energy and Environmental Protection, New York State Department of State, Rhode Island Coastal Resources Management Council (two submissions), Massachusetts Senator Marc Pacheco, and the Massachusetts Office of Coastal Zone Management. In addition, oral comments were provided by an aide on behalf of Massachusetts Representative Paul Schmid III; and
- One submission from the Barnstable Historical Commission.

In addition to the Federal, state, and local government agencies or representatives identified above, NGOs provided 20 submissions, business or labor interest groups provided 27 submissions, and the general public provided the remaining 33 submissions. One duplicate submission from a business interest group was excluded from the count.

While repeated language was identified in a small number of submissions, no evidence suggested that any submissions were “form letters” or pre-written text provided by an interest group for submission by individuals. One NGO submission was signed by 426 supporters.

1.4.2. Comments

BOEM identified a total of 1,160 substantive comments. Table 4 shows the distribution of comments by resource and NEPA topic. Section 1.4.3 defines the resource areas to which substantive comments were assigned and summarizes the comments by each topic. The most commonly addressed resources or NEPA topics included Birds, Marine Mammals, NEPA Process and Public Engagement, and Socioeconomics.

Table 4: Distribution of Comments by Resource Addressed

Resource	Comments		
	Round 1	Round 2	Total
Birds	136	7	143
Marine Mammals	122	3	125
NEPA Process and Public Engagement	82	9	91
Socioeconomics	88	0	88
Planned Activities	69	1	70
Commercial Fisheries and For-Hire Recreational Fishing	57	13	70
Purpose and Need	66	1	67
Finfish, Invertebrates, and Essential Fish Habitat	46	3	49
Mitigation	46	1	47
Bats	41	0	41
Benthic Habitat	30	9	39
Regulatory Framework	30	9	39
Alternatives	24	10	34
Sea Turtles	31	1	32
Reference Recommendations	18	13	31
Impact Methodology and Definitions	28	0	28
Environmental Justice	27	0	27
Air Quality	21	0	21
Proposed Action	18	1	19
Decommissioning	15	0	15
Cultural, Historical, and Archaeological Resources	14	3	17
Navigation and Vessel Traffic	9	0	9
Climate Change	9	0	9
Impact-Producing Factors	8	0	8
Wetlands	8	0	8
Other Resources and Uses (Marine Minerals, Military, Aviation, Offshore Energy, other Noise, etc.)	8	0	8
Recreation and Tourism	7	0	7
Water Quality	6	1	7
Scenery/Visual Impact	5	0	5
Coastal Habitat	2	0	2
Non-Routine Activities	2	0	2
Land Use and Coastal Infrastructure	1	0	1
Other Resources not elsewhere listed	1	0	1
Total	1,075	85	1,160

1.4.3. Definition of Resource Areas and Common NEPA Topics Raised

The following sections define each of the resource areas or NEPA topics used to categorize comments, and summarizes the key ideas expressed by comments in each resource area or topics. As stated above, Appendix B presents the full text of individual substantive comments.

1.4.3.1. Air Quality

This category includes all comments that referred to emissions from proposed Project construction and operations. Comments that referred to the projected reduction in emissions elsewhere (due to Project operations displacing fossil fuel electricity generation) were also categorized as Air Quality. Comments that did not refer to Project air emissions but addressed social and environmental impacts of climate

change were categorized under Climate Change. Comments on the need to reduce greenhouse gas emissions and develop renewable energy sources were categorized under Purpose and Need. Common topics raised in the Air Quality category included Project emissions in relation to National Ambient Air Quality Standards; the extent of Project displacement of emissions from fossil fuel energy generation; and the need to account for both offshore and onshore Project emissions.

1.4.3.2. Alternatives

This category includes comments on the alternatives to the proposed Project, including alternatives that have been publicly presented by BOEM or the applicant, as well as alternatives suggested by the commenter or others. Common topics raised in this category included the need for a thorough analysis of alternatives; the importance of identifying cable route alternatives that minimize fisheries and habitat impacts; and the varying impacts resulting from alternative wind turbine and foundation types.

1.4.3.3. Benthic Habitat

This category includes comments on the biological, structural, or habitat impacts on benthic species and/or habitat. Common topics raised in this category included the potential Project impacts on structurally complex hard bottom habitats; differing impacts of various cable installation options; impacts over time of phased cable-laying; and differing sea floor effects of alternative wind turbine foundation types.

1.4.3.4. Bats

This category includes comments on the biological, structural, or habitat impacts on bat species or their habitat. Common topics raised in this category included the potential for bat fatalities from collisions with turbines; the need to monitor and study bat movements in the offshore environment; and the need for ongoing assessment of impacts during operation of the Project.

1.4.3.5. Birds

This category includes comments on the biological, structural, or habitat impacts on bird species or their habitat. Common topics raised in this category included impacts on bird species from turbine operation (collision, displacement from foraging grounds, avoidance during migration, light impacts); identifying species protected under the Migratory Bird Treaty Act, Endangered Species Act, and state endangered species law; and the need for data collection and evaluation before, during, and after wind turbine construction.

1.4.3.6. Climate Change

This category includes comments that did not refer to Project air emissions but addressed social and environmental impacts of climate change, as well as the effects of climate change on the Project. Common topics raised in this category included the durability of Project components in the face of sea level rise, storm surges, and severe weather events; the effects of climate change on the coastal environment and communities; and the effects of ocean acidification on fisheries.

1.4.3.7. Coastal Habitat

This category includes comments on the biological, structural, or habitat impacts on areas adjacent to the shoreline. Common topics raised in this category included the potential impacts of landfall locations on eelgrass beds and dunes, and coordination with appropriate agencies to avoid rare species habitat.

1.4.3.8. Commercial Fisheries and For-Hire Recreational Fishing

This category includes comments the economic and social impacts of the Project on commercial fisheries and for-hire recreational fisheries. Common topics raised in this category included the need for updated fisheries landing and revenue data; potential increased costs and reduced revenues for fishing operations; navigational factors including radar interference and transit lanes; regional impacts; and compensatory mitigation.

1.4.3.9. Cultural, Historical, and Archaeological Resources

This category includes comments on the presence of or impacts on cultural, historical, and archaeological resources. Common topics raised in this category included coordination with Tribes having cultural affiliations in the Project area; the need for an unanticipated discovery plan and best management practices; and the potential for visual impacts on affect cultural resources.

1.4.3.10. Decommissioning

This category includes comments on the responsibility for, process, and impacts of decommissioning the proposed Project and removing Project structures or equipment. Common topics raised in this category included the need for detailed description of process and results; responsibility for costs and implementation; and removal of offshore equipment including cables and equipment.

1.4.3.11. Environmental Justice

This category includes comments on the social, economic, and health impacts on minority or lower income populations. Common topics raised in this category included workforce development initiatives and job opportunities related to Project work; impacts on workers in the commercial fishing industry; air emissions in port communities; and outreach to environmental justice communities.

1.4.3.12. Finfish, Invertebrates, and Essential Fish Habitat

This category includes comments on the biological, structural, or habitat impacts on fish and invertebrate species or their habitat. Comments about the fishing, shellfishing, or for-hire fishing industries tied to these species were classified under Commercial Fisheries and For-Hire Recreational Fishing. Common topics raised in this category included impacts from cable installation and operation; the importance of habitat within Muskeget channel; the need for full descriptions of habitat types within Project area; and the need to describe effects on all life stages of species that could be impacted.

1.4.3.13. Impact Methodology and Definitions

This category includes comments on the approach to defining and characterizing impacts for Project construction, operations and decommissioning in the EIS. Common topics raised in this category included

the need for meaningful definitions of impact levels, avoidance of value-laden terms, and clarity regarding whether impact levels are dependent on mitigations.

1.4.3.14. Impact-Producing Factors

This category includes comments discussing the range of factors that would need to be considered in evaluating impacts on the resource areas. Common topics raised in this category included the need to identify impact-producing factors for listed species (vessel strikes, noise, entanglement, injury, or displacement); the identification of marine surveys and monitoring as impact-producing factors; and the need for clear standards for assessing the effects of the factors.

1.4.3.15. Land Use and Coastal Infrastructure

This category includes comments on utilities and infrastructure (e.g., roads and utilities) and the ability to use land as legally permitted. Common topics raised in this category included installing land-based cables in coordination with Barnstable's sewer installation and potential conflicts with existing users of ports and harbors.

1.4.3.16. Marine Mammals

This category includes comments on marine mammals' biological, structural, or habitat impacts on these species or their habitat. Common topics raised in this category included the need to address varying impacts on different species; North Atlantic right whale populations, habitats, and vulnerability; the importance of addressing impacts along the entire Eastern seaboard; and mitigations addressing pile driving, vessel strikes, trained observers, seasonal restrictions, and monitoring.

1.4.3.17. Mitigation

This category includes comments related to mitigation measures, including comments on already-proposed mitigation measures, as well as comments that suggest or question mitigation measures not yet proposed, but that could be relevant to the proposed Project. Common topics raised in this category include mitigation to reduce impacts on birds, fish, marine mammals, and sea turtles; the possibility of adjusting specific mitigation measures based on monitoring; and the distinction between required and discretionary mitigation measures.

1.4.3.18. Navigation and Vessel Traffic

This category includes comments on existing conditions or impacts on the ability to operate and navigate vessels, whether personal or commercial. Comments about vessel traffic related to certain specific functions, including Coast Guard search and rescue operations, U.S. military operations, and scientific surveys or studies, are included under "Other Resources and Uses." Comments related to navigation and vessel traffic in the performance of fishing were classified under Commercial Fisheries and For-Hire Recreational Fishing. Common topics raised in this category included the impacts of turbine operation on marine radar and the creation of transit corridors through turbine spacing.

1.4.3.19. NEPA Process and Public Engagement

This category includes on the NEPA process and public engagement discussed the process for preparing the EIS; public meetings, notification, or other involvement; consultation with agencies and/or Native American tribes; or other procedural issues. Common topics raised in this category included the need for an efficient EIS process; the “redacted” portions of the COP; availability of data and materials used for the EIS; outreach to communities; and limiting the EIS to Phase 1 of the Project.

1.4.3.20. Non-Routine Activities

This category includes comments on the need to address non-routine events, such as weather events or non-routine repairs. Common topics raised on this category included the durability of turbines during extreme weather events, possible ice accumulation, and safety risks to mariners associated with ice throws.

1.4.3.21. Other Resources and Uses

This category includes comments on marine minerals, military uses and activities, aviation, and noise concerns not related to other specific resources. Common topics raised in this category included the impacts on surveys of fish populations used in regulating commercial fisheries; interaction with airport and air route surveillance radars; and effects on weather radar.

1.4.3.22. Planned Activities

This category includes comments related to how the proposed Project would interact with, or be impacted by, past, present, and reasonably foreseeable future actions (often referred to as “cumulative impacts”). For example, the EIS should consider the combined impacts of the proposed Project along with other planned or existing wind energy projects, or combined with other types of projects in the region. Common topics raised in this category include cumulative impacts on protected species, birds, marine mammals, and fish; socioeconomic impacts on fishing communities; a regional monitoring program; and coordination of cable transmission routes.

1.4.3.23. Proposed Action

This category includes comments that called into question, suggested additions or changes to, or otherwise related to the description of the proposed Project/Proposed Action itself, such as proposed Project components, construction methodology, schedule, labor force, and similar items. Common topics raised in this category included the Project Design Envelope parameters; the need to address all potential cable routes and wind turbine foundation locations; and identification of port and staging facility infrastructure needs.

1.4.3.24. Purpose and Need

This category includes comments related to the purpose and need for the proposed Project (i.e., justification for constructing and operating the Project). Comments associated with the proposed Project’s relationship to more global issues, such as climate change, were assigned here, but only to the degree that the commenter linked the proposed Project to those topics. Common topics raised in this category include regional electricity demand and the need for renewable energy; regional and national greenhouse gas

emissions goals and their relation to climate change; and retirement of fossil fuel electricity generation plants.

1.4.3.25. Recreation and Tourism

This category includes comments on onshore or offshore recreation (for example, parks, recreational boating, and recreational fishing), as well as tourism activity associated with these resources, such as whale watching, boat rentals (except for commercial fishing), onshore sports leagues, or revenue-generating tourist facilities are included in this section. Common topics raised in this category include the effects of artificial reef habitat on target species, the economic impact of recreational fishing, and distinction between impacts on recreational and commercial fishing.

1.4.3.26. Reference Recommendations

This category includes journal articles, studies, or other works of literature that commenters suggested be reviewed for the EIS were categorized as references.

1.4.3.27. Regulatory Framework

This category includes comments on laws, regulation, and guidance that may be applicable to the proposed Project. Common topics raised in this category included the coordination needed with supporting agencies to address the Endangered Species Act, the Fish and Wildlife Coordination Act, the Coastal Zone Management Act, the Marine Mammal Protection Act, the Magnuson-Stevens Fishery Conservation and Management Act, the Clean Air Act, wetland protections, and state environmental regulations.

1.4.3.28. Sea Turtles

This category includes comments on the biological, structural, or habitat impacts on sea turtles or their habitat. Common topics raised in this category included the need for updated monitoring and surveying; possible impacts on sea turtles during construction, especially pile driving; and the risk of vessel strikes.

1.4.3.29. Socioeconomics

This category includes comments related to jobs, income, or tax revenue from the proposed Project itself, as well as macroeconomic impacts such as regional energy costs. This classification also includes economic effects on landowners impacted by onshore facilities or perceived impacts due to visual changes. Comments related to commercial or for-hire fishing were categorized under Commercial Fisheries and For-Hire Recreational Fishing (see Section 1.4.3.6). Common topics raised in this category include discussions of workforce, training and supply chain impacts; social and economic impacts on port and fishing communities; potential changes in ocean and coastal recreation; and avoided health impacts from fossil fuel power generation.

1.4.3.30. Scenery and Visual Impacts

This category includes comments related to the proposed Project's visual appearance and associated impacts. Comments about the secondary impacts of the proposed Project's appearance (i.e., impact on property values of views of the Project) were assigned to the other impacted resource (i.e.,

Socioeconomics, Land Use and Coastal Infrastructure, Recreation and Tourism, etc.). Common topics raised in this category include statements that visual simulations should display a variety of conditions affecting visibility; simulated views from Gay Head Lighthouse and observation points on Nantucket Island are needed; lighting impact should be reduced through mitigations such as direction and shielding.

1.4.3.31. Water Quality

This category includes comments on all aspects of water quality, including surface water quality (including spills or other pollution) and drinking water sources. Common topics raised in this category include the potential water quality effects of Project installation; possible water pollutants resulting from turbine operation; and the appropriate planning needed to address oil spills from vessels, contaminants from the substation, and stormwater controls for onshore installation.

1.4.3.32. Wetlands

This category includes comments on aspects of wetlands potentially impacted by the proposed Project and associated with the onshore components of the proposed Project. Common topics raised in this category include identifying wetlands and streams; indicating the how wetlands would be protected; and addressing related impacts on endangered and threatened species.

1.5. CONCLUSION

Public scoping comments help identify issues for analysis and alternatives within the EIS. Substantive comments related to the Project were categorized based on the applicable resource areas or NEPA topics. The comments received and identified in this scoping report will be considered during the development of the Draft EIS. BOEM would develop a reasonable range of alternatives to the proposed action, which will be carried forward for full analysis in the EIS. For each of the reasonable alternatives carried forward for full analysis, the EIS will identify potentially affected resources and assess potential impacts on each of those resources. If needed, measures to mitigate resource impacts would be identified.

LIST OF SUBMISSION IDENTIFICATIONS, NAMES, AND AFFILIATIONS

The table below lists the name and agency or organization affiliation (if any) for each person who provided a scoping submission. The submission identification (ID) number listed below corresponds to the Comment ID in Appendix B.

Submission ID	Name	Agency or Organization
F-1	Timothy Timmermann	United States Environmental Protection Agency (USEPA)
F-2	Michael Pentony	NOAA - National Marine Fisheries Service
F-3	Jonathan Meade	National Park Service
F-4	Rep. Jim Himes	U.S. 4 th District Connecticut
S-1	Linda Brunza	Connecticut Department of Energy and Environmental Protection
S-2	Sarah Crowell	New York State Department of State
S-3	Jeffrey Willis	RI Coastal Resources Management Council
S-4	Aide to State Rep. Paul Schmid III	Massachusetts 8th District
S-5	Senator Marc Pacheco	Massachusetts 1 st District
N-1	Jeremy McDiarmid	Northeast Clean Energy Council
N-2	James Murphy et al.	Natural Resources Defense Council, National Audubon Society, Conservation Law Foundation, et al.
N-3	Nathan Frohling	The Nature Conservancy
N-4	Charles Rothenberger	Save the Sound
N-5	Mike Matthews et al.	Environmental League of Massachusetts (426 signatories)
N-6	Andrew Gottlieb	Association to Preserve Cape Cod, Inc.
N-7	Name not provided	Cape Cod Climate Change Collaborative
N-8	Beth Lowell	Oceana
N-9	Shyamala Rajan	Defenders of Wildlife
N-10	William Lake	Vineyard Power
N-11	Kai Salem	Green Energy Consumers Alliance
N-12	Allison Pilcher	Connecticut Roundtable on Climate and Jobs
N-13	Holly Bellebuono	Adult and Community Education of Martha's Vineyard
N-14	Janet Williams	Cape Cod Climate Change Collaborative
N-15	Charles Rothenberger	Save the Sound's
N-16	Susannah Hatch	Environmental League of Massachusetts
N-17	Chris Mancini	Save The Harbor Save the Bay
N-18	Shilo Felton	National Audubon Society
B-1	Thomas Nies and Dr. Christopher Moore	NEFMC and MAFMC
B-2	Name not provided	Composite Prototyping Center (Institute for Workforce Advancement)
B-3	Brandon Burke	Business Network for Offshore Wind
B-4	Meghan Lapp	Seafreeze Ltd., Seafreeze Shoreside
B-5	Jason Walsh	BlueGreen Alliance
B-6	Bonnie Brady	Long Island Commercial Fishing Association
B-7	Beth Casoni	Massachusetts Lobstermen's Association
B-8	Annie Hawkins, Fiona Hogan, Lane Johnston	Responsible Offshore Development Alliance
B-9	Katie Almeida	The Town Dock

Submission ID	Name	Agency or Organization
B-10	Susannah Hatch	New England for Offshore Wind
B-11	Jennifer Menard	Bristol Community College
B-12	John Cox	Cape Cod Community College
B-13	Maria Hanna	Survival Systems USA
B-14	Joel Rinebold	Connecticut Center For Advanced Technology
B-15	Delia Warren	Exodus
B-16	Duane Gates	Fairfield County Building Trades, Local 478 Connecticut
B-17	Meghan Lapp	3 C's Ltd, 3-Cs Shore Side
B-18	Katie Almeida	Town Dock
B-19	Rob Hebert	Career Resources
B-20	Sam Tirone	The Business Network for Offshore Wind
B-21	Dennis Lassige	North Atlantic States Regional Council of Carpenters
B-22	Rebecca Newberry	BlueGreen Alliance
B-23	Christy Guthman	GE Renewable Energy
I-1	Carl Borchert	
I-2	Maureen Condon	
I-3	Ann Berwick	
I-4	Lindsay Crouch	
I-5	Paul Vigeant	
I-6	Caro Marrero	
I-7	Brad Lima	
I-8	Kirstin Moritz	
I-9	Gus Meyer	
I-10	Erik Anderson	
I-11	Randi Allfather	
I-12	Michael Jacobs	
I-13	Francis Haggerty	
I-14	Chris Katilus	
I-15	Chris Katilus	
I-16	Susan Starkey	
I-17	Timmons Roberts	
I-18	David Moriarty	
I-19	Antonio Felipe	
I-20	Elise Rapoza	
I-21	Adrienne Esposito	
I-22	Anthony Sapienza	
I-23	Michael Burns	
I-24	Camille Kazon	
I-25	Ron Dagostino	
I-26	Grove Harris	
I-27	Dan McInerney	
I-28	Kimberly Francis	
I-29	Alexandra Dunn	
I-30	Tom Soldini	
I-31	Patrick Plantin	
I-32	Jeffrey Kominers	
I-33	Scott Lima	

INDIVIDUAL COMMENTS BY RESOURCE OR NEPA TOPIC

AIR QUALITY

Comment ID	Comment Text
F-1-6	EPA promulgated permitting rules in 40 CFR Part 55, which establish air pollution control requirements for OCS sources consistent with section 328(a)(1) of the CAA. OCS sources located within 25 nautical miles of a State's seaward boundary are subject to both the federal requirements of Part 55 and the state and local requirements of the corresponding onshore area (COA). Beyond 25 miles, OCS sources are not subject to the state and local requirements of the COA...Permits issued pursuant to 40 CFR Part 55 regulate and restrict air emissions related to construction and operation activities associated with OCS sources, including certain vessels servicing or associated with OCS sources. Permits are required before project construction can begin.
F-1-7	EPA received a Notice of Intent (NOI) pursuant to 40 CFR § 55.4 on August 13, 2020 from Vineyard Wind, LLC (VW) for the Phase 1 development project in the southern portion of OCS Lease Area 501, identified in the COP as Park City Wind. As indicated in Table 5.1-1 of the COP, the EPA has not received a NOI for the Phase 2 development project in the 501 South lease area. The August 13, 2020 NOI identified Massachusetts as the Nearest Onshore Area (NOA), as defined in 40 CFR §55.2. As noted in Section 5.1.2.1, EPA did not receive a request from any neighboring state air pollution control agency to be designated as the Corresponding Onshore Area (COA). As a result, Massachusetts (the NOA) became the designated COA without further Agency action after 60 days (40 CFR 55.5(b)(1)).1.
F-1-8	Due to periodic changes to state regulations, EPA is required to conduct a consistency update from time to time to ensure the incorporated regulations at 40 CFR Part 55 are consistent with the current regulations of the COA. Since the last consistency review, Massachusetts adopted changes to its rules for Air Pollution Control found in 310 CMR 7.00, as amended in March 2021. Because recent changes to Massachusetts 5 rules would not rationally be related to OCS permitting or the attainment and maintenance of the NAAQS, EPA does not currently expect to need to conduct a consistency update.
F-1-9	EPA notes that Section 5.1.1 and 5.1.2 of Vol III and Section 1.0 of Appendix III-B of the COP states "Vineyard Wind South's WTGs will not generate air emissions." However, each WTG is anticipated to contain a diesel-fired generator engine for emergency backup power. See Section 2.2.3 of Appendix III-B. Therefore, the engines on the WTGs are subject to EPA's OCS air permit and BOEM should accurately characterize the WTGs as a potential source of air emissions in the Draft EIS. EPA encourages BOEM to explore options to require alternate power sources such as battery backup or fuel cell technology to provide emergency power during operations. These options should be described in the Draft EIS.
F-1-10	The COP indicates the potential use of multiple ports along the Atlantic coast. Many port communities are located in areas that may have existing air quality issues...As mentioned in Section 5.1.1 of the COP, EPA recommends that the EIS explore the feasibility of requiring emission reduction best practices for ports such as vessel speed reduction requirements, sulfur restrictions in fuel, or the use of marine shore power systems. In addition, the use of Tier 4 Final EPA certified equipment can further reduce emissions at ports.
F-1-11	EPA notes that the majority of emissions from the project over its lifetime are emissions from vessel engines. EPA recommends that BOEM require Vineyard Wind to pursue the procurement of the most efficient and lowest emitting vessels available during the vessel contracting stage of the project. As a first step in this process, the Draft EIS should provide a discussion of the various options that are available to reduce these emissions. In addition, the Draft EIS should consider options for reducing emissions from ongoing operations and maintenance activity, such as the purchase of lower emitting or electrified crew vessels.

Comment ID	Comment Text
F-1-12	EPA also notes that the COP indicates that vessels providing construction or maintenance services will be required to use the highest tiered engine available or the most stringent applicable marine engine standard. The EIS should explore the feasibility of requiring additional mitigation measures such as anti-idling practices and the retrofitting of older equipment and vessels with the cleanest, most efficient technologies to further ensure air quality impacts will be minimal. In addition, BOEM should explore the feasibility of using add-on air pollution control devices as referenced by Vineyard Wind for potential mitigation measures in Section 5.1.2.1.2 of the COP.
F-1-13	EPA's OCS air permit will contain, at a minimum, requirements for emissions control, emissions limitation, monitoring, testing, and reporting. Vineyard Wind is also required to conduct air quality modeling of emission sources that will be located on the OCS. Vineyard Wind will need to provide an analysis demonstrating that ambient impacts from Phase 1 and Phase 2 will not affect protected Class I areas. If this information would be benefit BOEM's analysis of air quality impacts, we recommend you coordinate with EPA and the applicant on receiving the most recent ambient air impacts analysis and assessment. EPA is available to support BOEM with its evaluation of modeling for potential air emissions impacts.
F-1-14	In a manner similar to Section 4.0 of Appendix III-B of the COP, EPA recommends that the Draft EIS describe how the project may advance the reduction of emissions from the power generation sector in the northeast and emphasize the "avoided emissions."
F-1-15	EPA's AVoided Emissions and geneRation Tool (AVERT) (www.epa.gov/avert) has previously been used to estimate the avoided emissions of offshore wind development, e.g., for the South Fork Wind Draft EIS, and is a preferred tool for estimating avoided emissions from renewable energy projects. We recommend that BOEM use AVERT which offers analytical benefits, such as PM2.5 avoided emission rates, hourly offshore wind generation profiles, hourly avoided fossil fuel generation and emissions, and county-level criteria air pollutant reductions. These analytical enhancements increase the data available to the public regarding the benefits of offshore wind and they should be presented in the Draft EIS. While AVERT is intended to be a straightforward tool to use, we request that BOEM contact EPA to ensure proper use of AVERT and accurate reporting of avoided emissions in the Draft EIS. The EPA contact for AVERT is Colby Tucker (Tucker.WilliamC@epa.gov).
F-1-16	EPA's COBRA model (www.epa.gov/cobra) has been previously used to estimate and monetize the changes in health outcomes due to changes in certain criteria air pollutant emissions of offshore wind development, e.g. for the South Fork Wind Draft EIS. We recommend BOEM use COBRA to estimate the economic benefit of avoided health impacts due to offshore wind development displacing onshore fossil fuel generation. Note that the COBRA analysis requires county-level emissions changes, which can be derived from AVERT. BOEM should also consider evaluating the health impacts of non-power sector-related onshore emissions of PM2.5, NOX, SO2, and VOCs in COBRA as well. While COBRA is intended to be a straightforward tool to use, we request that BOEM contact EPA to ensure accurate reporting of health impacts. The EPA contact for COBRA is Colby Tucker (Tucker.WilliamC@epa.gov).
F-1-17	We note the use of eGRID in the COP for calculating avoided emissions from the Vineyard Wind South projects displacing onshore fossil fuel generators, and appreciate the calculation of avoided CO2e emissions, a result which is not readily available in AVERT. BOEM should include this information in the Draft EIS and update the analysis in the Draft EIS to refer to the newly published eGRID2019, released in February 2021. Also, BOEM should be consistent in referencing eGRID's "non-baseload emission rates" throughout the Draft EIS and as described in the summary section of Volume I of the COP and Section 4 of Volume III of the COP.

Comment ID	Comment Text
F-1-18	EPA recommends the forthcoming Vineyard Wind South Draft EIS provide a discussion addressing the applicability of General Conformity requirements to project emissions that occur outside the bounds of the OCS lease area such as those emissions that will occur at onshore staging areas, port facilities, in-transit vessels, or elsewhere so that all emissions caused by this Federal action are addressed as required by 40 CFR Part 93 Subpart B. The portion of these emissions that occur within either a nonattainment or maintenance area should be addressed within the context of General Conformity. We recommend that this information be presented in the Draft EIS and subsequent documents and that the Draft EIS identify the Federal agency responsible for the general conformity determination for those areas of the Proposed Action that are potentially within a non-attainment area. EPA encourages BOEM to work with EPA regarding applicability of General Conformity to the proposed project.
F-1-19	We recommend that the Draft EIS discuss potential emission reductions associated with the proposed project and alternatives under consideration. In particular, we recommend that BOEM's analysis highlight the air quality benefits of avoided emissions, particularly in areas where there may be issues regarding attainment of the EPA NAAQS.
F-1-20	The discussion of avoided emissions in the Draft EIS should also address greenhouse gas emissions, and the contribution of the project towards meeting individual state GHG reduction goals, where they exist.
B-8-17	the public messaging associated with proposed U.S. OSW projects touts their benefits of minimizing the effects of climate change by replacing fossil fuel-based energy sources with a renewable energy source. This is a desirable goal—however, it is impossible to evaluate without information on the net greenhouse gas (GHG) reductions. Any such analysis should include all stages of an OSW project, from surveying to decommissioning of turbines. This should be specific to the materials used for a project as the larger projects would require more source materials, potentially having a greater environmental impact, and different materials carry their own ramifications...It is also important to understand both what amount of GHG would be offset by these projects, as well as what additional emissions may be produced.
N-1-7	As BOEM conducts its environmental and socioeconomic impact analysis, NECEC respectfully requests that BOEM include analysis of... (c) the collateral benefits to regional and local air emissions through the reduction of local pollutants.
N-2-41	Air emissions present a similar story to climate emissions, but with the additional dimension of locational benefits to pollution impacts. Based on previous analyses of offshore wind projects, air quality impacts should be anticipated during construction with smaller and more infrequent impacts anticipated during decommissioning. Previous analyses have shown a "minor beneficial" improvement in air quality is expected from offshore wind development coming online and displacing fossil fuels. These impacts, including the beneficial impacts, need to be considered in the Draft EIS.
I-12-2	BOEM can and should ensure that there is recognition of the environmental impacts of the "no-build" scenario and include a comparison of the decreases in air emissions that result from the Vineyard Wind South offshore wind farm...Vineyard Wind South will provide the electric power that can meet the demand of at least a million homes, and do so for 20-plus years. Building this energy-production facility, operating this facility, and generating the energy will cause a *decrease* in air emissions, including emissions of CO2 and methane as compared to the conditions without this wind farm approved and built...[The] reduction in fossil fuel burning is a substantial environmental benefit...In annual numbers, the construction and operation of Vineyard Wind South would create electricity that reduces the equivalent of approximately 3.95 million tons of CO2 emissions annually, providing benefits equivalent of taking 780,000 cars off the road. The nitrous oxides (NOx) emissions will be reduced by ~2115 tons per year and sulfur dioxide (SO2) emissions will be reduced by ~1123 tons per year.
I-12-5	Deliberations in the environmental review of the Vineyard Wind South should not need to expand the search and analysis of possible negative impacts and instead can include an estimate of the projected reductions in air emissions that will result from the project.

Comment ID	Comment Text
I-17-4	The Vineyard Wind South plan is thoughtful and minimizes environmental impacts, and we must consider the benefits as well as the impacts, including the 4 million tons of CO2e/year emissions reductions it will allow. 140 turbines replacing major fossil gas power plants, the equivalent of 780,000 cars, is testimony to how big the impact of this project will be.

ALTERNATIVES

Comment ID	Comment Text
F-1-2	We strongly encourage BOEM to take the necessary time to develop and present complete information in the Draft EIS that fully describes existing conditions and supports a discussion of the likely impacts of each alternative.
F-1-4	Full consideration of a reasonable range of alternatives in the Draft EIS is a critical part of the NEPA process. We recommend that BOEM evaluate a range of alternatives for the various elements of the VWS project including the offshore export cable (and associated routes and corridors), the inter- array cables and the overall configuration of the wind farm (WTG locations) within the lease area. Experience demonstrates that is important for BOEM to fully consider these alternatives in the Draft EIS to allow for the development of a project that meets the project purpose and need while also avoiding, minimizing and offsetting impacts to the greatest degree possible consistent with the input of state and federal stakeholders.
F-1-49	We recommend that the Draft EIS include a Fisheries Habitat Impact Minimization alternative (Habitat alternative) designed with input from key state and federal agencies and stakeholders...supported by location specific benthic and habitat characterizations...EIS analysis of the Habitat alternative should contain enough information to describe whether portions of the lease should be avoided due to potential impacts to complex bottom habitat and the least impactful location for other elements of the project especially the proposed export cable corridor. We specifically recommend that BOEM consider an export cable corridor alternative that avoids and minimizes impacts to cod habitat within Muskeget channel.
F-2-6	The "Alternatives" section of the EIS should consider and evaluate the full range of reasonable alternatives to the proposed action, including those that would minimize damage to the environment. The analysis must include development of one or more reasonable alternatives to avoid or minimize adverse effects to environmental resources, including NMFS trust resources...Compensating for unavoidable adverse impacts through development of compensatory mitigation measures should be viewed as mitigation of last resort. Avoidance and minimization must be considered and fully and fairly evaluated through the alternatives development process before reaching that point.
F-2-7	For more vulnerable and difficult-to-replace resources such as natural hard bottom complex substrates (particularly those with macroalgae and/or epifauna), submerged aquatic vegetation (SAV), dense faunal beds (e.g., cerianthid beds), shellfish habitat and reefs, other biogenic reefs, and prominent benthic features, alternatives that avoid and minimize impacts to these habitats should be evaluated and given full consideration.
F-2-8	To facilitate efficient review of the alternatives, we recommend the EIS discussion of the alternatives and comprehensive analyses associated with each be grouped into the three corresponding elements of the proposed project: (1) wind farm area; (2) offshore export cable routes and associated corridors; and (3) inshore export cable routes and associated corridors and landfall points. The proposed project should have multiple alternatives for each element that could be "mixed and matched" in the final selection of the single and complete project.
F-2-9	The proposed Vineyard Wind South project...overlaps with Essential Fish Habitat (EFH) designated for a number of managed fish species and trust resources for which NMFS has conservation responsibilities, including but not limited to, Atlantic cod (<i>Gadus morhua</i>), Northern longfin squid (<i>Doryteuthis pealii</i>), and summer flounder (<i>Paralichthys dentatus</i>)...A Fisheries Habitat Impact Minimization Alternative should consider ways to minimize both impacts to important benthic habitats as well as the sensitive life stages of species that rely on them.

Comment ID	Comment Text
F-2-10	For both the lease area and the export cable route, a Fisheries Habitat Impact Minimization Alternative should evaluate measures to avoid and minimize impacts to complex habitats as well as measures to increase the habitat value of any necessary cable and scour protection...Measures to minimize impacts to sensitive life stages should also be evaluated, including cod spawning activity and other vulnerable life stages, such as squid spawning and egg development. It will be critical to fully evaluate measures to avoid and minimize impacts to spawning aggregations and habitats where larval cod settle to the bottom and transform to juveniles. Measures to avoid disrupting spawning activity (e.g. time of year restrictions, project placement) and settlement areas (e.g. avoiding complex habitats) should be fully evaluated. Further, this alternative should consider the material and composition of any proposed scour protection, for both cables and turbines.
F-2-11	Offshore export cable routing alternatives that use common corridors with adjacent projects should be evaluated and discussed.....The cable corridor for the Vineyard Wind South Project is particularly suited for a common export cable corridor, especially through Muskeget Channel...While we support consolidating impacts to one corridor, it should be done through a full evaluation to identify the least damaging location for a common cable corridor to be routed...Given the potential for substantial cumulative impacts, it would be prudent for BOEM to conduct a broad evaluation of alternative common routes through Muskeget Channel that avoids and minimizes impacts to complex habitats and HAPC.
F-2-99	alternatives should also evaluate methods used to lay the cable within, or adjacent to, complex habitats for both the offshore cable and inshore landing locations. Routing and construction methods that allow for full cable burial to minimize permanent habitat impacts and potential interactions with fishing gear should be considered as a component of this alternative.
F-5-1	we recommend that the Draft EIS explore whether the South Coast Variant OECC can be rerouted to further avoid/reduce impacts. Namely, whether the cable corridor could be shortened through routing between Martha's Vineyard and Nomans Island. This routing appears more direct (shorter) than the proposed route. The Draft EIS should fully explore this modified South Coast Variant and whether it can bring a reduction in impacts from fewer miles of trenching, plowing, and cable placement work.
F-5-2	We specifically recommend that the EIS alternatives analysis describe the differences in project impacts associated with varying WTG sizes. We view this analysis as an important part of the work to design a project that avoids, minimizes and offsets impacts to the greatest degree possible consistent with the input of state and federal stakeholders.
S-3-3	It is highly likely that Vineyard Wind LLC will use a 12 MW or 13.6 MW WTGs for both BOEM Lease Areas OCS—A 0501 and OCS—A 0534. Therefore, by using the larger 12 or 13.6 MW units for the Vineyard Wind projects the developer has a feasible alternative to avoid turbine foundation and inter-array cables within any potential sensitive habitat and further reduce impacts within the project area by reducing the overall number of turbine foundations.
S-6-1	[The Massachusetts Office of Coastal Zone Management] recommends that BOEM assess the consolidation of the Vineyard Wind 1 cable corridor and the New England Wind 1 cable corridor for landfall in Barnstable. The consolidation of these cable corridor routes allows for the maximum avoidance and minimization of impacts to marine resources and facilitates coordinated mapping, monitoring, and public outreach. It may also minimize hard protection required by either project through this dynamic area.
S-6-4	[T]he South Coast Variant cable route will make landfall at an unidentified location along the Massachusetts shoreline between Westport and Fairhaven. The Mayflower Wind offshore wind project proposes landfall at Brayton Point in Somerset, MA. Following the principle of collocating cable corridors in the pursuit of impact minimization, BOEM should consider an alternative which integrates the South Coast Variant cable route with the recently proposed Mayflower Wind OECC to the maximum extent possible.
S-7-2	...despite the Applicant's indication of the need for the South Coast Variant EEOC, the CRMC suggests that the purpose and need of the Applicant's project can be met solely with the proposed Muskeget Channel OECC and cable landfall at Barnstable, MA without the need for BOEM to consider or approve the South Coast Variant OECC

Comment ID	Comment Text
S-7-3	BOEM should develop common cable corridors to both increase efficiency and predictability and reduce resource impacts. Specifically, common cable corridors would lead to efficiencies in planning, project development, and benthic habitat mapping, more predictability and time savings for applicants and resource agencies. In addition, establishing common cable corridors would facilitate comprehensive avoidance and minimization of impacts to marine resources by reducing the number of corridors and allowing for programmatic-level review and comment
S-7-5	there is little or no coordination amongst offshore wind developers for the co-location of export cables through common cable corridors to make landfall at desirable points of interconnection that can be supported by existing or soon-to-be-updated landside electric grid infrastructure...CRMC requests BOEM to evaluate alternatives for all offshore wind project export cable corridors along the southern New England coastline to include consolidated and coordinated export cable corridors
B-1-3	The project design envelope for Phase 1 considers turbines ranging from 13-16 MW; Phase 2 turbines could be larger, up to 19 MW...The alternatives descriptions in the EIS should outline various layout options for each phase, depending on the size of turbines selected and the amount of power to be generated during Phase 2. It will be important to clearly outline a wide range of possible scenarios for Phase 2 in particular, especially if the project size is unknown at the time of EIS completion. However, it is also important that the range of possible scenarios be focused on likely outcomes as too wide of a range will pose challenges for evaluating the likely impacts of the project.
B-1-5	We recommend that BOEM develop a habitat minimization alternative that will minimize impacts to sensitive habitats including eelgrass, hard bottom, and complex topography. This alternative should consider reduced numbers of turbines, restrictions on turbine locations, different turbine foundation types, and various cable routing options.
B-8-12	The EIS must include an alternative for reasonable transit lanes as consistently requested by fisheries operators since long before the submission of this COP, and BOEM must fully evaluate such transit lanes cumulatively across the Southern New England OSW lease areas...For the commercial fishing gear types found in the Vineyard Wind project area, 1x1 nautical mile (nm) spacing between turbines is too narrowly spaced for most fishing operations. Thus, if spacing remains prohibitive, resulting in full (or even majority) functional fishing closures, access to viable and safe transit options becomes the single most important mitigating factor to the project design...The need for safe transit lanes of 4 nm has been raised time and again by fishermen and other fisheries experts, and we stand by the proposal submitted to BOEM on behalf of our members in January 2019...BOEM must also work with USCG to resolve inconsistent positions regarding the MA/RI Port Access Route Study (MARIPARS)... We maintain that this proposed spacing will make fishing operations and transiting much less safe and possibly prohibitive.
N-2-45	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.
N-18-12	The updated COP also proposes a new OECC South Coast Variant route for Phase Two of the project that would potentially connect to the grid somewhere on the southwest coast of Buzzards Bay in Massachusetts, between Westport and Fairhaven. The New England Wind COP does not identify any potential landfall sites for the OECC South Coast Variant route...the COP "must include the following project-specific information": a "location plat," and the location of "[a]ll cables.
N-18-3	New England Wind's revised COP has removed gravity pad bottom-frame foundations for wind turbines from Phase Two of the Project (Commonwealth Wind). Quiet foundations, like gravity pads, represent the best practice in the context of the mitigation hierarchy and should be included as reasonable alternatives for any offshore wind project where they are technically feasible.
N-18-4	BOEM should require New England Wind and all offshore wind developers to be transparent in their decision making process for foundations and other technology selections, including analyzing the feasibility of quiet foundations and sharing with stakeholders their rationales for which turbine foundations are included and excluded from their project design envelope.

Comment ID	Comment Text
N-19-1	The updated COP proposes additional cable routing variants for Phase 2 (Commonwealth Wind) of New England Wind. Because of the potential impacts of these cable variants on migratory marine species, we believe greater investment in research around the proposed cable routes is necessary... We urge you to require or fund greater investment in research around the impacts of the proposed cable variants as a component of the environmental review process for this project's cable variants as well as future export cables routes throughout the region.
N-20-2	Appropriate siting includes the careful review of any possible negative impacts of transmission cables through Buzzards Bay....We look forward to participating in the environmental review of New England Wind, particularly the potential additional cable corridor from the Lease Area OCS-A-0501 to waters through Buzzards Bay and onshore interconnection.
N-4-7	With respect to the "project design envelope" approach to permitting offshore wind projects, we would recommend a modification to that process...we believe that the project developer should bear a burden of proof in deciding to move forward with any design alternative that does not avoid, minimize, and mitigate adverse impacts to natural resources and wildlife to the greatest extent possible. That is, if an design alternative within the "design envelope" that is not most protective of natural resources is ultimately chosen for adoption, then BOEM and other permitting agencies should be permitted to evaluate whether the applicant has met a burden of proof that a more environmentally protective design alternative with the "design envelope" is not feasible prior to giving final approval for construction activities.
N-4-8	There are a range of possible foundation types that could be utilized for the project. We recommend that the alternatives analysis include consideration of a broader scope of potential turbine foundations for the project, including but not limited to consideration of the additional foundation options presented for Phase 2 within evaluation of the Phase 1 project. We recognize that any choice between foundation types involves trade-offs among different impacts and that specific conditions at the OSW site may favor certain types of foundations. However, the final determination of foundation type should not be predicated upon consideration of convenience but, rather, upon ensuring the least adverse impact to marine fauna and site ecology. While we are not prejudging the appropriate foundation type, with respect to the applicant's proposal for Phase 1 (monopile or jacket foundation) it appears as though jacket foundations pose fewer adverse environmental impacts if the choice were between just those two.
N-8-19	In the years since the leasing process was completed for the MA/RI Wind Energy Area (WEA) NARWs have shifted their aggregation and feeding areas. Because of this shift the region south of Nantucket and Martha's Vineyard is now considered a year-round "core habitat" for foraging North Atlantic right whales where up to 100 NARWs have been seen during aerial surveys in recent years....the agencies must seriously consider a No Action alternative that avoids all effects of offshore wind development in this area. As with all leases, it is important to note that the lease for this project included no guarantee that development will be permitted. The importance of the area south of the islands to NARWs should require strong consideration of whether these areas are appropriate for future offshore wind development.
N-8-21	The EIS should explore [EFH and HAPC] areas in and around the project site and include alternatives to avoid these areas, particularly HAPCs. If the areas cannot be avoided, alternatives should be developed to minimize the frequency, intensity and duration of the effects with clear requirements to monitor these effects.
N-9-7	The EIS must identify a wide range of reasonable alternatives for every component/phase of [Vineyard Wind South] development before identifying the most environmentally preferable alternative which has the least impact on marine and coastal ecosystems. Those alternatives must include project modifications as well as emerging technologies and methodologies. Given the multidecadal lifespan of the OSW projects with continued impacts from their operation and maintenance activities, permanent non-mitigatable changes to marine ecosystems must be avoided or reduced by adopting the least impacting alternative at every stage in responsible OSW development.

Comment ID	Comment Text
N-9-97	We offer the following general recommendations for OSW sector-wide consideration: • Address the issue of proposed/confirmed offtake/power purchase agreements prior to permitting decisions on the proposed OSW projects as such agreements could result in inflexibility on the part of the developer in the consideration of least-impactful alternatives, and other requirements, and could also influence the permitting agencies into accepting the proposed project as-is or no project as the only two alternatives available.
N-9-107	The EIS must evaluate all reasonable alternatives to current COP activities and adopt that alternative which has the least/minimal impact to EFH. Such a Fisheries Habitat Minimization Alternative would avoid siting foundations in/routing cables through complex habitats to decrease the overall adverse impacts to EFH and lessen the direct mortality of fish and invertebrates.

BATS

Comment ID	Comment Text
S-1-1	Of concern is the potential for significant negative impacts to migratory bat populations from collision with the operation of wind turbines. There has been data gathered about the spacing to allow bats to avoid collisions by flying around structures, but DEEP's concern is that there is not enough data that supports that bats exhibit an "avoidance" behavior. DEEP recommends requiring monitoring through cooperation with non-profit organizations and federal agencies during migration.
S-1-5	A study that BOEM coordinated in Martha's Vineyard dated June 2017 monitored a small number of bats due to low capture rates and was inconclusive. Four to five bats were monitored during a week in July and a month in October (one bat) and did not utilize offshore movements. This sample size is not indicative of the bat population. Offshore movement was detected by the small number (three) little brown bats and eastern red bats. The study states that further study is warranted during late summer and early fall when little brown bats depart the island. DEEP would like BOEM to consider that there is insufficient information available to fully address risk to migratory bats. Additional post construction studies of bat migration and behavior will be critical to understanding of collision risk for these species. DEEP recommends requiring monitoring through cooperation with non-profit organizations and federal agencies during migration.
N-2-272	BOEM should be conservative in its impact analysis, as bats are likely present in the Vineyard Wind South Project Area and a lack of available information on impacts to bats from offshore wind does not indicate impacts are unlikely.
N-2-273	Further, BOEM should not base its risk assessment for bats on low acoustic activity offshore because, at land-based wind facilities, preconstruction bat activity surveys are a poor predictor of post-construction fatalities and low levels of bat calls do not always indicate that bats are not present.
N-2-274	The Draft EIS must address both the project-specific impacts [on bats] and population-level, cumulative from Vineyard Wind South, other offshore wind developments expected in the Atlantic OCS, and terrestrial development in the reasonably foreseeable future.
N-2-275	Recognizing that much remains unknown regarding the impacts to bats from offshore wind in the United States, BOEM must require an explicitly defined monitoring and adaptive management plan. This plan must include a commitment to standardized monitoring both before construction and during operations and to using improved technology as it is developed to adequately evaluate and, if necessary, mitigate impacts.
N-2-276	Further, BOEM should incorporate best monitoring and management practices into a regional adaptive management plan to adequately measure and mitigate cumulative impacts to bats from offshore wind developments expected across the Atlantic OCS for the reasonably foreseeable future.

Comment ID	Comment Text
N-2-277	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. Assessing bat fatalities based on carcasses found on vessels and structures is unlikely to provide a meaningful estimate of bat fatalities, as carcasses can fall far from the wind turbine, based on carcass size, wind speed, turbine height, and other factors. We recommend BOEM consult with Manuela Huso, Research Statistician at United States Geological Survey Forest and Rangeland Ecosystem Science Center prior to making any inferences about total fatalities based on carcasses recovered from structures.
N-2-278	Although more tracking and acoustic monitoring studies are needed, there is increasing evidence that bats regularly use the offshore environment. BOEM should leverage new information on bat presence offshore, including data submitted to the Motus Wildlife Tracking System, an international network of researchers using coordinated automated radio-telemetry arrays to study small flying organisms' movements, including bats...Motus contains data on bat movements, including along the Atlantic coast, which could inform which species need to be considered in BOEM's analyses. Even though there are currently relatively few tagged bats included in Motus, the existing data indicate potential bat use offshore in and around the Vineyard Wind South Project Area
N-2-279	The COP does not include the federally endangered Indiana bat (<i>Myotis sodalis</i>) in its analysis, stating that Indiana bats have not been recorded in Massachusetts since 1939. However, in 2015, a tagged Indiana bat was detected on Cape Cod and Nantucket3 (Figure 2). Given the proximity of this detection to Vineyard Wind South and the cross-water movements made by the tagged bat (between Cape Cod and Nantucket and potentially over water on its path between Indiana and Cape Cod), the COP should be revised to cover impacts to Indiana bats and BOEM should consult with USFWS about potential impacts to Indiana bats and these impacts should be analyzed in the Draft EIS.
N-2-280	Additionally, Indiana bat calls can be difficult to distinguish from those of certain other <i>Myotis</i> species, and <i>Myotis</i> calls may be classified as "high frequency, unknown species" during acoustic surveys. Should Vineyard Wind South conduct acoustic surveys for bats, it would inappropriate to dismiss the possibility of Indiana bat presence based on acoustic data alone, if <i>Myotis</i> or high frequency, unknown species calls are detected.
N-2-281	The Vineyard Wind South COP indicates that cave-hibernating <i>Myotis</i> bats are not expected to be present in the Project Area and therefore risk to these bats from project operations is low. The COP makes this determination based on two inaccurate claims, that (1) in the Mid-Atlantic, <i>Myotis</i> bat species have never been detected further than 11.5 km offshore, and (2) cave-hibernating bats are rare in the offshore environment. Peterson et al. (2016) detected <i>Myotis</i> calls at several Mid-Atlantic sites further offshore than 11.5 km...Furthermore, bat calls classified as high frequency, unknown species were detected as far as 130 km offshore...Furthermore, cave-hibernating bats may be found offshore more frequently than the COP's assessment implies. 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-Atlantic, and Great Lakes. Motus data also indicate that Indiana bats, little brown bats (<i>M. lucifugus</i>), and eastern small-footed bats (<i>M. leibii</i>)—all cave-hibernating bat species—have made cross-water flights near Cape Cod...
N-2-282	Although Vineyard Wind South's COP claims that "[n]orthern long-eared bats are not expected to be exposed to the SWDA" and that "the exposure of northern long-eared bats is expected to be insignificant," these claims are not justified given the presence of northern long-eared bats detected nearby in the offshore environment. BOEM should consult with USFWS about potential impacts to northern long-eared bats from the offshore components of Vineyard Wind South and the Draft EIS should assess potential impacts from the offshore components of the Project on northern long-eared bats and other cave-hibernating bats.
N-2-283	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.

Comment ID	Comment Text
N-2-284	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.
N-2-285	Limited research does support that 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 COP that only small numbers are anticipated to occur in Vineyard Wind South's airspace.
N-2-286	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.
N-2-287	When preparing the Draft EIS, BOEM should account for bats' potential attraction to, and increased risk of collision with, offshore wind turbines and should not rely on bat avoidance to minimize impacts.
N-2-288	When analyzing impacts to bats, BOEM should not assume that fewer, larger turbines reduce risk to bats. 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 fewer, larger turbines could be detrimental to bats. 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 fewer, larger turbines would have decreased impacts on bats. Therefore the draft 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.
N-2-289	For the reasons discussed above, the COP does not accurately reflect the risk to bats offshore and the best available science does not support the COP's conclusion that the "location of the Vineyard Wind South WTGs far offshore avoids exposure of bats" and that overall exposure of bats is "expected to be insignificant to unlikely." Cave-hibernating bats are found more often and further offshore than described, seasonal exposure to WTGs does not preclude serious impacts, and bats may be attracted to offshore wind facilities, thereby increasing the likelihood of collisions.
N-2-290	Vineyard Wind South must commit to robust measures to determine actual risk and, if necessary, mitigate impacts to bats.
N-2-291	Because of these existing stresses on bat species, accurately accounting for how offshore wind could affect their populations is critical. When conducting the cumulative impacts analysis for the Draft EIS, BOEM must include (i) the best available science (such as Motus data), (ii) that cave-hibernating bats are likely more common offshore than the COP represents, (iii) that seasonal use of the offshore environment by migratory bats does not imply low exposure and low impact, (iv) bats are likely attracted to wind turbines, and that (v) larger turbines may kill more bats than smaller turbines.
N-2-292	In previous NEPA analyses, the Geographic Analysis Area for cumulative impacts to bats was defined as 100 mi offshore and 5 mi inland...many species of bats—both long-distance migrants like migratory tree bats but also cave-hibernating bats—are capable of flights in excess of 100 km, indicating that bats found offshore in wind development areas could also be found significant distances inland. Hoary bats, which are capable of long-distance flights over water, have been recorded traveling distances over 1,000 km and are thought capable of migrations in excess of 2,000 km. Research from Canada found that 20% of little brown bat movements exceeded 500 km, which is further supported by data from tracked little brown bats, which shows individuals using both coastal areas and making long-distance flights to locations significantly further inland than 5 mi. 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 in previous NEPA analyses 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 a geographic scope of 100 mi inland was more appropriate.

Comment ID	Comment Text
N-2-293	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 potential habitat use of exposed bats for use in the Vineyard Wind South Draft EIS (and other NEPA analyses). This revised boundary will likely require the cumulative impacts analysis to reflect that bats exposed to offshore wind projects are potentially exposed to multiple offshore wind facilities and land-based wind energy projects.
N-2-294	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 22 GW buildout scenario used in the Vineyard Wind 1 and South Fork NEPA analyses. Because of this knowledge gap, it is imperative that BOEM require offshore wind facilities to commit to pre- and post-construction monitoring and to integrate novel technology for monitoring as it becomes available. <u>Monitoring data must be made readily and promptly available to the public.</u>
N-2-295	While post-construction monitoring should occur at the project-level, BOEM and their partner agencies should support coordinated and regional surveys of bat use of the OCS and WEAs. Should further monitoring and research efforts reveal that impacts to bats are nonnegligible, BOEM and other agencies should support the development and deployment of minimization strategies and deterrent technologies.
N-2-296	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). ? Require acoustic detectors to be placed at nacelle height on a subset of turbines constructed along the Atlantic OCS and require that the data collected be made publicly available. ? Support research to determine whether it is possible to improve acoustic monitoring to enable better species identifications, such as being able to differentiate calls between the ESA-listed northern long-eared bat and other Myotis species. ? 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). ? Support deploying Motus towers and/or other nanotag receiving towers in the coastal and offshore environment, including on structures in WEAs. ? Support efforts to tag additional individual bats with nanotag transmitters and GPS tags.? Support the development of bat monitoring technology for offshore WTGs, such as strike detection technology and thermal video. ? Support research on and testing of bat deterrent devices for offshore WTGs, such as ultraviolet lighting or ultrasonic noise emitters. ? Require offshore wind projects to support testing and deployment of best available monitoring and deterrent technologies, once developed. ? Require offshore wind projects to promptly report and make publicly available all monitoring and testing data.
N-2-297	The Draft EIS for Vineyard Wind South should specifically require the adoption of monitoring technologies when they are verified and commercially available as part of the Project's monitoring framework and protocol. BOEM should further support and encourage their development and testing at Vineyard Wind South. The shared cost of development, testing, and implementation of these technologies across all lessees and with BOEM, if standardized, would avoid an undue economic burden on individual projects.
N-2-298	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 the Project Area which will be necessary for effective mitigation. However, bat activity in the Project Area prior to turbine installation 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. ⁴²⁸ Because of this, the commitment to post-construction monitoring is critical to yielding a 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 WEA, and requiring installation of acoustic detectors, preferably at nacelle height.

Comment ID	Comment Text
N-2-299	Data on 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 could 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.
N-2-300	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.
N-9-53	A comprehensive survey of bats offshore and along the coasts of the Gulf of Maine, mid-Atlantic, and the Great Lakes detected bats up to 70 nm from the mainland, although their activity generally declined with increased distance from shore. However, there is very little data available on the interaction of bats with offshore wind energy turbines....As discussed below, there is increasing evidence that various bat species do regularly use the offshore environment and thus the potential of their collisions with VWS WTGs, and ESPs (visible and lighted structures) resulting in habitat avoidance, displacement, potential injury, or mortality. In its EIS, BOEM must evaluate all potential impacts to bats including cumulative impacts from other regional OSW and non-OSW offshore and coastal activities, adopt a precautionary approach where the data is inadequate or absent, consider alternatives to all aspects of the VWS COP, and develop wildlife impact avoidance and mitigation strategies at the outset in consultation with USFWS and other relevant agencies.
N-9-54	Nine species of native bats have presence in Massachusetts. Of the six cave-dwelling resident bats [little brown bat (<i>Myotis lucifugus</i>), northern long-eared bat (<i>M. septentrionalis</i>), eastern small-footed bat (<i>M. leibii</i>), Indiana bat (<i>M. sodalis</i>), tricolored bat (<i>Perimyotis subflavus</i>), and the big brown bat (<i>Eptesicus fuscus</i>)], the Indiana bat is listed as Endangered and the northern long-eared bat is a Threatened species under the ESA. All except the big brown bat are listed as Endangered under MA law. The USFWS is currently conducting a court-ordered review to determine, by November 2022, if the northern long-eared bat warrants uplisting to Endangered status under the ESA. The listing statuses of the little brown and tricolored bats are also being reviewed by the USFWS. The three migratory tree roosting bat species include the silver-haired bat (<i>Lasiurus noctivagans</i>), eastern red bat (<i>Lasiurus borealis</i>), and the hoary bat (<i>Lasiurus cinereus</i>).
N-9-55	Motus data indicate tree-roosting as well as cave-dwelling bat species making cross-water flights near Cape Cod, e.g. eastern red bats, hoary bats, and eastern small-footed bats. The northern long-eared bat has been tracked making long distance flights over open water in, and documented roosting and hibernating on offshore islands of the Gulf of Maine. The northern long-eared bats have also shown to be present on both Martha's Vineyard and Nantucket confirming that they do cross open water. In 2015 a tagged Indiana bat (<i>Myotis sodalis</i>) was detected on Cape Cod and Nantucket ¹⁴² and a recent survey showed offshore movements of little brown bats between Martha's Vineyard and Cape Cod. Acoustic survey efforts identified <i>Myotis</i> calls at 63% of all surveyed coastal and offshore sites (in Gulf of Maine, mid-Atlantic, Great Lakes) and confirmed their presence at 89% of the sites. Eastern red bats appear to be the most widespread and active off the Atlantic Coast, accounting for 40% of all detected bat activity offshore in a 2016 survey. Hoary bats and silver-haired bats had less total activity offshore but were still widespread, found at 95% and 89% of all sites, respectively. In view of the confirmed observations of various bat species using the offshore environment, it is extremely likely that some if not all could be present in the SWDA at various times, either foraging, roosting, or in transit during seasonal migrations.

Comment ID	Comment Text
N-9-56	Both tree-roosting and cave-dwelling bats populations have high mortality from collisions with terrestrial WTGs, and most, if not all, of the 9 bat species found in MA have been tracked crossing open waters of the northeast Atlantic. The EIS must consider impacts to all bat species with a presence in this region. The EIS must include the Endangered Indiana bat because it has been shown to be present in the region and tracked crossing the coastal waters.
N-9-57	NYSERDA's Birds and Bats Study describes several mitigation measures which could be used singly or combined and used in tandem to effectively avoid or minimize potential OSW impacts to the only flying mammals remaining on the planet. The following recommendations must be included in the EIS to avoid, minimize, and mitigation adverse impacts to bats at all steps of VWS project including pre-, during, and post-construction operations, maintenance, and decommissioning phases:• employ real-time detection, supplementary field surveys, continued monitoring using best available scientific methods such as Motus Wildlife Tracking System to collect pre-construction baseline data on the presence and activity levels of specific bat species in SWDA, to fill in data gaps, and to assess impacts to bats during VWS construction, operations, maintenance, and decommissioning phases. Monitoring reports must be made publicly available in real time.
N-9-58	The following recommendations must be included in the EIS... evaluate bat deterrent technologies being developed for land-based turbines for deployment or modified for use in the offshore environment to minimize bat impacts: turbine coatings to counteract any attraction to smooth surfaces which might be perceived as water ultraviolet lighting which many bat species can see ultrasonic noise emitters to effectively "jam" bats' radars and make WTGs unappealing to bats acoustic monitoring at the height of turbine nacelles targeted tagging thermal imaging technology to detect collisions
N-9-59	The following recommendations must be included in the EIS...• consult with the USFWS on VWS project impacts to listed/potentially listed bat species in developing and implementing protocols to avoid, minimize, and mitigate such impacts.
N-9-102	explore targeted or smart operational curtailment (e.g. via feathering of turbine blades, which at high risk periods, has been shown to reduce bat fatalities by >90% at land-based WTGs) to minimize bat collisions with offshore WTGs).
N-9-103	evaluate seasonal increase of turbine cut-in speed (shown to reduce overall bat fatalities by 36% including those of eastern red bats but not of hoary or silver-haired bats at land-based WTGs during warm, slow wind speed nights during seasonal migration when bat activity is highest to reduce fatal collisions
N-9-122	The following recommendations must be included in the EIS... support and invest in scientific and technological research to: develop methods and technologies for monitoring, risk assessment, direct detection of collisions specifically in the offshore environment so that OSW-related bat mortalities could be accurately quantified since traditional fatality assessment (i.e. relying on carcasses around WTGs) is not feasible at offshore sites. continually evaluate mitigation strategies being developed for land-based wind energy projects for their potential application to OSWs. Bat mortality has been shown to increase with the tower height of land-based WTGs, suggesting that fewer, larger turbines deployed in OSWs may be detrimental to bats. improve acoustic monitoring to distinguish between calls of different species.

BENTHIC HABITAT

Comment ID	Comment Text
F-1-29	EPA recommends that the Draft EIS describe cable installation options that can minimize the overall amount of disturbance of complex habitats, where possible. The Draft EIS should contain sufficient biological and geologic information to allow for a comparison of the impacts associated with various cable routing options and construction techniques considered so that it is clear why a particular layout is preferred over another.
F-1-30	Portions of the lease area may serve as high value habitat for a variety of commercially important species, especially Atlantic cod. The Draft EIS should provide the best and most currently available information regarding benthic habitats and their potential use by cod spawning aggregations within the lease area. This information should then be used to help characterize the impacts of the alternatives in the Draft EIS.
F-1-64	Avoidance and mitigation for potential project impacts (from monopiles and both the inter-array and export cables) to complex bottom habitat and spawning areas should be discussed.
F-2-27	Potential effects of offshore wind energy development on listed species that should be considered by BOEM when making any determinations about construction and operation in the Vineyard Wind South project area include: Disruption of benthic habitats during construction and conversion of habitat types that may affect the use of the area, alter prey assemblages or result in the displacement of individuals;
F-2-35	The ecological impacts resulting from the loss of seabed and the associated benthic communities and forage base should be evaluated. This should include a discussion of the ecological and economic impacts associated with habitat conversion from WTG installation, offshore substations, cable installation, and scour protection. This analysis should also include site-specific benthic data collection and an evaluation of impacts of the project on different habitat types and fisheries resources that rely on them.
F-2-39	The EIS should discuss biological impacts to marine species caused by the temporary or permanent loss/conversion of bottom habitat (i.e., resource distribution, productivity, or abundance changes)
F-2-69	The EIS should discuss impacts to sensitive life stages that may be more vulnerable to impacts. For example, both winter flounder and longfin squid (two species with designated EFH in the project area) have demersal eggs that are particularly vulnerable to sedimentation and burial. Sessile shellfish species may also be more vulnerable to project impacts. Potential impacts of the project on vulnerable life stages, including potential impacts to recruitment, should be discussed in detail and specific measures for avoiding and minimizing impacts should be identified in the document
F-2-71	impacts to complex habitats, such as those found in Muskeget Channel, are known to result in long recovery times and are potentially permanent. Impacts to complex habitats may result in cascading long term to permanent effects to species that rely on this area for spawning and nursery grounds and the fisheries and communities that target such species. The evaluation of impacts from project construction and operation should evaluate the potential for recovery and the anticipated recovery times based on the habitat type and components that would be impacted.
F-2-72	The analysis should fully consider the potential impacts of proposed phased cable-laying and protection activities through Muskeget Channel and their implications for the recovery of affected physical and biological habitat attributes. For example, phased cable-laying could affect critical nursery habitat used by some species over the course of several years that, depending on timing, could result in impacts affecting multiple year classes of certain fish species such as squid and cod.
F-2-73	For areas where target cable burial is not achievable and cable protection is required, the effects of the proposed cable protection methods and materials on habitat structure and function should be fully evaluated.
F-2-106	For more vulnerable and difficult-to-replace resources such as natural hard bottom complex substrates (particularly those with macroalgae and/or epifauna), submerged aquatic vegetation (SAV), dense faunal beds (e.g., cerianthid beds), shellfish habitat and reefs, other biogenic reefs, and prominent benthic features...compensatory mitigation should be provided for unavoidable adverse effects. Inherent to this is the necessity to conduct high-resolution benthic habitat mapping...in the lease area and...potential cable corridor areas

Comment ID	Comment Text
S-6-2	New England Wind should provide updated information that includes the areal extent of sedimentation expected (e.g., Volume III Appendix A) given the tools used to lay and bury the cables, the local sediments, and the expected ambient oceanographic conditions during the time of cable laying.
S-6-3	New England Wind should also coordinate with state and federal agencies to design a [benthic] monitoring plan that can be used to verify the actual impacts associated with cable laying.
S-7-6	If the two export cable corridors proposed by New England Wind (Phase 2 South Coast Variant) and Mayflower Wind (Brayton Point) were required by BOEM to be consolidated, it would reduce the likely impacts from cable installation to Atlantic Cod EFH and HAPC by minimizing the extent of habitat disruption through temporary and permanent alterations. In addition, a combined cable corridor within Federal waters would minimize potential impacts to CRMC identified APC (glacial moraine areas)...In the event that BOEM can justify the necessity of the South Coast Variant OECC within its EIS analysis, the CRMC requests BOEM to require co-location of the New England Wind (South Coast Variant) and Mayflower Wind (Brayton Point) OECCs as part of any COP approval to minimize habitat alterations.
S-7-8	The South Coast Variant OECC traverses through two distinct areas of glacial moraine identified within the CRMC Ocean Special Area Management Plan (Ocean SAMP) as Areas of Particular Concern (APC). Pursuant to the CRMC's enforceable policies in the Ocean SAMP, all offshore development, including submerged cables, are presumptively excluded from APC. See Ocean SAMP § 11.10.2(B).
S-7-14	...the exclusion of the South Coast Variant OECC by BOEM would avoid potential adverse impacts to glacial moraine and essential fish habitat as noted herein, and meet the CRMC's enforceable policies at Ocean SAMP § 11.10.2(B), because all of the Applicant's export cables would be routed through a single OECC through Muskeget Channel to the Applicant's preferred cable landfall in Barnstable, MA.
B-1-16	The EIS should clearly document the fraction of the cables where armoring is likely to be required and identify where these areas are located. The New England Council's submarine cables policy recommends that when cable burial is not possible, cables should be protected with materials that mimic natural, nearby habitats where possible. It would be helpful to identify the characteristics of any cable protection materials, should burial depths of 4-6 feet not be achieved, because these materials contribute to the net amount of complex habitat that would exist in the area once the project is constructed.
B-1-18	We are concerned about the ability to widen the cable corridor where it runs through Muskeget Channel without impacting complex habitat. The EFH assessment indicates that "several locations within Muskeget Channel contained coarse deposits and hard bottom habitats consisting of pebble-cobble habitat with sulfur sponge (<i>Cliona celata</i>) communities."
B-1-21	In the context of both cable and turbine installation, any place where the bottom sediments will be disturbed must be evaluated for sediment contamination to understand the potential for environmental effects associated with contaminant release. Two obvious sources of contamination are dredged spoils from inshore, nearshore, or harbor maintenance and disposal of onshore materials (including waste). For many years, such disposal was not evaluated carefully and not regulated as it is today. As a result, sediments and other material with unacceptable levels of heavy metals and persistent organic pollutants (POPS) were disposed in ocean waters and may remain in locations where they could be disturbed. These sources of contamination need to be assessed and managed as part of the offshore wind development process.
N-2-61	The Draft EIS should also contain a quantification of complex and non-complex habitats; examine additional alternatives to conserve marine habitats and resources and avoid, mitigate, and minimize impacts to complex habitats; and include additional mitigation and monitoring requirements for the Vineyard Wind South project.
N-2-64	Given the importance of complex habitats to many species' reproduction and survival, in the Draft EIS, BOEM must adequately assess the impacts to complex habitats from the project and, as part of its analysis, account for the demonstrated lack of recovery for complex habitats from offshore wind projects.

Comment ID	Comment Text
N-2-65	While the observed substrates in the SWDA are low in physical complexity, the offshore export cable corridor (OECC) contains a number of areas with physically complex substrates. In particular, the surveys identified several areas in the Muskeget Channel portion of the OECC containing more complex habitats where pebble and cobble substrate are the predominant substrates. The Vineyard Wind South COP notes that the cobble and pebble substrates in the Muskeget Channel area of the OECC correspond to the "most productive habitats" of the OECC, "with the highest number of invertebrate species and observations of fish." In several instances, the surveys observed secondary habitats of "partially buried or dispersed boulders" in Muskeget Channel. In fact, in parts of the Muskeget Channel area, hard bottom areas cover the full width of the proposed OECC.
N-2-66	Atlantic cod EFH is designated in the SWDA and OECC for egg, larvae, juvenile, and adult stages. Additionally, part of the Vineyard Wind South OECC crosses HAPC for juvenile Atlantic cod in Massachusetts state waters. The juvenile cod HAPC is a subset of the area designated as juvenile cod EFH, and is defined as the inshore areas of Southern New England between 0 to 66 feet deep relative to mean high water. This HAPC contains structurally complex hard bottom habitats that provide juvenile cod with protection from predators and supports juvenile cod prey. Given the predominance of complex, hard bottom substrate in Muskeget Channel, this area signifies an important subarea of HAPC for juvenile cod. The Draft EIS must adequately evaluate impacts to Atlantic cod EFH and HAPC, including the area of Muskeget Channel, and BOEM should require Vineyard Wind to undertake measures to avoid, minimize, and mitigate impacts to these important habitats.
N-2-69	Where cable routes intersect with hard bottom habitats, impacts can be long-term and/or permanent. Therefore, when installing the OECC, Vineyard Wind South should employ micro-routing to avoid complex, hard bottom habitat.
N-2-70	Vineyard Wind claims that it will be impossible to avoid all hard bottom areas in Muskeget Channel, especially in the areas where hard bottom extends across the entire corridor. However, only to the extent that Vineyard Wind demonstrates that there is no "practicable alternative" to siting the OECC in complex, hard bottom areas; that it will take "all practicable measures to avoid damage" to these resources; and that the public benefits associated with the proposed activity outweigh the public detriments to the SSU resources, may Vineyard Wind route cables in such areas.
N-2-71	In instances where Vineyard Wind demonstrates that there is no alternative to routing the OECC across hard bottom areas, Vineyard Wind South should minimize the length of hard bottom habitat traversed to reduce impacts.
N-2-72	As part of the Draft EIS, BOEM should assess impacts to complex habitats from the OECC placement and whether alternate routes or seasonal restrictions on cable installation would minimize or mitigate impacts to complex habitats.
N-2-73	BOEM may only authorize the Vineyard Wind South project if Massachusetts makes a determination that the placement of the OECC is consistent with the MA Ocean Plan, including its provisions relating to SSU resources and "complex/hard seafloor."
N-2-74	The Draft EIS should sufficiently analyze the impacts from the subsea cables installed in the OECC and inter array cable. Installation of subsea cables can result in mortality, injury, or displacement of benthic fauna in the path of construction.
N-2-77	The Draft EIS should...assess whether the impacts from entrainment during cable burial could be reduced or avoided by requiring cable burial during certain seasons. For example, with the Vineyard Wind 1 offshore wind project, Vineyard Wind committed to conducting burial activities in Nantucket Sound outside of the spring and summer spawning seasons for a number of benthic invertebrates and fish that lay demersal eggs, including commercially important species. Here, the Draft EIS should analyze whether similar seasonal restrictions could avoid or mitigate entrainment impacts to invertebrates and fish.

Comment ID	Comment Text
N-2-86	In addition to the mitigation measures already identified in COP, we encourage BOEM to require Vineyard Wind South to undertake additional actions including but not limited to (1) conducting site-specific benthic habitat assessments and Atlantic cod spawning surveys to inform siting of WTGs and the subsea cable; (2) time of year restrictions on cable installation to avoid disruption of fish spawning activities; and (3) requiring post-construction monitoring to document habitat disturbance and recovery and require that Vineyard Wind consult with NMFS and BOEM before conducting monitoring to address agency comments prior to implementation.
N-3-3	During scoping, evaluate how the project may impact structurally complex hard bottom habitats in the project area, especially boulder fields, ledges, spawning and foraging habitat for cod and lobster, the presence of corals, essential fish habitat, and other important ecological resources. In general the applicant should avoid these structurally complex habitats to the maximum extent feasible and to configure the array in a way that minimizes impacts to these habitats.
N-9-18	Temporary seafloor disturbance and sediment suspension/deposition, and permanent conversion of existing soft-bottom habitat to hard substrate habitat will result from foundation installations, scour protection, and protection of cables. The COP expects recolonization and recovery of affected benthic communities in disturbed areas to pre-construction native species diversity and assemblages within 2 - 4 years, "with sandy areas such as the SWDA and much of the OECC (Offshore Export Cable Corridor) recovering more quickly (within 100 days of disturbance)". But the COP also states that SWDA and OECC have hard bottom, soft bottom, and complex seafloor habitats and that the disturbance to any of them cannot be completely avoided. Hard bottom complex habitats take longer to recover from offshore wind energy project construction compared to non-complex habitats. A study of the Block Island Wind Farm showed zero percent of complex habitat areas recovery to preconstruction baseline conditions in two years after the wind farm had been in operation.
N-9-19	The EIS must provide a comprehensive assessment, based on current scientific data, of impacts to EFH and benthic resources from the construction, operation, maintenance, and decommissioning of VWS project. Without a comprehensive evaluation of the types of habitat present and the cumulative impacts to those habitats, the VWS impacts assessment in the COP is incomplete and potentially inaccurate.
N-9-104	Robust strategies must be developed and required in the EIS to mitigate temporary acoustic disturbances and water quality issues as well as permanent alterations to the seafloor and transformation of benthic ecosystems that will inevitably result from [Vineyard Wind South] project development.
N-18-11	The COP also does not currently contain benthic survey data for the OECC South Coast Variant route, such as site-specific benthic grabs and seafloor imagery captured by Sediment Profile and Plan View Imaging (SPI/PV) surveys. Under BOEM's regulations, the COP must include "[t]he results of the biological survey with supporting data" including a "description of the results of biological surveys used to determine the presence of live bottoms, hard bottoms, and topographic features, and surveys of other marine resources." The regulations also require the COP to describe sensitive biological resources or habitats that could be affected by the proposed offshore wind development, including "hard bottom habitat."
N-18-14	...the lack of benthic survey data and information on potential cable landing sites for the OECC South Coast Variant route makes it impossible to evaluate the impacts of this route
N-18-8	In instances where New England Wind demonstrates that there is no alternative to routing the OECC across hard bottom areas, New England Wind should minimize the length of hard bottom habitat traversed to reduce impacts.
N-18-9	As part of the Draft EIS, BOEM should assess impacts to complex habitats from the OECC Western Muskeget Variant placement and whether alternate routes or seasonal restrictions on cable installation would avoid, minimize, or mitigate impacts to complex habitats.

BIRDS

Comment ID	Comment Text
S-1-2	DEEP reviewed studies prepared under agreements by BOEM regarding bird migration and potential strikes and the utilization of the Block Island Wind Farm to assess collision risk. There has not been enough data to conclude that there is no significant impact to migratory birds because of the difficulty in analyzing potential impacts or predicting individuals exposed at the microscale (flying within the Rotor Swept Zone). Recommendations are to continue to work on the technology that can assess the location and movement of birds offshore and utilize compensatory mitigation. During construction activities, receiving stations (for radiotelemetry studies), or the installation of antennas or other study platforms could be designed and permanently built to allow specific studies to take place at this offshore location.
S-6-7	New England Wind should use the avian exposure and vulnerability analysis in Volume III Appendix C to prepare a focused avian monitoring and mitigation plan in the EIS. While the analysis estimates the number of various Atlantic seabirds that might have negative interactions with the proposed New England Wind project, there is currently a dearth of information on specific migratory pathways.
S-6-8	The EIS should describe future monitoring and opportunities to collaborate with other Page 3 offshore wind developers that will help fill this data gap. CZM suggests that New England Wind consult the Atlantic Marine Bird Cooperative's "Recommendations on BOEM Avian Survey Guidelines" as it prepares its long-term avian monitoring plan.
S-6-9	[T]he EIS should describe specific mitigation strategies for avoiding or minimizing impacts to avifauna including, but not limited to: bird-deterrent devices, a Piping Plover protection plan for landside construction activities including monitoring and training of construction personnel, Aircraft Detection Lighting Systems on the wind turbine generators, bird mortality monitoring, and coordination with the U.S. Fish and Wildlife Service (USFWS) and the Massachusetts Natural Heritage and Endangered Species Program (NHESP) to support migration monitoring via Motus wildlife tracking tags and installation of telemetry receiving stations. New England Wind should coordinate with Massachusetts agencies on mitigation opportunities for avifauna impacts, including identifying opportunities to support conservation and habitat restoration or enhancement for protected avian species.
N-2-164	The Draft EIS must address population-level, cumulative impacts to avian populations from developing Vineyard Wind South and other areas in the Atlantic outer continental shelf (OCS) expected to be developed in the reasonably foreseeable future.
N-2-165	BOEM must consider impacts to a broader range of avian species which may be impacted by Vineyard Wind South, and not limit its evaluation to federally-listed species.
N-2-166	Recognizing that much remains unknown regarding the impacts of offshore wind to avian species in the United States, Vineyard Wind South's Draft EIS must require an explicitly defined monitoring and adaptive management plan. Monitoring and adaptive management plans must include sufficient standardized monitoring before, during, and after construction.
N-2-167	Most importantly, the adaptive management plan [for birds] must explicitly outline a strategy to employ adequate mitigation measures, based on the impacts observed through monitoring efforts. In this manner, the Draft EIS can account for the reasonably foreseeable impacts of developing this and future projects and a commitment to addressing those impacts.
N-2-168	Further, BOEM should call for incorporation of best monitoring and management practices into a regional adaptive management plan to adequately measure and mitigate cumulative impacts to birds from offshore wind developments expected across the Atlantic OCS for the reasonably foreseeable future.

Comment ID	Comment Text
N-2-169	BOEM must ensure that the Draft EIS retains consideration of the full range of potential impacts on all bird species known to forage or rest in or near Vineyard Wind South, 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 U.S. Shorebird Conservation Plan, the Memorandum of Understanding (MOU) between the Department of the Interior U.S. Minerals Management Service and the Department of the Interior U.S. Fish and Wildlife Service (USFWS) regarding implementation of EO 13186, the United Nations Convention on the Conservation of Migratory Species of Wild Animals (CMS), and BOEM, Department of Interior (DOI), USFWS, and NOAA membership in the IUCN, hereinafter collectively referred to as the "conservation obligations."
N-2-171	Recognizing incidental take as prohibited, and producing a Draft EIS consistent with this interpretation of the MBTA, is vital to maintain regulatory certainty and to create consistent expectations for developers and other stakeholders. 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 Draft EIS.
N-2-172	In addition to ESA-listed species (i.e. rufa Red Knot, Piping Plover, and Roseate Tern), at a minimum, the Draft EIS should include analyses of the following priority species, which are likely to use the Project array, to fulfill BOEM's conservation obligations: • Least Tern, Gull-billed Tern, Black Skimmer, Band-rumped Storm Petrel, Fea's Petrel, Cory's Shearwater, Manx Shearwater, and Audubon's Shearwater are all marine birds occurring in the Atlantic OCS listed as USFWS Birds of Conservation Concern under the Fish & Wildlife Conservation Act, 1988 amendment. ²⁹⁶ • American Golden-plover, Bicknell's Thrush, Bobolink, Buff-breasted Sandpiper, Pectoral Sandpiper, Chimney Swift, Connecticut Warbler, Semipalmated Sandpiper, Solitary Sandpiper, Upland Sandpiper, and Whimbrel are all trans-Atlantic migrating birds and USFWS Birds of Conservation Concern ²⁹⁷ with documented migratory paths through the Atlantic OCS, ²⁹⁸ and should therefore be prioritized for studies concerning risks to nocturnal migrants. • Black-legged Kittiwake, Horned Grebe, Leach's Storm-petrel, Long-tailed Duck, Atlantic Puffin, and Chimney Swift are classified by IUCN as Vulnerable. • Black Scoter, Common Eider, Semipalmated Sandpiper, Blackpoll warbler, Razorbill, and Sooty Shearwater are classified by IUCN as Near Threatened. • Red Knot, Semipalmated Sandpiper, and Buff-breasted Sandpiper are classified by the CMS as Endangered.
N-2-173	Further, the following trans-Atlantic migrating birds have documented routes through the Atlantic OCS WEAs, and should therefore be prioritized in the Draft EIS for analysis of impacts to nocturnal migrants:• American Golden-Plover • Bicknell's Thrush • Blackpoll Warbler • Bobolink • Buff-breasted Sandpiper • Chimney Swift • Connecticut Warbler • Pectoral Sandpiper • Semipalmated Sandpiper • Solitary Sandpiper • Upland Sandpiper • Whimbrel • White-rumped Sandpiper • Ipswich Sparrow
N-2-174	Many of the species which may migrate through the Vineyard Wind South area are also protected under various state regulations, in addition to the federal ESA and the MBTA. Therefore, the Draft EIS should consider impacts to species protected under Rhode Island, Connecticut, and Massachusetts endangered species laws, as well as the species of greatest conservation need designated under the states' Wildlife Action Plans.
N-2-175	However, the states' endangered species lists do not consider all vulnerable species which occur in federal waters off Rhode Island's coast. Many species that occur in the Vineyard Wind South area are not considered vulnerable by the state, because they do not occur frequently in state jurisdiction, but are protected under other state laws. Razorbill and Atlantic Puffin, for example, are both considered threatened in the state of Maine, and occur regularly within and around the planned Project Area and are predicted to be highly vulnerable to habitat loss from offshore wind. Additionally, recent research suggests that similar species are sensitive to underwater noise and may experience physiological impacts from construction.

Comment ID	Comment Text
N-2-176	Black-legged Kittiwake are additionally highly sensitive to displacement from offshore wind and are documented within and around the Vineyard Wind South footprint, and yet are not adequately assessed within the COP.
N-2-177	BOEM should additionally consider species prioritized for conservation by avian expert partners, including the Atlantic Flyway Shorebird Initiative, Partners in Flight, Atlantic Coast Joint Venture, and the North American Waterbird Plan. Along with ESA-listing and IUCN Redlist status, the species included on these initiative priority lists are of high national and international conservation concern.
N-2-178	The COP does not provide adequate species-specific impact assessments, even for ESA-listed species, Piping Plover, rufa Red Knot, and Roseate Tern. The Draft EIS must not rely on the COP for its evaluation of impacts and must evaluate the cumulative species-specific impacts in a manner that is appropriate for each species' ecology.
N-2-179	In evaluating impacts to vulnerable [avian] species, BOEM must consider local population-level impacts in addition to flyway-wide impacts.
N-2-180	The COP uses the Marine-life Data and Analysis Team (MDAT) results to evaluate the total proportion of avian populations impacted by Vineyard Wind South. This is inappropriate for several reasons. For one, the MDAT projections are rough estimates of relative density in the Atlantic OCS—they are not intended to assess avian habitat use at the project scale and they cannot be interpreted as population proportions. Vineyard Wind's vessel surveys provide a higher resolution picture of relative density, but these are also inappropriate to interpret as population proportions. Limitations of these analyses are provided in the sections below.
N-2-181	BOEM should instead consider the population-level impacts of the project to potentially affected local [bird] populations, based on the best available science.
N-2-182	Radio and satellite telemetry and radar monitoring methods should be employed to evaluate risks to species which are likely to use the Project Area for migration. Many species use Monomoy National Wildlife Refuge, Nantucket, and Muskegat, among other islands along the southern New England coast, during migration. Many nocturnally migrating passerines from across North America convene along New England's southern coast and Cape Cod prior to beginning their southward trans-Atlantic migration in the fall. Beach nesting birds, like Piping Plover, American Oystercatcher, and Roseate Tern, may cut across the Project Area to reach breeding grounds along New England in the spring and on their return flights south. These interactions are fleeting, however, and would not be adequately captured using transect survey methods. Adults and sub-adults may occur in the Project Area in the spring and summer to forage. Therefore, any transect surveys are likely to underestimate the impacts to these populations.
N-2-183	Satellite telemetry technology, supplemented with pressure sensors, should be prioritized for largebodied birds, as this is the best method for gathering fine scale movement data and flight altitude. The COP has included some satellite telemetry raw data for raptors. However, this information is available for other taxa. Radio telemetry is appropriate for smaller bodied birds, including songbirds, but it should be reserved for these species, and the network of receiving stations in the offshore will need to be expanded significantly in order to evaluate the level of interaction between birds and Vineyard Wind South. We expect that the Draft EIS will include an evaluation of all relevant telemetry and radar data available for birds which may enter the Project Area (on and offshore), work with Vineyard Wind developers to expand these monitoring methods to evaluate impacts from the Project, and outline these requirements within the Draft EIS.
N-2-184	Furthermore, radio telemetry data used in the COP do not adequately cover the Project Area or full life cycle of sensitive species that may be impacted. The current array of telemetry receiving stations are not far enough offshore to track avian use of the Project Area.

Comment ID	Comment Text
N-2-185	Additionally, tagged Roseate Terns were limited to breeding individuals. These individuals forage closer to shore, as they are tied to nesting locations. However, in April and May, breeding age terns have returned to New England, but have not yet begun egg laying, and therefore spend a great proportion of time over water and potentially further offshore. Non-breeding subadult individuals will also return to the region and are similarly unencumbered by nests or chicks. BOEM should help fund further telemetry studies that incorporate these other life stages, time periods, and appropriate geographic scope, and incorporate these results in the Draft EIS for this and future project impact evaluations.
N-2-186	We also recommend BOEM require marine radar methods to document trends in avian movements within and around Vineyard Wind South. Despite the high value of telemetry technology to document changes in migratory routes and species distributions, the application of telemetry technology is generally limited in the number of species and sample sizes included. Marine radar can complement telemetry data to better document the quantity and timing of birds flying through the Project Area. This is particularly valuable for understanding impacts to nocturnal migrants.
N-2-187	Given that there are no studies within the United States that document the responses of local avian populations to offshore wind development in United States' waters, BOEM should adopt a conservative approach in the Draft EIS's avian impact analysis. In doing so, BOEM must address the limitations of the survey methods used within the COP to assess avian impacts.
N-2-188	The authors of the Vineyard Wind South COP base their exposure assessment primarily on raw data from Massachusetts Clean Energy Center (MassCEC) aerial surveys (conducted 2011-2015), MDAT projections (data collected 1978-2016), and vessel surveys contracted by Vineyard Wind (October 2018-September 2019).307 Neither MassCEC or MDAT data collection methods provide sufficiently high resolution results to assess changes in distributions of birds as a result of the proposed project, nor is the data from these products recent enough to provide accurate assessments of species present.
N-2-189	Vineyard Wind vessel transects provide a good starting point to assess impacts for some avian species: they cover a significant proportion of the proposed Project Area and have good temporal coverage within the scope of a year. While the Vineyard Wind vessel transects serve as a starting point from which to properly assess impacts, they should be continued with the same effort annually until well after construction and should be expanded to include a 20 km radius around the project footprint in order to adequately assess the full suite of avian species that may be impacted by the project.
N-2-190	Furthermore, these vessel surveys alone cannot provide a full picture of the suite of species that will be impacted by the project, due to inherent biases in vessel survey methods. Personned aerial surveys paired with vessel surveys can inform offshore wind siting that minimizes avian impacts, while also measuring the realized level of impacts when comparing survey results before and after construction.
N-2-191	However, both aerial and vessel surveys have limitations and associated biases. They are most appropriate for larger bodied species that spend a great deal of time during the day within the survey area. Transect surveys are less appropriate for assessing risk to migrants, as the surveys are generally not repeated frequently enough to catch migration events. Migration behavior is a dynamic response to endogenous and exogenous factors that requires oversampling to ensure that infrequent events are not missed by chance alone.
N-2-192	Many species are not adequately detected using transects survey methods. Aerial surveys cannot appropriately address impacts to species that are potentially vulnerable to offshore wind but rarely occur in and around the WEA. This is true for species for which populations are low enough that even small levels of take can have population-level effects (e.g., endangered Black-capped Petrel) or species for which interactions with the WEA may be relatively rare but theoretically could result in large take levels under particular circumstances (e.g., nocturnal trans-Atlantic migrants encountering the WEA during inclement weather or Northern Gannets that migrate through the Sound in large numbers during just 1-2 weeks each spring).

Comment ID	Comment Text
N-2-193	smaller avian taxa are difficult to distinguish at the species level during transect surveys. Alcids are rarely attributed to species using personned or digital aerial surveys. Sterna terns and small gulls are rarely attributable to species using any survey method (i.e. aerial or vessel), and vessel surveys frighten away many marine birds.
N-2-194	Roseate Terns are known to use the offshore environment at night during staging periods and migration but transect surveys do not evaluate nocturnal activity for obvious safety reasons.
N-2-195	a comprehensive [avian] monitoring plan must include transect surveys in concert with additional methods to assess potential changes in distribution or migratory patterns before and after Project construction. Telemetry (e.g., radio and/or satellite telemetry as appropriate) and marine radar monitoring methods must also be employed as they serve different (though complementary) objectives for different suites of species. Much of the purpose of these surveys is to collect background information regarding spatial trends which can be compared against data collected post-construction...We recommend that BOEM work with Vineyard Wind to institute survey protocols pre- and post-construction that can address these limitations and include these requirements in the Draft EIS.
N-2-196	As marketed, digital aerial surveys allow for surveys that fly at higher altitudes than personned surveys, reducing safety risks, while also allowing for surveys to be continued after wind farms have been constructed. While this is true given the current 12- 15 MW turbines under consideration by the offshore wind farms with publicly available construction and operation plans, the 200 m turbine blades in development in Virginia will challenge the potential for even digital aerial surveys post-construction. Additionally, digital aerial survey technology is relatively new and its reliability for attributing observations to species and characterizing flight altitude has not yet been tested or published...the rate of mis-identification for Roseate Tern and other species should be tested and published, and these rates should be incorporated into density estimates.
N-2-197	The MDAT predictive models, while excellent for estimating broad-scale, relative patterns of avian abundance along the Atlantic, are not of suitable resolution for reliably estimating distribution at a local scale. The MDAT models are wholly inappropriate for use in impact assessments and should only be used for broad scale planning purposes (such as determining Call Areas). Furthermore, even as it relates to broad scale evaluations, BOEM's own report indicates that the MDAT models are not suitable for predicting distribution and abundance for a rare and narrowly distributed species. As a result, when these and other data deficiencies are factored into the biological assessment, the density of ESA species within the Vineyard Wind South area is likely to be underestimated.
N-2-198	The core of the Roseate Tern's breeding range, which overlaps with Vineyard Wind South, is small and therefore a conservative approach for this species and others that may be impacted by these surveys is required by the Draft EIS. Adults and sub-adults may occur in the Project Area in the spring and summer to forage, while individuals of all ages likely cross the Project Area in the late summer and fall to reach their staging grounds on Cape Cod. Roseate Tern use of this area, and other wind development projects in the Atlantic OCS, should be a priority in pre- and post-construction monitoring so that true impacts to the population from collision and displacement can be properly measured and compensated.
N-2-199	As stated above and in previous comments to BOEM, raw data from transect surveys is not appropriate for addressing potential environmental impacts. The Draft EIS must address the biases of each monitoring method used in the COP and Draft EIS and present published results from the associated studies that account for imperfect detection.
N-2-200	Distance sampling is the most obvious method to address imperfect detection in transect surveys and we recommend that BOEM and developers incorporate this accepted method into their survey protocols.
N-2-201	Personned and digital aerial surveys, as well as vessel surveys, are unable to reliably distinguish between similar-looking species in all cases. Digital area surveys may be able to attribute observations to species more frequently, but so far there are no peer-reviewed publications which document the reliability of this method. Vessel surveys, while occasionally better for attributing observations to species, are biased against species which sit on the water (sea ducks, waterbirds, alcids) and are more likely to flee from approaching vessels.

Comment ID	Comment Text
N-2-202	Because of these biases, it would be inappropriate to assess Vineyard Wind South using raw data alone. It is also inappropriate to base an impact analysis on lumping the data together into [avian] species groups if [avian] species-specific extrapolations are available and statistically sound. The Draft EIS must not rely on the presentation of raw lumped data and instead rely on models produced from these standardized collection methods and by [avian] species when appropriate.
N-2-203	Currently the COP does not provide any adequate risk assessments for passerines and shorebirds, other than potentially those assessed by Loring et al. through radio telemetry. Except for phalarope, shorebirds and passerines do not spend a significant time in the offshore environment, but could potentially experience significant interactions with turbines during migration. Therefore, survey methods are not appropriate for evaluating risk to these species groups. While risk evaluations to loons, seaducks, and gannets incorporated distribution results from satellite transmitter studies, this type of evaluation was not extended to terns, gulls, cormorants, or other seabirds.
N-2-204	The COP also relied on flight heights discerned from the Northeast Atlantic Seabird Catalog to assess collision risk. Flight height estimates from vessel surveys are generally biased low and should not be relied on to estimate average flight height. Radar, LiDAR, and pressure sensor technologies should be relied upon in the Draft EIS and the limitations of each data collection method should be explicit within the Draft EIS.
N-2-205	It is also critical to note the extreme amount of sampling bias across much of the data used in the MDAT avian density models referenced in the COP. Not only do the data used in this model include vessel and aerial surveys which come with the sampling bias described above, but there is no standardization across data sources. Much of the data do not come from standardized protocols and are instead opportunistic observations from pelagic birding trips. Additionally, many of these opportunistic observations occur during chumming activities. This does not necessarily over inflate the number of birds overall, but it does confound model results by artificially creating higher densities of seabirds in vessel paths.
N-2-206	We applaud Vineyard Wind's recent effort to survey avian activity through vessel transects within the project footprint. However, these surveys are too temporally and spatially limited to detect changes in avian distribution from Vineyard Wind South's development. Both the MassCEC surveys and MDAT data will be nearly 10 years old by the time of construction. Some species may experience displacement for up to 20 km from an offshore wind turbine array. Therefore, any EIS must include information of avian distribution and occurrence for a minimum of 20 km surrounding the Project Area in order to completely understand which species may be impacted by developing Vineyard Wind South.
N-2-207	Annual and seasonal variations in avian movement are also not well captured during the limited survey period, and therefore BOEM should work with developers to continue surveys over the southern New England planning areas, including a 20 km buffer, to capture this variation, beginning as soon as possible. Surveys should be repeated frequently enough to cover within and between seasonal and annual variation in avian distribution, so that changes in distribution caused by offshore wind development can be discerned from other sources.
N-2-208	The Draft EIS should include a collision risk analysis, including risk to birds as they migrate through the Project, on species that occur within a 20 km radius of the WEA and that trigger conservation obligations: ESA-listed endangered and threatened species, state-listed threatened, endangered, and species of concern, and IUCN-listed endangered, threatened, and near threatened. These species include, but are not limited to Roseate Tern, Piping Plover, Red Knot, Common Tern, Least Tern, American Oystercatcher, and Upland Sandpiper. The Draft EIS should include the most recently available scientific information.
N-2-209	Based on MDAT models, the Vineyard Wind South may not likely have consistent impacts to avian populations during operation. However, these MDAT distribution models have limited reliability across species, and better methods for predicting impacts have not yet been applied in the offshore environment in the United States.

Comment ID	Comment Text
N-2-210	Additionally, while collision events during migration are likely to occur less frequently, these events have the potential to have large, population-level consequences during a short time period. All the current lease areas and call areas occur within migratory pathways for transAtlantic migratory songbirds and shorebirds. BOEM's EIS needs to evaluate this cumulative risk, as the likelihood of large migratory collision events will increase as the total offshore wind footprint increases.
N-2-211	Collision risks to nocturnal migrants have not been properly accounted for in the COP. BOEM must sufficiently assess collision risks to nocturnal migrants in the Draft EIS.
N-2-212	The Draft EIS must consider migration timing, variations in flight height, and the distance from shore at which nocturnal migrants reach maximum migration height. The Draft EIS should contain a full analysis of these study results and not rely on a simple summary of the raw data to inform its collision risk analysis for nocturnal migrants. In general, efforts to understand these impacts should rely on a combination of radar, telemetry, survey, and acoustic monitoring, and should not be based on a single technology alone.
N-2-213	When incorporating radio-telemetry methods, receiving stations need to be installed in the offshore environment in such a way that avian movement in and around the WEAs can be adequately assessed. BOEM should ensure the monitoring protocols for automated radio telemetry currently in development by NYSERDA and USFWS320 are followed... BOEM needs to help financially support the efforts to further this technology, adopt these methods into regional monitoring protocols for offshore wind development, and ensure the success of this technology moving forward. Data from these efforts should be incorporates into this Draft EIS and other impacts analyses into the future.
N-2-214	Acoustic monitoring is especially inappropriate on its own to characterize the community of nocturnal migrants within the Project Area. We recognize that BOEM is considering acoustic monitoring as a standardized monitoring method. However, evidence indicates that Empidonax flycatchers and vireos, two of the most abundant nocturnal migrant groups, do not emit nocturnal flight calls, and therefore, would not be accounted for using acoustic monitoring. Additionally, acoustic monitoring does not adequately assess flux—a necessary value for assessing collision risk and estimating population-level impacts.
N-2-215	Many species of conservation obligation, including ESA-listed Red Knot and Piping Plover, migrate over the Atlantic Ocean. Relying on the current system of automated radio telemetry receivers to monitor risk is inappropriate, as the network of receivers has not been established in the offshore to the degree necessary.
N-2-216	[A]utomated radio telemetry does not adequately estimate flight height, though there are efforts underway to fill this information gap. Remote tracking studies that rely on the Motus passive very high frequency (VHF) radio tracking system do, however, provide that Piping Plovers migrate nocturnally over open water, "directly across the mid-Atlantic Bight, from breeding areas in southern New England to stopover sites spanning from New York to North Carolina...at altitudes of 288 m (range of model uncertainty: 36-1,031 m)," putting this ESA-listed species at high risk of collision with turbines, especially considering that individuals breeding in Massachusetts have known migratory routes through the Project Area.
N-2-217	The current configuration of VHF receiving towers does not allow for detailed characterization of flight paths for this species or any protected avian species using this tracking technology, and therefore, BOEM should take a conservative approach in the Draft EIS when evaluating potential impacts (cumulative or otherwise) to Piping Plover, Red Knot, and other species which may fly through the Project Area and other wind development areas expected in the foreseeable future.
N-2-218	It is imperative that BOEM supports further tracking efforts and we recommend the construction and maintenance of a full network of telemetry receiving towers throughout the offshore environment to inform risk analyses. It is important to note that the VHF transmitters widely deployed along the coast have a limited lifespan. New solar-powered ultra-high frequency transmitters, which include on-board battery support for transmitting at night, should be the future focus for incorporating this technology.

Comment ID	Comment Text
N-2-219	The Draft EIS must produce a full picture of migratory pathways for songbirds and shorebirds. This could be realized with the addition of satellite tracking information from Movebank and the National Aeronautics and Space Administration's Icarus project for larger bodied shorebirds, additional research and tagging of priority bird species using radio and satellite telemetry technology as appropriate, and an expansion of the radio telemetry receiver network in the offshore environment. While we recognize the unlikelihood of implementing and completing new tracking studies prior to the publication of the Draft EIS, these knowledge gaps should be filled expeditiously to inform future offshore wind operation and siting processes.
N-2-220	The Draft EIS should use the data currently available to calculate the risk to these migratory birds, especially in regard to turbine height, and provide for tracking these migratory birds during the life of the project and cumulatively over all projects in the Atlantic OCS.
N-2-221	Additionally, the Draft EIS should explicitly outline the implementation of collision detection and minimization measures during the operation of Vineyard Wind South and other planning areas. Under the ESA and MBTA, developers are responsible for any take of migratory birds and ESA-listed species. However, without appropriate monitoring for collision detection, large collision events could have serious population-level impacts to migratory songbirds and shorebirds without any recourse. This is not an acceptable outcome, and BOEM must require Vineyard Wind to create a plan to address this concern.
N-2-222	The Draft EIS must adequately assess collision risk to seabirds. This must include an analysis, using the most current available science, of flight heights (averages and ranges), avoidance rates, and other relevant avian flight behavior at the very least. The Draft EIS must also consider the range of turbine specifications that could influence collision risk, including air gap, total rotor swept zone, and turbine height.
N-2-223	The Draft EIS must also provide results from BOEM's own analysis of the vulnerability of 177 species of birds that could come into contact with the WTGs in the cumulative OCS Wind Development Areas (WDAs) in the foreseeable future and incorporate this analysis into the cumulative impacts conclusions within the Draft EIS. In doing so, the Draft EIS must be transparent in presenting the high level of uncertainty in the results, including high and low estimates for population-level cumulative impacts.
N-2-224	Much of the high uncertainty in these models is a result of highly variable concentrations of seabirds throughout the year. The draft EIS needs to be explicit about these seasonally higher risks and not rely on annual averages. Many tubenoses, for example, congregate outside the breeding season near upwellings and other locations of high productivity. Such concentrated flocks, if occurring within the turbine array, could produce significantly large collision events, even if such events are relatively rare. The Draft EIS should consider this variability of large concentrations of birds even in short periods of time in its analysis of seasonal abundance when calculating risk to birds.
N-2-225	We expect that BOEM will apply collision risk models (CRMs) to evaluate avian impacts from Vineyard Wind South. While limited, CRMs are one of the only tools available to hypothesize potential impacts to birds from collision in the offshore environment. As such, CRMs provide a mechanism for testing outcomes (e.g., observed collision rates) against the model predictions (e.g., expected collision rates), and BOEM must address the need to collect the data necessary to test these hypotheses. We appreciate how BOEM addressed our concerns in the Final EIS for Vineyard Wind 1 and reiterate our expectation that BOEM's collision risk analysis in the Draft EIS be complete and transparent.
N-2-226	The Draft EIS should include a CRM-driven analysis for all species of conservation obligation which may occur within 20 km of the Vineyard Wind South footprint and for which a current CRM would be appropriate, even if the species has not been documented within the footprint of Vineyard Wind South. This should include a recent stochastic derivation of the Band model, such as the McGregor (2018) version.

Comment ID	Comment Text
N-2-227	BOEM must be transparent in its CRM application. These models are extremely sensitive to the input parameters. 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. Therefore, the Draft EIS must provide the inputs used in its analysis for public comment and transparency.
N-2-228	There are new derivations of the Band model under development, namely the 3-D CRM for seabirds by the Shatz Energy Research Center and stochastic CRM specific to ESA-listed species in southern New England from the University of Rhode Island. These models should be applied, once available, in BOEM's assessments of avian impacts for future offshore wind developments, as they will be better able to incorporate variation in input parameters.
N-2-229	Moreover, collision risk models provide a starting point, not an end point, from which to predict cumulative, population-level impacts across wind farms in the Atlantic OCS. Despite claims within the COP that CRMs "do estimate site-specific mortality", CRMs are not found to be reliable in predicting mortality...BOEM should pursue studies to not only verify CRM utility in the offshore environment, but should also move toward viable collision detection requirements for Vineyard Wind South and future offshore wind developments.
N-2-230	There is no substantial evidence to suggest that larger turbines, spaced farther apart, reduce risks to birds, and it should be a goal of BOEM to understand the effects of displacement and mortality relative to turbine size and spacing.
N-2-231	Given that the tower height would need to be more than 200 m in height to accommodate rotor blades of this size, turbines could soon reach heights greater than 400 m above sea level. Studies, like those from Krijgsveld et al. (2009), Smallwood and Karas (2009), and Johnston et al. (2014), which suggest that fewer, larger turbines reduce avian collision risk, are based on turbines less than 5 MW. As turbines increase in size, they are more likely to encroach on airspace occupied by nocturnal migrants while not necessarily avoiding airspace occupied by relatively lower flying foraging marine bird species. Conversely, studies by Loss et al. (2013), Choi et al. (2020), and Huso et al. (2020) find that bird deaths not only increase with turbine size, but also suggest that the number of bird deaths from collision with wind turbines is proportional to the number of MW produced in a wind farm. Turbulence above and below the rotor swept zone can affect flight performance. If this should make birds more susceptible to physical interactions with turbines, then larger turbines would only increase that risk. Additionally, limiting risk evaluations to the rotor swept zone neglects the risk of collision from the tower itself and turbulence around the rotor swept zone.
N-2-232	Suggestions that increased spacing (1 nm) between turbines would reduce risks to birds from both collision and displacement is unfounded, as offshore wind farms in Europe do not provide this level of spacing, and therefore, there is no operational comparison to be made. Instead, increased spacing means fewer turbines and less energy production within the footprint of the project, so more projects (and more space) will be necessary to meet state and national energy goals.
N-2-233	Furthermore, greater space between turbines may increase collision risk if species vulnerable to collision end up using the wind farm more frequently.
N-2-234	Unfortunately, these [effects of turbine spacing and size on birds] are all unknowns until these configurations are developed and operational. BOEM will need to fund studies to answer these questions either through tax revenue or through the preferred method of financial support from offshore wind project developers.
N-2-235	The Draft EIS should include a risk assessment, considering the full range of the potential rotor swept zone provided in the COP, to assess 1) impacts from collision and barrier effects to migrating birds, and 2) potential increased habitat loss that may need to occur in order to reach offshore wind energy goals.

Comment ID	Comment Text
N-2-236	Terns use upwellings and ocean turbulence as ecological cues to locate important foraging areas offshore. In addition to project construction's disruption of foraging fish breeding communities on the ocean floor, the turbine monopiles can mimic these cues, even when foraging fish are not present. According to recent research, "[t]he structures themselves may provide artificial foraging cues (or ecological trap) by which terns will ignore important upwellings in favor of investigating turbulence created by the turbine structure."
N-2-237	Birds are not only disturbed from foraging, staging, roosting, and nesting habitat in the immediate footprint of construction. We know that kittiwakes—a species which occurs within the Project Area— can be displaced up to 20 km from operating wind farms.
N-2-238	We simply do not know the full extent of habitat loss that marine birds will experience as a result of the Project, nor do we know the rate at which birds that continue to forage in the area will be lost to collision. Though flight-initiation distances are highly variable, nesting and foraging shorebirds can be disturbed from coastal anthropogenic activities more than 200 m away.
N-2-239	Diving marine birds may also be heavily impacted from the noises associated with pile driving. Underwater noise impacts to diving birds must be considered in the Draft EIS, and cannot be limited to an assessment of the Project footprint.
N-2-240	Additionally, vessel traffic can disrupt wintering marine birds, and construction activities can have impacts to birds and their prey which will not end immediately after construction—these are modifications to the habitat which will not return to a healthy state until long after construction activities. Given the avian distribution off the coast of southern New England, it is likely that marine bird communities will be heavily disturbed during construction activities.
N-2-241	Construction activities from the cable laying and pile driving will likely impact birds, regardless of timing. Beach nesting birds, like Piping Plover, American Oystercatcher, Least Tern, Herring Gull, Double-crested Cormorant, and Common Tern, may be present in and around the Project Area from March through September; Northern Gannet, Red Knots, Semipalmated Sandpiper, and Black-bellied Plover may be affected by construction activities in spring and fall. Marine birds, such as shearwater and petrel, will be present around the Project during the winter. If the construction of cable routes is timed to avoid beach nesting birds, then it will likely impact wintering seabirds. While it may not be possible to avoid impacts entirely, the Draft EIS needs to be transparent in addressing these impacts and provide a path to mitigate these impacts.
N-2-242	While Roseate Tern, Piping Plover, and Red Knot may fly through the WEA, the Draft EIS must also consider the potential impacts of developing the Project to these ESA-listed species onshore. Piping Plover or tern chicks within 100 m of onshore construction activities will require the developer to hire a spotter to prevent the chicks from encountering harm during activities. Additionally, no construction activities may be allowed on the beach or intertidal zone within 100 m of Piping Plover chicks or nests, as this would starve breeding plovers of necessary foraging habitat. Migrating Red Knots and other shorebirds rely on the mudflats along Rhode Island's coast to rest and refuel during their fall migration. Common and Roseate Terns rely on these same mudflats to stage August-October. The Draft EIS must consider the impacts of building out the Project to these species, even when the activities associated with development fall outside the offshore Project Area.
N-2-243	We suggest that BOEM clearly outline monitoring requirements and coordinate with other stakeholders, including the Vineyard Wind, Rhode Island, Connecticut, and Massachusetts state agencies, and the Regional Wildlife Science Entity, to support the development of a regional monitoring plan for birds and other wildlife. Monitoring for adverse effects requires multiple modes of evaluation in a coordinated framework pre- and post-construction. Radar, vessel and aerial surveys, acoustic monitoring, and telemetry are all complementary tools that provide data necessary for evaluating impacts, though none of these tools provides the full picture when used alone.
N-2-244	Post-construction fatality monitoring onshore is a key component of Tier 4 of the USFWS Land-Based Wind Energy Guidelines...This practice is entirely impractical at sea for obvious reasons, however, that does not relieve BOEM from requiring post-construction fatality monitoring—an obligation that the onshore wind industry has committed to and is required to fulfill.

Comment ID	Comment Text
N-2-245	DOE has recently funded development of collision detection technology from the Albertani Lab349 at Oregon State University and WT Bird from WEST, Inc. Similar technologies are being tested at Block Island Wind Project and other offshore locations in the European Union and United Kingdom 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 the Project would be ready for construction and operation. However, these technologies must be fully integrated into turbine design before they can be deployed. DOE is currently evaluating the development status of these integrated systems based on their readiness for offshore wind deployment. BOEM must support the development of these technologies and must drive turbine developers to integrate these systems into their turbine designs. We cannot wait on offshore wind project developers to drive the market, BOEM must require this type of collision monitoring and work with the industry to support the development of these technologies to make deploying them a reality.
N-2-246	The incorporation of these new [bird collision] monitoring technologies, and hopefully a standardized technology, should be a required element in the post-construction monitoring plan for the Project. BOEM should require standardized methodology for using these new technologies across all projects in the Atlantic OCS to incorporate mortality data, and possibly displacement data, into ongoing cumulative effects analyses and adaptive management strategies, to validate collision risk models, and to measure impacts on ESA-listed species and other species of conservation obligation by augmenting tracking data with data from on-site detection technology.
N-2-247	Many of the offshore wind projects to date (including Vineyard Wind 1) have suggested in their COPs that mortality monitoring can rely on carcass monitoring around the base of the offshore wind turbines. This is contrary to the standard protocol for post-construction monitoring at onshore wind projects, where a radius from the turbine is prescribed as the search area and includes where birds may be propelled or thrown from the actual turbine structure and blades after collision. The offshore structures anticipated to be installed 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. The Draft EIS must address this inadequacy in the COP and mandate a protocol for adequately monitoring mortality events.
N-2-248	The Draft EIS should specifically require the adoption of collision detection technologies when they are verified and commercially available and BOEM should support their development and testing. 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.
N-2-249	Additionally, BOEM must require that lease applicants report [bird] mortality events promptly and publicly.
N-2-250	Within the FEIS for Vineyard Wind 1, BOEM proposed that the industry develop a monitoring framework in coordination with the federal and state jurisdictions, to include, at a minimum: • Acoustic monitoring for birds and bats • Installation of Motus receivers on WTGs in the WEA and support with upgrades or maintenance of two onshore Motus receivers • Deployment of up to 150 Motus tags per year for up to 3 years to track roseate terns, common terns, and/or nocturnal passerine migrants • Pre- and post-construction boat surveys • Avian behavior point count surveys at individual WTGs • Annual monitoringWe support these admirable expectations and expect that BOEM will expand on this framework in the Draft EIS to specify how this monitoring should be carried out to collect the best available data.
N-2-251	Monitoring pre- and post-construction should be designed in such a way as to be able to discern any changes to avian spatial distribution that might be a result of construction and operation of Vineyard Wind South. A monitoring plan should incorporate the suggestions previously provided to BOEM on October 23, 2020 via the Avian Considerations recommendations.

Comment ID	Comment Text
N-2-252	More specifically, we recommend that efforts to track avian movement include both satellite and automated radio telemetry, as appropriate, and these efforts should not be limited to Roseate Terns, Common Terns, and nocturnal passerine migrants. Technically speaking, while the passive radio telemetry receivers for these efforts are considered part of the Motus network, the tags themselves are VHF and ultra high frequency radio transmitters. Recommendations by USFWS Northeast Migratory Bird Office should be followed when deploying receivers and tags, using the specifications best able to capture migratory routes in the offshore environment.
N-2-253	As we have specified to BOEM previously, we further suggest that transect surveys be accompanied by telemetry and radar studies. Radar surveys can provide a broad overview for comparison of flight paths, especially for nocturnal migrants which could not be captured during daytime survey efforts, while telemetry, especially satellite telemetry with pressure sensors, can gather high resolution distribution and flight path data for priority species.
N-2-254	In the past, BOEM has failed to provide any reasonable scientific evidence to support its cumulative impact assessment for birds resulting from wind farm construction and operation in the Atlantic OCS.
N-2-255	The assumption that removal of deciduous forest only creates short-term impacts and that displacement and habitat loss do not impact survival and fecundity is simply false. BOEM must take a full annual and life cycle approach in the Draft EIS, addressing the various population vital rates which may be affected for species potential impacted from build out of Vineyard Wind South.
N-2-256	Loss et al. (2013) estimates that the average annual mortality rate for birds from turbines onshore is 3.58 birds/MW (95% C.I.=3.05-4.68). The Draft EIS must use this range to estimate potential cumulative impacts from Vineyard Wind South over, at minimum, the predicted 30-year lifespan of Vineyard Wind South. While the exact turbine models to be deployed are not yet known, BOEM should provide, at minimum, estimates based on the specifications provided in the COP. Furthermore, BOEM should model how the Loss et al. estimates could change in response to increased height and rotor swept area for larger turbines, enlisting existing flight altitude data from nearshore studies.
N-2-257	These calculations [of avian collisions with turbines] only address direct mortality from collisions and do not include the rates of mortality driven by barrier effects and habitat loss. Barrier effects and displacement can have significant energetic costs for birds and can additionally result in increased foraging rates. Both can have consequences for individual survival and can decrease rates of egg laying and fledging.
N-2-258	The Draft EIS must provide a quantitative assessment of the cumulative effects from wind farm build out in the OCS, including population viability analyses which consider changes in vital rates that result from both direct and indirect impacts. BOEM's cumulative impact level should reflect these estimates. In the past, BOEM has prescribed impact levels to birds based on immediate impacts or impacts to species detected during surveys within the proposed development footprint. These limited evaluations are not acceptable. We expect BOEM to be fully transparent in its impact level assignments in the Draft EIS, clearly outlining the best available science and analyses that lead to each impact level assignment.
N-2-259	The Draft EIS should provide more certainty that the developer will use adaptive management for birds and collect "sufficiently robust" data to inform mitigation strategies to avoid, minimize, and mitigate impacts to birds.
N-2-260	To provide regulatory certainty to lease applicants, the draft EIS should explicitly outline protocols for monitoring, adaptive management, and mitigation [for birds].

Comment ID	Comment Text
N-2-261	The South Fork Draft EIS suggested the following minimization measures: "Install bird deterrent devices (including painting a turbine blade black [May et al. 2020]) to minimize bird attraction to operating turbines and on the offshore substations (OSSs), where appropriate and where DWSF determines such devices can be employed safely...The SFWF wind turbine generators (WTGs) would be widely spaced apart allowing bird species to avoid individual WTGs and minimize risk of potential collision." While painting turbines black is an admirable action, the proposed action was hardly a commitment. Additionally, the referenced study by May et al. (2020) suggests that the efficacy of this deterrent requires further study. Should BOEM make this a requirement, this could provide an excellent opportunity to institute adaptive management—studying the efficacy of black turbine blades in reducing collisions in order to inform best management at future wind farms
N-2-262	...widely spacing turbines is not a minimization strategy, as there is little evidence to suggest that turbine spacing reduces risks to birds. However, this too could provide an opportunity to learn from this management practice and adapt management for future wind developments from this knowledge.
N-2-263	Collisions with turbines over water are unlikely to result in a confirmation of the strike without detection technology. This will continue to be a data deficiency in the monitoring plans. We are concerned that a continued lack of collision data will be misconstrued as a lack of need for collision mitigation. Therefore, BOEM must correct this knowledge gap by requiring a true commitment to collision detection technology deployment at offshore wind developments, Vineyard Wind South included.
N-2-264	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 constrain 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 European Union offshore wind facilities. Their incorporation into the leasing process early will permit BOEM to require their adoption as new technologies become available.
N-2-265	An adaptive management framework [for birds] requires a level of coordination and commitment that goes well beyond Vineyard Wind South. BOEM and USFWS must commit to providing a structure that ensures this across the offshore wind landscape.
N-2-266	Given the current technology, there are no viable options for effectively minimizing the potential impacts of developing Vineyard Wind South 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 environmental compensatory mitigation.
N-2-267	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). We further note that, as discussed above, the agencies still have conservation obligations under frameworks, including 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 development of the WEAs, and particularly for species of conservation concern.
N-2-268	Mitigation more effectively compensates for impacts when conducted on a project and population-specific basis. This model is encouraged for offshore wind energy development impacts[on birds]. 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...

Comment ID	Comment Text
N-2-269	Quantifying compensatory mitigation for birds should initially be based on a generous estimate of the number of birds that could be killed in collisions with turbines, 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)...Quantities and supporting analyses should be re-evaluated as collision monitoring data become available and additional mitigation provided as necessary.
N-2-270	Compensatory mitigation requirements under the ESA were essentially ignored by the previous administration. We urge the current administration to observe compensatory mitigation requirements for species currently listed and under listing consideration for the ESA which may be impacted by offshore wind development: Piping Plover, Red Knot, Roseate Tern, and Black-capped Petrel.
N-2-271	Seabirds are long lived and have delayed maturity and low fecundity. This life history means that adult survival is the main driver of population change. Mortality from offshore wind energy development is likely additive and, if skewed to breeding adults, will likely have a greater potential to drive declines in population trajectories. These unique life-history traits require a 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.
N-3-24	During scoping, address potential impacts to federally protected species including...avian species.
N-9-13	The [Migratory Bird Treaty Act (MBTA)] (16 U.S.C. §§ 703–712) makes it "unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior."... In 2009, BOEM entered into a MOU with USFWS to "strengthen migratory bird conservation through enhanced collaboration between the MMS and the FWS. In assessing impacts to and protecting biological resources, BOEM consults with the FWS on activities that may affect Threatened and Endangered species, evaluates the effects on migratory birds and important habitats such as offshore and nearshore foraging, staging, molting, and roosting habitats. BOEM regularly conducts studies that provide information for protection and conservation of migratory birds, including protected species. It is in the interests of both agencies that potential impacts [to migratory birds from Vineyard Wind South] be thoroughly assessed and that mitigation measures be considered and implemented as appropriate."
N-9-34	In its preparation of the EIS, BOEM must consider impacts from VWS construction, operation, maintenance, and decommissioning to all species of concern, among which are the following: roseate tern (<i>Sterna dougallii</i>) - federal and MA Endangered piping plover (<i>Charadrius melodus</i>) - federal and MA Threatened, IUCN Near Threatened rufa red knot (<i>Calidris canutus rufa</i>) – federal and MA Threatened, IUCN Near Threatened black-capped petrel (<i>Pterodroma hasitata</i>) - currently a Candidate for federal listing bald eagle (<i>Haliaeetus leucocephalus</i>) – MA special concern species (SC) golden eagle (<i>Aquila chrysaetos</i>) – both eagles protected by the Bald and Golden Eagle Protection Act
N-9-35	Avian species of Special concern (SC), Threatened (T), and Endangered (E) under MA laws in the SWDA: American bittern (<i>Botaurus lentiginosus</i>) - E Sedge wren (<i>Cistothorus platensis</i>) - E Upland sandpiper (<i>Bartramia longicauda</i>) - E Golden-winged warbler (<i>Vermivora chrysoptera</i>) - E Least bittern (<i>Ixobrychus exilis</i>) - E King rail (<i>Rallus elegans</i>) - T Short-eared owl (<i>Asio flammeus</i>) - E Northern harrier (<i>Circus cyaneus</i>) - T Peregrine falcon (<i>Falco peregrinus</i>) - T Vesper sparrow (<i>Pooecetes gramineus</i>) - T Northern parula (<i>Parula americana</i>) - T Grasshopper sparrow (<i>Ammodramus savannarum</i>) - T Common Loon (<i>Gavia immer</i>) - SC Common tern (<i>Sterna hirundo</i>) - SC Least tern (<i>Sternula antillarum</i>) – SC Common moorhen (<i>Gallinula chloropus</i>) - SC Blackpoll warbler (<i>Dendroica striata</i>) - SC Mourning warbler (<i>Oporornis philadelphia</i>) - SC Long-eared owl (<i>Asio otus</i>) - SC Eastern whip-poor-will (<i>Caprimulgus vociferous</i>) -SC Barn owl (<i>Tyto alba</i>) - SC

Comment ID	Comment Text
N-9-36	Migratory avian species with documented trans-Atlantic routes through the Atlantic OSW areas are also protected under various regional and state regulations. So in its EIS, BOEM must also include species of special concern designated by MA conservation laws, as well as species prioritized for conservation by avian experts from the Atlantic Flyway Shorebird Initiative, Partners in Flight, Atlantic Coast Joint Venture, and the North American Waterbird Plan.
N-9-37	The EIS must use models produced from standardized monitoring/survey data collection methods and address the biases of each method used in the COP. The EIS must include: i. accurate estimates of avian populations. The EIS must include...local population-level assessment of collision impacts
N-9-38	The EIS must include:iii. detailed adaptive ecosystem-wide management plan, based on above analyses, describing how all conservation obligations afforded to impacted avian species by multiple statutes, conservation policies, agreements, and treaties will be met. This comprehensive plan must include methods and standards for monitoring, avoidance, and mitigation, informed by current science and best available technologies, in ecosystem-wide approaches. The best management practices defined by this plan could be extended to other OSW projects within the region and all along the Atlantic coast which encompass important habitats for birds migrating along the Atlantic Flyway.iv. Application of Collision Risk Models (CRMs) in analyzing potential collision impacts on at risk species in the offshore environment which may occur within 20 km of the SWDA footprint. CRMs provide a mechanism for testing outcomes against model predictions (e.g. observed vs expected collision rates). The collision risk analysis in the EIS must be complete and transparent as CRMs are extremely sensitive to input parameters such as avoidance behavior, flight height, flight activity, flux rate, corpse detection rate, rotor speed, bird speed, and collision risk. CRMs should also consider differences in daytime and nighttime flight patterns.v. include mortality data and displacement data in cumulative impacts analyses and adaptive management strategies, to validate CRMs, and to measure long-term impacts on at-risk species.
N-9-39	The EIS must include:vi. analyze the migration timing, variations in flight height, and the distance from shore at which nocturnal migrants reach maximum migration height, using a combination of radar, telemetry, aerial surveys, and acoustic monitoring technologies and present a full analysis of the results in the EIS.
N-9-40	The EIS must include:viii. Adopt a full annual and life cycle approach to address cumulative impacts on population levels of impacted species. Use average annual avian mortality rate from onshore turbines (3.58 birds/MW (95% C.I.=3.05-4.68)) to estimate potential cumulative impacts from VWS activities over the predicted 30-year lifespan of the projects. These calculations only address direct mortality from collisions and do not include the rates of mortality driven by barrier effects and habitat loss which have significant energetic costs for birds with lowering of individual survival and decreased rates of egg laying and fledging. In the past BOEM has failed to provide reasonable scientific evidence to support its cumulative impact assessment for birds resulting from OSW construction and operation in the Atlantic OCS. For the SFWF project, BOEM assessed only localized impacts to forest habitats from onshore construction including avoidance and displacement of wildlife, which it considered to be temporary.
N-9-41	ix. The EIS must consider the impacts of VWS activities beyond the onshore and offshore project footprint on species like the migrating red knots and other shorebirds which rely on mudflats along the coast to rest and refuel during their fall migration, and the common and roseate terns which rely on them to stage before migrating.
N-9-42	In the EIS, BOEM must use appropriate combination of multiple methods/technologies to collect baseline geospatial data/trends of avian species which likely use SWDA for comprehensive assessment of VWS impacts and to track potential changes in distribution or migratory patterns before and after VWS construction. Limitations of each data collection method should be explicitly stated. EIS must address the impacts to both migrants and breeding season residents as their risk will likely be different, and must explicitly detail BOEM's plan to implement collision detection and minimization measures during the operation of VWS and other planning areas to avoid serious population-level impacts.

Comment ID	Comment Text
N-9-43	<p>The VWS COP relies heavily on regional Marine-life Data and Analysis Team (MDAT) abundance models, and includes MassCEC aerial surveys, Biodiversity Research Institute's monthly boat surveys conducted for one year in the SWDA for VW, and species accounts in relevant literature to quantitatively assess the exposure of marine birds to the SWDA and derive population density estimates for each marine bird species encountered. However, MDAT data have several shortcomings: • MDAT projections are only rough estimates of relative density and not actual total proportion of avian populations in the Atlantic OCS and are not intended to assess avian habitat use at the project scale. • MDAT avian density models referenced in the COP have extreme sampling bias as there is no standardization across data sources such as vessel and aerial surveys which have their own sampling biases. These data do not come from standardized protocols but are opportunistic observations from pelagic birding trips most of which occur during chumming activities. This may not necessarily inflate the overall number of birds but does confound model results by artificially creating higher densities of seabirds in vessel paths. • MDAT regional avian activity survey data are outdated and have spatiotemporal limitations to detect changes in avian distribution from VWS development. While their survey coverage extends beyond the VWS footprint, some species may experience displacement for ~20 km from an OSW array • Based on MDAT distribution models, the SWDA may not have consistent impacts to avian populations during operation. But these models have limited reliability across species and better methods for predicting impacts have not yet been applied in the US offshore environment. While collision events during migration may be less frequent, they have the potential to affect large, population-level consequences during a short time.</p>
N-9-46	<p>To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:iii. Invest in research to understand the effects of displacement and mortality relative to turbine size and spacing. There is no substantial evidence to suggest that larger turbines spaced farther apart lower bird collision risks. Turbulence above and below the rotor swept zone can affect flight performance. If this makes the birds more susceptible to physical interactions with turbines, then larger turbines would only increase that risk. The risk of collision with the tower itself and turbulence around the rotor swept zone must also be evaluated.</p>
N-9-50	<p>To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:vii. Require modification of schedules/activities to protect breeding ESA-listed species from potential onshore impacts of VWS project. The developers must hire trained spotters to prevent any harm to nesting chicks (e.g. the Endangered piping plover which nests on the beach) within 100 m of onshore construction activities. No construction activities may be allowed on the beach or intertidal zone within 100 m of the chicks or nests, as this would starve breeding adults of necessary foraging habitat.</p>
N-9-51	<p>To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:viii. Require [Vineyard Wind South] developers to use adaptive management, defined by USFWS Wind Energy Guidelines as "flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood" and to collect robust monitoring data to inform strategies to avoid, minimize, and mitigate adverse impacts to birds. The EIS should explicitly outline protocols for monitoring, adaptive management, and mitigation. BOEM could make its South Fork Draft EIS recommendation on installing bird deterrent devices (including painting a turbine blade black) a requirement in this EIS. Doing so could provide an opportunity to institute adaptive management to inform BMPs for future OSW projects. The framework for adaptive management should include cost effective operational adjustments and advances in detection and avoidance technology, e.g. "smart curtailment" to contain reasonable loss of energy production, seasonal adjustments based on mortality data as needed to compare with defined thresholds, etc. This framework also requires interagency (BOEM and USFWS) coordination and commitment beyond VWS project that would be applicable to OSW projects planned and proposed off Atlantic coast.</p>
N-9-63	<p>The [Project] area is within the Atlantic Flyway migratory corridor used by multiple listed avian species... The EIS must address potential impacts from the proposed [Vineyard Wind South Project] to the Atlantic Flyway and listed species and provide measures to ensure that [Project] activities avoid, minimize, and mitigate impacts to these and other species.</p>

Comment ID	Comment Text
N-9-101	There are several monitoring and survey methods available to collect baseline data on the spatiotemporal presence and trends of avian species in SWDA before and during construction to be compared with data collected post-construction. But all these methods have limitations in their scope and specific use...To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:i. an avian activity monitoring plan for SWDA and surrounding area which must include...all available methods and technologies, e.g. radar, vessel and aerial surveys, acoustic monitoring, and telemetry, which complement each other and must be used in combination to provide a comprehensive assessment of VWS impacts to avian populations in a coordinated framework.
N-9-109	Impact producing factors of VWS activities that imperil birds are collisions with visible/ lighted project structures including wind turbines, sub-stations, and vessels, and noise from pile-driving, WTGs, and ESPs all of which can cause mortality and injury, habitat alteration and displacement from temporary disturbances, and/or permanent habitat loss and avoidance. These activities can have impacts to birds and their prey well beyond the duration of construction activities.
N-9-110	Birds are disturbed from foraging, staging, roosting, and nesting habitat in the immediate footprint of construction, and up to at least 20 km from an operating OSW. Nesting and foraging shorebirds can be disturbed from coastal anthropogenic activities more than 200 meters away. Beach nesting birds may be present in SWDA from spring through early fall and marine birds would be present in SWDA during winter. Timing of survey and construction activities is critical to avoid impacting summer beach nesting birds as well as wintering seabirds.
N-9-111	Diving marine birds may also be impacted from the noises associated with pile driving and vessel traffic can disrupt wintering marine birds.
N-9-112	The EIS must use models produced from standardized monitoring/survey data collection methods and address the biases of each method used in the COP. The EIS must include: ii. thorough evaluation of local population-level cumulative impacts in addition to flyway-wide impacts on a broad range of bird species with a presence in the SWDA particularly passerines and other nocturnal migrants, seabirds, and species most at risk, employing complementary methods and technologies. Since all current OSW areas occur within migratory pathways of trans-Atlantic songbirds and shorebirds, BOEM must conduct a quantitative assessment of the cumulative effects including population viability analyses from OSW build out in the Atlantic OCS to mitigate the increased likelihood of large-scale migratory collision events or displacement events as the total OSW footprint increases.
N-9-113	The EIS must: vii. consider alternatives in turbine specifications that could influence collision risk, including air gap, total rotor swept zone, and turbine height, and adequately assess collision risk to seabirds using science-based analysis of flight heights (averages and ranges), avoidance rates, and other relevant avian flight behavior.
N-9-114	The cumulative impacts analysis in the EIS must incorporate results from BOEM's own analysis of the vulnerability of avian species to the WTGs of the OCS wind energy projects to be developed in the foreseeable future. Many tubenoses, for example, congregate outside the breeding season near upwellings and other locations of high productivity. Such concentrated flocks, if occurring within the turbine array, could produce significantly large collision events, even if such events are relatively rare. When calculating risk to birds, the EIS must consider this variability of large concentrations of birds even in short periods of time in its analysis of seasonal abundance.

Comment ID	Comment Text
N-9-118	<p>Some of the [baseline bird] survey and monitoring methods/technologies and their scope [that should be included in the EIS] include: personnel or digital (for higher altitudes if safety is an issue) aerial transect surveys coupled with vessel surveys to track larger bodied species of all relevant taxa and to inform OSW siting that minimizes avian impacts while also measuring the realized level of impacts from before and after construction. Distance sampling is the most obvious method to address inaccuracies in transect surveys and we recommend that BOEM incorporate this accepted method into SWDA survey protocols along with predictive models where available. satellite tracking information from Movebank and Icarus Initiative for larger bodied shorebirds, along with additional research and tagging of priority bird species. radio telemetry for evaluation of full life cycle of sensitive smaller bodied species. satellite telemetry technology supplemented with pressure sensors to obtain fine scale movement data and flight altitudemarine radar methods to monitor nocturnal migrants. Migration of various birds (including at-risk species like red knot, piping plover, and whimbrel) over the Atlantic Ocean has been documented. 1 While nocturnal migrants are known to typically fly above the rotor swept zone for current wind turbines in operation, they may also fly lower, potentially within the rotor swept zone, during inclement weather and cross winds. aerial surveys over the southern New England/mid-Atlantic OSW planning areas to capture annual and seasonal variations in avian movement that are not adequately accounted for by the current MDAT regional avian activity surveys. Begin surveys as soon as possible and repeat frequently enough to cover within and between seasonal and annual variation in avian distribution to capture changes in distribution caused by OSW & inform collision risk analysis. science-based monitoring protocols for automated radio telemetry currently being developed by NYSERDA and USFWS who are also testing the feasibility of floating receiving stations. Financially support efforts to advance this technology by adopting it into regional monitoring protocols for OSW and employing data from these efforts into this EIS and other OSW impacts analyses in the future. Fund further telemetry studies on other less known life stages, time periods, and appropriate geographic scope, and incorporate those results in the EIS.</p>
N-16-3	<p>we are counting on regulators and proponents...to protect the seabirds and migrating rafters with whom this project will coexist.</p>
N-17-1	<p>[W]e ask that BOEM use the most current and best available science to provide a transparent evaluation of the potential impacts to birds from the Park City Wind project. Given the broad scope of the second phase of the Vineyard Wind South project, we recommend BOEM withhold its evaluation of Phase 2 until the design envelope of the project is better defined to allow for a reasonable assessment of impacts.</p>
N-17-2	<p>[W]e ask BOEM to outline in its draft environmental impact statement monitoring requirements to understand potential impacts to birds from construction and operation of the Vineyard Wind South project, and to form adaptive management strategies and potential compensatory mitigation needs over the 30-year project life.</p>
N-17-3	<p>[B]aseline data... should not only inform a risk settlement but should be paired with post construction monitoring and be adequate to inform our understanding of impacts to wildlife from offshore wind. This includes, but is not limited to, surveying the area surrounding the cable route and the project area at least 20 kilometers beyond the project footprint, as well as the project footprint, and incorporating turbine collision detection technology. Monitoring efforts should address a broad range of avian species, which may be impacted by offshore wind, including marine birds with high collision and displacement vulnerability, nocturnal migrants, and species listed under The Endangered Species Act and in Connecticut's Wildlife Action Plan, all of which are protected by the Migratory Bird Treaty Act.</p>
N-18-16	<p>Both of the landing areas for cables include important habitat for coastal waterbirds...These and other islands and beaches in the area also support other beach nesting birds...There are many other coastal waterbird breeding sites in the general project area...In addition to avoiding direct disturbance to nesting sites, the construction work needs to be planned and conditioned to avoid disturbances to the birds' normal and essential behaviors.</p>

Comment ID	Comment Text
N-18-17	...nearshore cable laying and cable landing construction work should avoid the time period from April 1 through September 1 and follow guidance provide by U.S. Fish and Wildlife Service and the MA Piping Plover Habitat Conservation Plan to avoid take of Endangered Species Act-listed species
N-18-19	Construction activities associated with cable laying, including heavy machinery, noise, and lighting, can disrupt normal activity budgets for beach nesting birds. Flushing from nests can lead to abandonment of nests and nesting colonies as well as exposure of eggs and chicks to predators and weather-related stresses. Disturbances of roosting, staging, or foraging can impact birds' energy budgets, potentially limiting migratory success and decreasing survival rates. Birds responding to disturbance are also at risk of secondary injuries or accidental death.
N-18-23	The draft 2021 update of the MA Ocean Plan includes an SSU mapped area for roseate tern core habitat,38 encompassing all of Buzzards Bay and state waters along the south coast of Cape Cod, north coast of Martha's Vineyard, and throughout the proposed transmission line routes. As noted above and in previous comments, the EIS needs to address impacts to benthic and fishery resources, including impacts to the species of forage fish necessary to support terns.

CLIMATE CHANGE

Comment ID	Comment Text
F-1-53	given the potential impacts associated with climate change, the Draft EIS should analyze whether components of the project are designed to be durable in the face of sea level rise, storm surges, changes in coastal currents and severe weather events.
N-2-30	Climate change will result in a wide range of significant adverse environmental impacts in the Project Area. As identified by BOEM in a previous environmental analysis for an offshore wind project, these impacts include:• "alter[ation of] ecological characteristics of benthic habitat, EFH [essential fish habitat], invertebrates, and finfish, primarily through increasing water temperatures."• ocean acidification, contributing 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" and "lead to shifts in prey distribution and abundance."• ocean warming, which affects coastal habitats and "influence[s] finfish and invertebrate migration and may increase the frequency or magnitude of disease."
N-2-31	These climate impacts affect a broad range of species utilizing coastal and marine ecosystems including marine mammals, turtles, birds, and fish. A number of impact-producing factors (IPFs) in previous offshore wind environmental reviews are related to climate change. For instance, "increased storm frequency and severity during breeding season can reduce productivity of bird nesting colonies and kill adults, eggs, and chicks." These same IPFs may result in "changes in nesting and foraging habitat abundance and distribution, and changes to migration patterns and timing. For sea turtles, climate change is altering existing habitats, rendering some areas unsuitable for some species and more suitable for others. These IPFs also have the potential to "result in impacts on marine mammals" including physiological stress and behavioral changes," as well as "reduced breeding, and/or foraging habitat availability, and disruptions in migration". These impacts must be accounted for in the Vineyard Wind South Draft EIS.
N-2-36	climate benefits can also be monetized using the social cost of carbon to illustrate differences between the social benefits of a project and the relative social cost of the alternatives. The social and environmental costs of greenhouse gas emissions are readily quantifiable and BOEM should consider them in evaluating project impacts and impacts of alternatives.
N-2-37	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 CO2 emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions." The working group presents values for social costs from 2015 to 2030, assuming discount rates of 5%, 3%, 2.5% and the 95th percentile of the 3% discount rate. These values range from \$11 to \$212 (in 2007 dollars) per metric ton of CO2.

Comment ID	Comment Text
N-2-40	Even absent direct quantification through the social cost of carbon, there are adverse economic impacts from climate change that exist and should be accounted for in the Vineyard Wind South Draft EIS. These impacts include, as noted in previous BOEM analysis: • 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; • Damage to structures, infrastructures, beaches, and coastal land, with numerous economic impacts resulting from erosion and deposition of sediments; • 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.
N-2-57	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). Acknowledging global climate change as a potential cumulative impact 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).
I-20-1	Ocean acidification and rising ocean temperatures are an existential threat to one of our most important industries. As you monitor the local species talks moving forward, we must be careful to make sure we are not confusing the impacts of offshore wind and climate change, which requires an incredibly complicated statistical framework and, thus, can be hard to communicate to a general audience. This also means that whatever level effort we put into measuring potential environmental downfalls, we should also put into measuring potential benefits. Indeed, offshore wind could solve many fishing (indecipherable) problems if we ameliorate climate change impacts. To stem the scale of technically -- of the technically feasible buildout, this is one of the rare cases where there's enough potential greenhouse (indecipherable) impact to push the needle in the right direction.
I-33-4	I've heard a few people talk about ocean acidification. That's not something that I've studied much as a city councilor, but I know a little bit about it and I know a little bit about polluting our air, that pollution going into our oceans and compromising shellfish. The shellfish fishery is very important to this region. It is absolutely an economic catalyst here in the City of New Bedford. So as someone who is interested in protecting the shellfish fishery, as well as our environment, I certainly find favor with this project.

COASTAL HABITAT

Comment ID	Comment Text
B-1-25	It will also be important to evaluate impacts to eelgrass habitats near the Covell's Beach landfall.
N-6-11	APCC looks forward to reviewing additional information on specific project details for Phase 1 of Vineyard Wind South relevant to Cape Cod that are yet to be finalized (and for Phase 2, when those project plans are made available in more detail), and which are subject to federal, state and/or regional regulatory jurisdiction, such as: • Continued coordination with federal and state agencies for the purposes of avoiding, minimizing and mitigating potential impacts to offshore and onshore rare species habitat.

COMMERCIAL FISHERIES AND FOR-HIRE RECREATIONAL FISHING

Comment ID	Comment Text
F-1-23	Based on our review of the COP we also suggest that the Draft EIS EJ analysis provide additional information to explain how concerns from the affected fishing industry will be accounted for and addressed. The plan described in the COP references follow-up communication but does not describe a formal process for reviewing complaints/concerns, the methods to be used for resolving them, or a way to track concerns to identify trends in the communications received.
F-2-22	The COP adequately identifies most species and fisheries that may be affected by the proposed operations. As noted in our socioeconomic impact summary reports for this project (available at https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm_medium=email&utm_source=govdelivery), skates, longfin squid, silver hake (whiting), Jonah crab, scup, monkfish, summer flounder, and American lobster are the primary commercial fisheries affected in terms of landing amounts and fishery revenue.
F-2-29	The discussion of the affected commercial and recreational (party/charter and private angler) fisheries should assess landings, revenue, and effort; fishery participants, including vessels, gear types, and dependency upon fishing within the project area; potential impacts beyond the vessel owner level (e.g., shoreside support services such as dealers, processors, distributors, suppliers, etc.); and coastal communities dependent on fishing. Our offshore wind socioeconomic impacts page (available at: https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm_medium=email&utm_source=govdelivery) can help identify important commercial and recreational fisheries, while the status of many species can be found on our individual species pages (available at: https://www.fisheries.noaa.gov/find-species), and recent trends can be found on our Stock SMART page (available at: https://www.st.nmfs.noaa.gov/stocksmart?app=homepage).
F-2-40	Details of compensation plans describing qualifying factors, time constraints, allowed claim frequency, etc. should also be included when possible, particularly if used as mitigation measures to reduce economic impacts from access loss/restriction, effort displacement, or gear damage/loss.
F-2-46	The EIS should discuss...direct or indirect socioeconomic impacts to commercial and recreational fishing activities and support businesses from project construction and operation such as loss of access to important fishing areas due to the presence of structures (WTGs, substations, cables, scour protection). This evaluation should also include any potential displacement of fishing activities and resulting increased gear conflicts, bycatch, catch rates, and fishing pressure in other locations. When structuring the fishery socioeconomic impact evaluation, you should address all of the elements identified in the checklist we provided in January 2021, or explain why specific elements on that checklist were not included in the EIS. As noted above, our fishery socioeconomic impact summaries can and should serve as the foundation for this analysis in the EIS, although additional project-specific analysis may be necessary to address particular impacts or mitigation/compensation arrangements with affected fisheries.
F-2-47	While the project should be planned and developed to avoid and minimize adverse effects to marine resources and existing uses (i.e. fisheries habitat, fishing, and NMFS scientific survey operations) to the greatest extent practicable, compensatory mitigation should be proposed to offset unavoidable permanent and temporary impacts. This should include discussion and evaluation of potential compensatory mitigation for unavoidable adverse impacts to fisheries habitats and the lost functions and values resulting from those impacts.
F-2-49	Compensatory mitigation for both ecological losses as well as social and economic losses should be discussed in the EIS, and incorporate all affected entities. For example, Section 7.6.2.3.4 of the COP identifies assistance to Connecticut fishermen but does not identify mitigation for other entities that may be affected by this project. Compensatory mitigation for social and economic impacts from this and other projects should consider any increased operational costs (i.e., increased steaming time to search for fish or transiting around turbines) or loss of fisheries revenue (i.e., lower catch) resulting from the construction and operation of the project. Compensatory mitigation should also consider more conservative quotas set in response to reduced scientific survey access and associated increased uncertainty in stock assessments along with any potential proposed measures to compensate for such losses.

Comment ID	Comment Text
F-2-84	Additionally, the potential for bycatch measures resulting from protected species interactions due to shifts in fishing activity and increased uncertainty in protected species assessments should be analyzed and discussed.
F-2-85	Because lobster vessels are only required to submit vessel trip reports (VTRs) if they are issued a Federal permit for another species (many are not), lobster and Jonah crab operations are not fully captured in available VTR data and are underrepresented in our socioeconomic impact summary report. Similarly, information on highly migratory species catch are only partially captured in VTRs available from the Greater Atlantic Regional Fisheries Office and are instead found in VTRs available from our Southeast Regional Office and the large pelagics survey (available at https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads). Such sources should be consulted when preparing the EIS.
F-2-86	Due to requirements to protect data confidentiality, our party/charter recreational fishing summary report for this project area does not provide much detailed information on such operations other than to note that a small number of party/charter vessels operated within this area historically. Private angler recreational catch data are not collected with sufficient area precision to determine the amount of catch inside a particular wind project area. Despite this limitation, the project area is likely to affect important regional recreational fisheries and a discussion of party/charter and private angler catch should be included in the EIS. Any requests for fishery data should be submitted to nmfs.gar.data.requests@noaa.gov .
F-2-87	As noted above, consideration of data across a broad time frame (10 years or more), including data from the most recent 2 years, is necessary to reflect both recent operations and annual fluctuations in fishing operations due to changing environmental conditions, market price, and management measures. As such, the COP and future EIS should include the most recent information available. We rely on VTRs as the best source of area-based data for all federally-managed commercial and party/charter fisheries. Both vessel monitoring system (VMS) and automatic identification system (AIS) data provide higher resolution spatial data, but such sources are not adequate to provide information on all commercial fisheries or fishing vessels, especially the skate and whiting fisheries which do not have a VMS requirement. As discussed in the COP, multiple sources of data should be analyzed together to present a more complete picture of overall fishery operations and avoid drawing inappropriate conclusions by considering only one data source. In evaluating the use of existing data sources, please refer to the list of data limitations provided in our January 2021 socioeconomic checklist.
F-2-101	a number of vessels are reliant upon the project area for over 10 percent of annual fishing revenue, with one vessel dependent upon the area for 48 percent of annual revenue in one year.
F-2-102	If WTGs increase habitat preferred by species such as black sea bass and enhance the geographic expansion of such stocks, the project could also alter predator/prey relationships and increase sources of natural mortality, while also attracting increased recreational fishing effort. These effects could have short- and potentially long-term impacts to such resources and resulting consequences to fisheries that target them. Recent discussions by the Mid-Atlantic Fishery Management Council have and may continue to revise commercial allocations of several species to individual states, including summer flounder and black sea bass. Such actions may result in increased fishing activity for such species in the project area compared to past operations if allocations are shifted to more northerly states like New York, Connecticut, Rhode Island, and Massachusetts. While difficult to predict, the potential for future increases in fishing effort should be considered and analyzed in the EIS to the extent possible.

Comment ID	Comment Text
F-2-107	Compensatory mitigation for both ecological losses as well as social and economic losses should be discussed in the EIS, and incorporate all affected entities. For example, Section 7.6.2.3.4 of the COP identifies assistance to Connecticut fishermen but does not identify mitigation for other entities that may be affected by this project. Compensatory mitigation for social and economic impacts from this and other projects should consider any increased operational costs (i.e., increased steaming time to search for fish or transiting around turbines) or loss of fisheries revenue (i.e., lower catch) resulting from the construction and operation of the project. Compensatory mitigation should also consider more conservative quotas set in response to reduced scientific survey access and associated increased uncertainty in stock assessments along with any potential proposed measures to compensate for such losses.
F-2-109	this project could result in biological impacts to fishery resources that may have future socioeconomic impacts. For example, pile driving and cable burial operations over the course of several seasons in spawning areas particularly across multiple projects in the vicinity of the proposed project could result in poor spawning success and future recruitment for certain species. This could reduce future fishing quotas and associated revenue
S-1-3	DEEP has noted that BOEM has a final report posted in 2014 regarding Atlantic offshore wind Best Management Practices (BMPs) to reduce fishing impacts. DEEP recognizes the potential conflicts and competing interests between commercial fishing, development and use of the site, recreational interests, and the need to maintain marine mammal habitat and migratory routes. Best Management Practices that were finalized in 2014 should be revisited in 2021. There should be existing data on the success of the 2014 BMPs in maintaining communication with commercial fisheries and offshore wind developers. Additional BMPs, if needed, should be utilized as conditions on NEPA documentation and revised in leases.
S-2-10	Impacts to New York State Fishing Fleets and Land-based Fishing Communities: An economic impact analysis for commercial and recreational/for-hire fishermen, including direct and indirect exposure and downstream induced economic effects to seafood processing, ship repair, and other shore-based industries should be provided in the EIS.
S-2-4	Analysis of potential behavioral and physiological impacts to commercially and recreationally important finfish and invertebrate species: Potential impacts include those resulting from noise, vibrations, project vessel traffic, altered water quality, altered sediment chemistries, altered circulation patterns, lighting, electromagnetic/magnetic fields, and heat transfer. Additionally, the effect of turbine and cable installation and operation and their potential to alter existing or create new habitats should be evaluated and induce regime shifts due to changing food sources.
S-2-5	BOEM should identify measures that minimize individual and population-level impacts to... [commercially and recreationally important finfish and invertebrate species], such as construction measures (e.g., avoid hard bottom habitats, minimize disturbance to complex benthic habitat, time-of-year and time-of-day restrictions, use of soft-start and bubble curtains during pile driving) and operational measures (e.g., nature-inclusive designs, maintaining adequate cable burial depths).
S-2-6	BOEM's analysis must consider the relative impact of the project to the State, not a dollar-for-dollar comparison. The COP ranks Montauk as the third most exposed port among all states in the Northeast, behind only Point Judith, RI and New Bedford, MA. Significantly, Montauk is more economically exposed in comparison with these ports, based on the percentage of average annual landings.
S-2-7	BOEM should analyze the economic impact of rerouting New York's transiting vessels around a fully developed RI/MA Wind Energy Area. Currently, Figure 7 in COP Appendix N excludes New York fishermen's transit routes, only analyzing routes originating from RI and MA ports, and does not contemplate a full build-out of the Wind Energy Area.
S-6-5	The EIS should characterize the extent and value of commercial, for-hire, and charter fishing within the New England Wind project footprint (i.e., the lease area and cable corridors). The characterization should include a breakdown of the economic exposure of the proposed project by state, Massachusetts port, gear type, and fishery. This characterization will inform efforts to avoid, minimize, and mitigate impacts to the commercial and for-hire fishing industry of Massachusetts and other affected states.

Comment ID	Comment Text
S-7-10	BOEM should encourage New England Wind to work cooperatively with the 5 state and commercial, charter and recreational fishing interests, as well as NOAA and state agency fisheries staff, to avoid and minimize impacts to these fishery activities and the marine habitats that support these fisheries.
S-7-13	Any proposed fisheries mitigations plans must be developed in collaboration with the CRMC, including the CRMC Fishermen's Advisory Board as part of Rhode Island's federal consistency review.
S-7-9	The CRMC requests that BOEM ensure that the EIS accurately characterize the value of commercial fisheries landings attributable to Rhode Island-based vessels and the Charter/For-hire fishing activities within the New England Wind project area to be inclusive of the wind farm and proposed cable corridor routes. In addition, the EIS should accurately characterize the economic exposure of Rhode Island ports, gear types and fisheries, as well as for other affected states. This information is necessary to inform state and federal agency efforts to avoid, minimize and mitigate impacts to the commercial and Charter/For-hire fishing industry from the New England Wind project.
B-1-8	BOEM should coordinate early and often with NOAA Fisheries on the most appropriate data for analysis of potential impacts to fisheries, including fishing and transiting locations, as well as socioeconomic impacts. The EIS should clearly and repeatedly acknowledge the limitations of each data set.
B-1-9	The EIS should not overly rely on exvessel value when assessing and weighting impacts across various fisheries. Focusing on exvessel value can mask other important considerations such as the number of impacted fishery participants, the use of a low-value species as bait for a high-value species, or a seasonally important fishery.
B-1-10	Models exist to estimate the amount of fisheries revenue generated from within the project area; however, it is important to acknowledge that changes in transit patterns will also have economic impacts and the associated economic impacts will be challenging to accurately quantify.
B-1-11	Commercial, for-hire recreational, and private recreational fishing should be considered separately, but in the same or adjacent sections of the document...the grouping of private recreational fishing with recreation and tourism, rather than with commercial and for-hire fisheries...makes it challenging for readers to understand the full picture of potential impacts on all fishery sectors. If fishery species are affected by the project (including impacts to target species as well as their prey or forage species and impacts to habitat determinant species), this will affect both for-hire and private recreational fishing. Grouping both types of recreational fishing would make linkages between biological and fishery conditions more straightforward to explain.
B-1-12	We strongly urge mitigation funds be provided to all affected vessels regardless of homeport. It is not appropriate to prioritize the needs of Connecticut fishermen over those homeported or landing product in other states who also fish in and around the project area.
B-1-13	The COP suggests in Volume E9 Appendix III-N that commercial fishing will likely continue in the area and that fishermen can recoup at least some of their losses by shifting effort elsewhere. The analysis considers total loss of revenues from the project area, as well as the potential for 25%, 50%, and 75% of revenues to be recouped elsewhere. These assumptions provide a reasonable range for analytical purposes, but the key question is which of these is most likely to occur, and why? The EIS should explore this issue in detail.
B-1-15	...the EIS should consider commercial and recreational fisheries over a wide geographic area that may be impacted by the project...if and when fishing effort shifts to other areas, competition with fishermen in those areas could result, causing a decrease in fleet-wide catch per unit effort, resulting in several smaller trips and, thus, additional labor required for onshore infrastructure. This economic multiplier should be considered more thoroughly in the EIS.
B-1-31	The impacts of the project will not be felt only by fishermen from nearby ports; the EIS should consider commercial and recreational fisheries over a wide geographic area that may be impacted by the project...vessels traveling from ports north and south of the project area may transit through and/or fish in the area

Comment ID	Comment Text
B-1-32	some of the data provided as indicators of economic exposure in the project area are from 2011-2015 and 2013-2017, for example, and are thus outdated for the purposes of evaluating baseline fishing activity information (page 2.4 of Volume E9 Appendix III-N).
B-1-35	Turbine foundations and their associated fouling communities will create artificial reefs, which are expected to attract certain fishery species (e.g., black sea bass). Volume III Appendix III-N (page E-8) briefly describes this impact on commercial vessels and concludes no significant adverse economic impact to commercial fisheries, with the assumption that commercial fishing will continue in this project area and will benefit from this effect. We do not believe this conclusion is certain, as commercial fishing vessels may choose to avoid fishing within wind energy areas due to safety and navigation concerns.
B-1-36	If operators shift their effort outside the project area during construction or long-term operations, this will potentially put them in areas of higher vessel traffic and gear conflict. Also, depending on operating conditions at sea, commercial and recreational fishermen cannot always reap the benefits of any increased catchability of target species due to safety concerns of fishing in swells around the turbines. These safety considerations will be different than the existing artificial reefs in the Greater Atlantic region which, except for the Block Island Wind Farm turbine foundations, are all submerged structures.
B-4-14	BOEM cannot receive a document [COP Appendix M] that says impacts from construction will impact fish- and therefore commercial fisheries- 23 km away but refuse to compensate commercial fisheries for impacts outside the project area but within that 23 mi range. It also cannot ignore the fact that Vineyard Wind plans to drive piles during the height of the summer longfin squid fishing season, during the summer months, which means that the impacts will be heavily felt by industry. When this impact is expanded to a cumulative scenario for the whole MA/RI WEA and all adjacent fishing areas within the 23 km impact range, for cumulative wind farm construction in the WEA that BOEM expects to continue for a 6-10 year period, impacts to commercial fisheries are indeed "major".
B-4-5	First, despite our continued comments to BOEM about the lethal impacts to squid as a result of underwater sound both from construction and operations of an offshore wind facility, no analysis on squid in particular has incorporated these results into an acoustic impact assessment, either by the developers or BOEM. This must be a part of the Draft EIS analysis. We gave detailed scientific and factual data to BOEM regarding this issue specific to squid in our Vineyard Wind 1 SEIS comments, pages 9-13 under the headings "Construction Noise" and "Operational Noise". The longfin squid fishery is the predominant fishery occurring in and adjacent to the Vineyard Wind lease areas, so such an omission is glaring. Second, even the above statement from [COP] Appendix M admits that behavioral impacts for an average fish extend to 23 km away. There is a significant squid fishery even outside the lease area which would be affected and inside that 23 km range.
B-4-6	Before developing or approving an EIS/FEIS, BOEM must develop federal standards for fisheries compensation and mitigation for negative impacts caused by the projects seeking COP review...commercial fishing industry entities from various states- were treated differently by BOEM with regards to compensation and mitigation for damages caused by Vineyard Wind 1...Rhode Island, Massachusetts, and NY/CT/NJ/other states all had separate and non-standardized approaches to fisheries compensation. Rhode Island negotiations were held privately behind closed doors by the RI FAB and the developer, which we protested at the state level and also at the federal level in our Draft EIS comments, did not include representation from any shoreside business or seafood processor at those negotiations...and did not contain any public information at how the number arrived at by the FAB/developer included compensation for shoreside business losses due to the project. The Massachusetts compensation fund/plan did have a formula for including "downstream multipliers" for "shoreside impacts". The compensation fund for all other states was not even negotiated with those states but was created by BOEM and the developer at the FEIS stage.

Comment ID	Comment Text
B-4-7	BOEM is only just now "taking a very serious look" at a federally standardized compensatory mitigation. BOEM cannot downgrade "major" impacts to commercial fisheries per its obligations under NEPA for a federal project developed in federal waters to any lower level of impact using an ad hoc state by state approach that does not include public participation by affected entities, or treats citizens from different states in different ways. This is unacceptable and does not comply with the agency's responsibilities under NEPA or OSCLA. BOEM must have a standardized and well analyzed process for compensation at a federal level prior to developing EIS impacts.
B-6-4	We do not believe that leasing our historic EEZ US fisheries' ocean bottomland to foreign government-owned renewable energy companies is an appropriate use of the Outer Continental Shelf Lands' Act. We do not believe it to be appropriate because commercial fishermen will be excluded from working in the newly-industrialized wind energy areas due to physical obstructions (turbines and electric service platforms) in the water and physical obstructions in the seabed such as transmission cables and/or armoring of unburied cables by rock pile boulders and cement mattresses, along with physical obstructions that occurs through the moving of boulders to lay transmission cables via prelay grapnel runs.
B-6-5	All of these activities will endanger the lives of commercial fishermen who presently fish with trawls in the area of the lease. And all of these actions are specifically contrary to the OCSLA, 43 U.S.C. 1332(5,6)
B-6-6	The LICFA has repeatedly described in great detail to BOEM, and will attach all past Vineyard Wind BOEM letters, how commercial fishermen's safety at sea in or near offshore wind energy areas has not been addressed, including, but not limited to presenting photographs and the very first NY-NJ Bight Offshore Wind conference, and in multiple comment letters . Present day marine radar will not be able to be utilized in the wind energy areas. We know this because of the discussions with fishermen in Europe and also because of the Wind Turbine Radar Interference Mitigation webinars held in 2020 and have been documented in past letters Offshore Wind Turbines will throw false targets on a radar screen due to to the rare earth minerals that spin inside the turbine
B-6-8	New York fishermen must also be compensated fairly as they have not been with any Rhode Island or Massachusetts project to date.
B-8-11	RODA has called for the development of a uniform gear loss compensation program without any response or action from BOEM or the states. Such an approach is the norm in other industries, including oil and gas, but here follows the common OSW trend of limited regulation and oversight. This must be addressed before leasing decisions that would require additional survey activities.
B-8-13	Previous BOEM EISs have contained no analyses of the impacts of transit lanes to the following crucial topics: fishing economics, product quality, markets, fisheries management, and living marine resources that may benefit from migration corridors. They also fail to identify the history of collaboration and negotiation that led to the transit lane proposal. These topics must be given full due consideration in any EIS for future projects. BOEM must adequately analyze navigational safety in all EISs. This includes alternative turbine spacings beyond the uniform 1x1 nm spacing design supported by OSW developers for other WEAs. The MARIPARS is insufficient, as outlined above, and should not be solely relied upon for the determination of safety and navigation measures.
B-8-14	Array design and spacing between turbines are fundamental determinants of the future, or lack thereof, of commercial fishing operations within wind development areas. It is extremely important that interarray and export cables are buried to sufficient depths to reduce the risk of fishing gear interactions. The fishing industry requests this to be a minimum of 8-10 ft. to avoid interactions; if a shallower depth is permitted, it must be paired with remote monitoring to ensure the cable remains sufficiently buried at all times. BOEM must provide clear standards as to what this depth is, how it is determined, and monitoring protocols to ensure there are no future interactions. Moreover, the project layout should be designed to minimize instances where cables transect fishing tow areas...The EIS should evaluate a range of burial depths and monitoring techniques.

Comment ID	Comment Text
B-8-2	<p>The Fisheries Communications Plan (FCP) contains inaccurate information, which RODA has attempted to correct with Vineyard Wind directly and with BOEM. The agency's negligence in publishing, and failing to correct, a factually incorrect COP is a deeply troubling matter that demands urgent attention...We respectfully repeat our prior requests that timely provision of relevant project information in a format determined by the fishing community be a condition of any OSW permit that BOEM may issue in the future..No effort has been made by any entity to work neutrally with the fishing industry to provide readily accessible information...Fisheries communications must be defined as efforts that include direct communications with fishermen as well as those intended to influence fisheries-related legislation and policy, and to discredit the opinions of fishermen...Fisheries communications must be defined as efforts that include direct communications with fishermen as well as those intended to influence fisheries-related legislation and policy, and to discredit the opinions of fishermen....A full list of fisheries-related activity must be included in the FCP, provided to the public for comment, and considered by BOEM in its determination of whether the COP is complete and adequate.</p>
B-8-22	<p>BOEM has never engaged the fishing community in any dialogue regarding compensation on a project-specific or cumulative scale...the only effective way to design an effective framework for impact fees would be under the Memorandum of Understanding with RODA and NMFS with full transparency and full participation of fishing community members..., the COP indicates "Vineyard Wind will . . . create a process for filing fishery compensation claims for the potential loss of revenue associated with one of Vineyard Wind's offshore wind projects. A third party fiduciary agent will handle claims." How will BOEM address loss of revenue associated with existing closures and displacement of activity ongoing in Vineyard Wind's large lease areas?... it is imperative, when permitting conflicting uses, that the environmental review adequately characterizes costs and benefits and presents a reasonable range of alternatives in order to maintain healthy, safe seafood production and communities.</p>
B-8-26	<p>We recognize that Vineyard Wind has implemented a more robust fisheries research program than other developers to date but maintain that fisheries monitoring remains insufficient for this proposed and other near-term offshore development. Developers 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.</p>
B-8-27	<p>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 did not consider it to be a viable monitoring plan... Though Vineyard Wind has since made revisions to its monitoring plans, there is no indication that it was resubmitted to NMFS—or any other science experts—for independent review. These planning flaws 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 OSW development project are scientifically sound and help to answer critical questions regarding impacts to populations and their stock assessments. NMFS fisheries experts must have approval authority over monitoring plans in accordance with best practices in unbiased scientific review.</p>
B-8-29	<p>For the commercial fishing gear types found in the Vineyard Wind project area, 1x1 nautical mile (nm) spacing between turbines is too narrowly spaced for most fishing operations. Thus, if spacing remains prohibitive, resulting in full (or even majority) functional fishing closures, access to viable and safe transit options becomes the single most important mitigating factor to the project design... BOEM must also work with USCG to resolve inconsistent positions regarding the MA/RI Port Access Route Study (MARIPARS)... We maintain that this proposed spacing will make fishing operations and transiting much less safe and possibly prohibitive.</p>

Comment ID	Comment Text
B-8-3	<p>Fisheries and benthic monitoring plans are a requirement of COP submission under BOEM's guidelines. These guidelines explicitly state "a commercial-scale wind energy project may need additional site-specific survey work prior to the submittal of a construction plan" and "BOEM recommends applicants submit a fish survey plan with a SAP, COP, or GAP survey plan." This requirement is nonsensical, because: (1) fisheries surveys are considered "site characterization" activities that may occur before any true NEPA review at all; and (2) by the time of COP submission, there is inadequate time for baseline data collection prior to proposed construction. As we have raised in previous unaddressed comment letters, this process flaw must be immediately corrected before further review... It is of utmost importance that all fisheries monitoring plans for any OSW development project are scientifically sound and help to answer critical questions regarding impacts to populations and their stock assessments. NMFS fisheries experts must have approval authority over monitoring plans in accordance with best practices in unbiased scientific review.</p>
B-8-5	<p>Environmental data gathered by the project should be shared in its raw form with any interested scientist to support independent oceanic research. Data products are not synonymous with data. BOEM must clarify confidentiality requirements and provide full public access to fisheries and habitat data.</p>
B-9-4	<p>The squid industry is extremely important to the RI, MA and NJ fishing industry and is an important species in the food web. Widespread construction is slated to take place on and around the main fishing and habitat areas for this species and there have been no in-depth studies on its effect on squid...According to a WHOI study on how pile driving noise alters the feeding behaviors of longfin squid: "The study found that when squid in an experimental tank were exposed to audio recordings of pile driving, they were less likely to capture prey during the noise playback and are more likely to abandon pursuing prey, if the noise started during their hunt. Because the squid have a high metabolic rate and need to feed frequently, '[I]f cessation of feeding during noise leads to longer-term reduced food intake, then the potential exists for population-level reductions in squid abundance,' according to the researchers"....Being that squid are semelparous this is extremely concerning to those of us in the industry who rely on this species. However, our concerns continue to go unaddressed.</p>
B-9-5	<p>This section [(Appendix III-N Draft Economic Exposure of Commercial Fisheries)] states that the loss of revenue due to construction and operation in the SWDA "will be recouped as a result of fishing revenue shifting from the SWDA to other areas"... Vessels fishing with small mesh CANNOT fish anywhere they would like, there are gear restricted areas. The squid fishery fishes where the squid are and where their mesh can legally be fished. This is yet another example of the industry's knowledge being disregarded.</p>
B-17-2	<p>Also, in the ROD for Vineyard Wind 1 fisheries -- the ROD states that fisheries are expected to completely abandon the area. This is true. Commercial fisherman, particularly in the swim industry, risk loss of livelihood as well as loss of life due to navigational hazards associated with these projects. That's a major, major, major impact for us. And in the Vineyard Wind 1 SEIS it was stated that cumulative impacts are nature to commercial fisheries. However in the SEIS and ROD, the cumulative impact sections were removed. Why? Especially when BOEM was expecting Vineyard Wind South to submit a COP or -- because they already submitted a COP. That's a major problem because there will be major cumulative impacts to commercial fisheries in the region.</p>
B-18-4	<p>And I would also like to see the economic effects of the community to the fishing industry be analyzed. We're hearing a lot of all these jobs that are going to be coming to the area with wind development, but I'm not hearing anyone talk about the potential loss to jobs and resources, healthy and driving resources that we potentially see,</p>

Comment ID	Comment Text
B-25-2	...the sudden addition of up to five export cables that together create a corridor of almost a mile wide from the lease area to its landing point is a mind-boggling cumulative effect in the project envelope for those that use trawl or dredge gear in the area...when a cable is exposed, and then armored, it is lost to those who have historically trawl fished in the area for decades for species such as squid and summer flounder. Additionally for those that fish with fixed gear such as pots or gillnets, and hook and line, they too can lose their grounds if the armoring takes a previous sand shoal environment conducive to summer flounder or squid and changes the environment to hard benthic substrate.
B-25-3	A full stop should be made to look at the cumulative effects of this ever growing, ever changing project, before BOEM becomes responsible for one of the worst ecological disasters to take place in this century, the industrialization of our ocean and the destruction of the 400 year old commercial fishing industry in southern New England.
B-25-4	If BOEM continues along this path, and does not stop to take a hard look cumulatively at the long term sequelae of these added transmission cables, (which as we know from Europe are frequently exposed with up to 80% of insurance claims due to exposed cables,) it will be responsible for turning one of the most productive fishing areas within the Northeast into an industrial wasteland. Thousands of miles of transmission cables, along with multiple offshore substations
B-26-1	As noted in the Vineyard Wind 1 Record of Decision regarding the lease area itself, "it is likely that the entire 75,614 acre area will be abandoned by commercial fisheries due to difficulties with navigation." This is a true statement, particularly for bottom trawl vessels which will be unable to safely operate within the wind farm itself. However, due to cable interactions, the area lost to fishing, in particular bottom trawl fishing, will be much greater than merely the lease area should the projects move ahead.
B-26-2	...we will focus on cumulative export cable impacts...these areas are not even part of the lease area. They are not identified as part of the WEA or as part of any BOEM lease process until the developer identifies them at the COP stage and BOEM merely accepts this as a part of the overall "project." However, the fact that these cables are run right through heavily fished bottom trawl fishery areas is a huge problem and would result in tremendous loss of fishable area for bottom trawl fisheries which cannot safely tow gear over cables.
B-26-3	The updated COP's Design Envelope Summary for Phase 1 includes two offshore export cables. Phase 2 is expected to require two to three offshore export cables. This is a total of five export cables for the projects. This is tremendous cumulative impact....Bottom trawl vessels cannot operate in areas with randomly "relocated" boulders nor "cable protection" without risk of gear damage and/or loss. It also poses safety issues for the vessel itself.
B-26-4	In the Vineyard Wind 1 FEIS, BOEM both notes that the offshore export cable corridor runs directly through a heavily fished bottom trawl (squid fishery) area, but brushes off any impacts because of an excuse that "it's narrow"... BOEM completely ignores the fact that even a narrow area of cable presents operational constraints for mobile bottom tending gear vessels. If a squid tow is intersected by the cable, all or part of the tow may be lost to the vessel.
B-26-6	This equates to tremendous amounts of highly valuable and productive bottom trawl fishery areas being lost to export cable routes outside the lease areas themselves. BOEM cannot continue to ignore this fact and use the excuse that export cable corridors are "narrow". They are not narrow.
B-26-7	BOEM cannot continue to look at each project singularly- the cumulative impacts of a growing number not just of wind facilities themselves but also export cables are growing quickly. Cable impacts outside the lease area must be cumulatively and seriously considered, particularly in terms of lost fishing area to mobile bottom tending gear.
N-16-1	We do acknowledge the concerns of fisherman that development of the seabed floor can affect certain fisheries, and we are counting on regulators and proponents to appropriately address the concerns of...commercial fisherman
I-24-1	I'm excited to see BOEM's participation in guiding Vineyard Wind in the clean environment energy source, especially since it runs close to Georges Bank, a fishing industry main source in the area... we sit in a very sensitive ecological system and area, and many things depend on this

Comment ID	Comment Text
I-33-1	I've heard a few people talk about ocean acidification. That's not something that I've studied much as a city councilor, but I know a little bit about it and I know a little bit about polluting our air, that pollution going into our oceans and compromising shellfish. The shellfish fishery is very important to this region. It is absolutely an economic catalyst here in the City of New Bedford. So as someone who is interested in protecting the shellfish fishery, as well as our environment, I certainly find favor with this project.

CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

Comment ID	Comment Text
F-1-26	For previous offshore wind projects BOEM routinely consulted with affected tribes under the National Historic Preservation Act. We support the same level of coordination here and recommend that the Draft EIS report on the status of consultations with federally recognized tribes that claim cultural affiliation with the project area.
F-1-27	We also encourage BOEM to require outreach by the project proponent throughout the balance of the review process, including the commitment of continued outreach to tribes in marine survey protocol design, execution of the surveys, and interpretation of the results. The Draft EIS should provide an accounting of these engagement efforts and discussion of issues important to the affected tribes.
F-1-58	The Draft EIS analysis should address impacts to both cultural/historic properties as well as potential environmental impacts that may affect tribal interests. The Draft EIS analysis should address impacts to both cultural/historic properties as well as potential environmental impacts that may affect tribal interests.
F-1-59	We recommend that the Draft EIS include an Unanticipated Discovery Plan (UDP) for the project that includes stop-work and notification procedures to be followed if a potentially significant archaeological resource is encountered during construction.
F-3-1	[National Historic Landmarks (NHLs)] should be identified on all the project maps that show the study area. Point locations may be used for NHL locations. Currently, NHLs are not identified on the project maps. [The National Park Service] can assist in providing location data to fulfill this request.
F-3-2	If a federal activity will "directly and adversely affect" a Landmark, Section 110(f) of the Act also calls for federal agencies to undertake "such planning and actions as may be necessary to minimize harm to such Landmark."... The Nantucket Historic District is a National Historic Landmark District that encompasses the entire island of Nantucket, Massachusetts. At over 30,000 acres, it is the largest conventional historic NHL District by area in the contiguous United States.
F-3-3	If a federal activity will "directly and adversely affect" a Landmark, Section 110(f) of the Act also calls for federal agencies to undertake "such planning and actions as may be necessary to minimize harm to such Landmark."... Gay Head Light was authorized by the U.S. Congress in 1798 and constructed in 1799 and is one of the first U.S. lighthouses to use a "revolving illuminating apparatus" to generate a flashing white light signal...Standing atop the National Natural Landmark Gay Head Cliffs, the lighthouse serves as a beacon to Wampanoag tribal heritage and is the only lighthouse with a history of Native American Lighthouse keepers. "Gay Head Lighthouse represents an important part of Massachusetts coastal communities' identity and the cultural and nautical history of the United States," said Stephanie Meeks, president of the National Trust for Historic Preservation.
F-3-8	If a federal activity will "directly and adversely affect" a Landmark, Section 110(f) of the Act also calls for federal agencies to undertake "such planning and actions as may be necessary to minimize harm to such Landmark."... The Nantucket Historic District is a National Historic Landmark District that encompasses the entire island of Nantucket, Massachusetts. At over 30,000 acres, it is the largest conventional historic NHL District by area in the contiguous United States... According to the NHL nomination, "Nantucket in its entirety, today presents an accurate impression of the ambience of the early whaling industry and serves as an important part of Americas' material culture."

Comment ID	Comment Text
F-3-9	Appendix III-H.a describes the Visual Impact Assessment (VIA) for the project. NPS appreciates the inclusion of locations at Nantucket Island and Martha’s Vineyard, including Gay Head Lighthouse NHL, as Key Observation Points (KOPs) in the VIA, though Appendix III.H.b. – Historic Properties Visual Impact Assessment is not yet available to review. It is NPS understanding that several appendices in the COP are in the process of being redone; if Appendix III is being redone, NPS would appreciate the opportunity to review the updates
F-3-10	Nantucket Island NHL District and Gay Head Lighthouse NHL fall within the APE for the project. The BOEM Vineyard Wind website notes that the project geographic footprint and the Project Design Envelope were being refined and hence many of the COP chapters and appendices are unavailable at this time... As always, NPS encourages BOEM to consult with the Rhode Island and Massachusetts SHPOs (per 36 CFR 800.4(a)(2) to identify any National Register properties or NHLs within the APE that may be affected by the undertaking
L-1-1	Given the scale of the proposed construction and subsequent potential damage from disturbance such as vibration, the current proposed route could impact numerous National Registered historic properties or those that are potentially eligible for being listed on the Register
L-1-2	Main Street in Centerville is the main road for the Centerville Historic District and is one of the streets of which the subterranean utility lines are being proposed. The Barnstable Historical Commission came to the consensus that there is a concern that the installation of the utility lines will potentially physically damage vital historic structures, especially those within the Centerville Historic District within the vicinity of Main Street. It is therefore recommended that cables follow the alternative route that includes South Main Street in Centerville rather than the entirety of Main Street in order to lessen or avoid potential damage to National Registered historic structures
L-1-4	Lastly, while there are limited historic homes within proximity to the proposed substation to be located at 8 Shootflying Hill Road, the Commission requests that the scale and placement of the substation is coordinated to reduce visual impact to surrounding properties that could be eligible for listing including the Jenkins, Fred S. Sears, Ken House addressed 300 Pleasant Pines Avenue which was constructed in 1920.
B-8-31	There is a finite amount of waterfront space available for water dependent uses. Are there local protections which will preserve and protect those facilities, docks and infrastructure—and the cultural heritage of working waterfronts?
N-2-33	it is necessary that during development proper precautions are taken in case unknown cultural resources are uncovered...if any additional or previously unidentified cultural resources are located during project implementation, the find must be protected from operations and reported immediately to the SHPO or THPO staff. All operations in the vicinity of the find will be suspended until the site is visited and appropriate recordation and evaluation is made by the SHPO or THPO staff
N-2-46	Robust consultation with states and tribes under Section 106 is paramount to ensuring the Project appropriately considers impacts on historic state and tribal resources...It is critical that the project include best management practices developed collaboratively with tribes for cultural resource protection in order to avoid, minimize, and mitigate any potential adverse impacts to cultural resources.
N-9-8	Preparation of the EIS must include robust consultation with states and tribes under Section 106 to ensure the appropriate consideration of [Vineyard Wind South] impacts on historic state and tribal resources as required under the recent DOI SO.32 If any additional or previously unidentified cultural resource is located during [Vineyard Wind South] activities, all operations in the vicinity of the find must be suspended, the find protected from operations and reported immediately to the SHPO or the THPO, and activities resumed only after SHPO/THPO visit the site and make appropriate evaluation and recordation.

DECOMMISSIONING

Comment ID	Comment Text
F-2-36	Impacts associated with decommissioning of the project should also be included, with details on how decommissioning would occur and the environmental consequences associated with project removal.
S-3-11	The BOEM regulations specify the decommissioning process. However, testimony provided at the recent RIPUC public hearing indicated that the public was going to be provided with detailed decommissioning plans for another renewable energy project. This infers deviation from the existing projects that BOEM has already reviewed or will be under review. We suggest that sufficient detail be included in the EIS analysis to clearly describe how the decommissioning process will work, as this will have particular consequences on the timeline and mitigating any potential impacts with other coastal uses.
B-1-22	The COP considers "retirement in place (if authorized by BOEM) or removal of the offshore cable system" (Volume 1, Section 3.3.3). It is essential that cables be removed during decommissioning. Abandoned, unmonitored cables could pose a significant safety risk for fisheries that use bottom-tending gear and the long-term risks to marine habitats are unknown.
B-8-21	BOEM must require OSW developers to fully decommission and return the lease area to its natural state (to the greatest extent possible) as a full requirement of the lease terms. Despite this requirement, the Vineyard Wind South COP does not provide enough evidence that the company is prepared to meet these requirements at the end of the project's life cycle. Instead, it perpetuates a "figure it out later" approach common in OSW planning, indicating only that decommissioning will involve removing project components to a depth of 15 ft. below the mudline....Alternatives for decommissioning raised through the scoping process for this and other projects must be addressed in the EIS, including alternatives to cable decommissioning that remove all cables, etc. rather than decommissioning buried cables in-place, although BOEM has simply ignored these alternatives in the past.
B-8-35	[I]f no further NEPA review of the project decommissioning will occur in the future, the EIS must contain explicit details of proposed decommissioning activities and a reasonable range of alternatives to them...At a minimum there should be assurances as to the process and the factors BOEM will evaluate in making future decisions, as the risk to safety for the fishing industry may remain even after an OSW project is decommissioned. The EIS should include descriptions of any approved methods for removing turbine structures from the seabed. All removal methods should minimize further negative impacts to benthic habitat. The potential use of explosives in decommissioning is especially of concern for the negative impacts to benthic habitat and fishery resources, and if it is used, BOEM must conduct a NEPA-compliant environmental review to assess the potential impacts of that activity, which are unknown at this time.
B-8-36	BOEM should analyze the capacity and needs of the existing electricity grid to determine whether early decommissioning may occur and include this information in the EIS.
B-8-37	The onshore grid capacity must be discussed when considering costs and benefits of new OSW projects... BOEM must also provide information regarding the economic considerations of decommissioning...Therefore, the EIS must disclose the estimated cost of decommissioning and the amount of bonded funds as part of the comprehensive environmental review required by NEPA.
B-9-3	Regarding decommissioning, every single piece of steel and wiring should be removed from the ocean. There should be no amount of steel to be allowed to be kept a certain amount of feet below the mudline. We have been told that the area will be returned to what it was before. This cannot happen with any piece of steel left in the water.

Comment ID	Comment Text
N-4-13	The final offshore wind development plan should require the project developer to describe how it intends to handle the end of the project's estimated operating life. This should include a consideration and evaluation of several potential options, including repowering and/or refurbishing at one or more stages of the project's projected lifespan, as well as ultimate decommissioning...Decommissioning considerations should take into account the environmental and ecological impacts of both a wholesale dismantling and removal of all structures and associated apparatus (essentially retuning the site to a "pre-build state") as well as a more selective approach in which some elements of the project may remain in place...Consideration of the reuse and recycling of decommissioned equipment should also be part of the process, with disposal/landfilling of material to be considered as a last resort.
N-4-14	Essential elements to be evaluated within the scope of the project should include:... The impact of decommissioning on the surrounding ecosystem should be the first and highest consideration.
N-4-15	There have been several decommissionings of offshore wind facilities in Europe and BOEM should look to these for lessons to be learned. While quite different from an offshore wind facility, there may also be lessons to be learned from the much longer history of decommissioning offshore oil and gas facilities.
N-4-17	[T]he project developer should demonstrate its financial capacity to decommission the project in an environmentally sound manner. The project developer should be required to post a decommissioning bond, in an amount to be determined by the permitting authority, to ensure responsible decommissioning of the offshore wind project in the event that the project owner becomes insolvent or otherwise unable to meet its obligations under the project proposal. The amount of the bond should be based upon the expected decommissioning cost.
N-4-6	Essential elements to be evaluated within the scope of the project should include:...Plans for assessing alternatives to, and alternative approaches for, decommissioning the project.
N-8-29	The EIS must include alternatives to ensure decommissioning, removal and mitigation of the site occurs regardless of economic, political, or environmental factors. The EIS must therefore include alternatives to make developers explicitly responsible for removing offshore wind equipment if and when their project ends and further include alternatives to require offshore wind developers and operators to place adequate resources in trust to ensure that decommissioning will occur regardless of bankruptcy, change of ownership or lack of profitability.
I-26-2	I believe in ring fencing what essentially need to be public utilities, because we have to have kind of collaborative processes between the endusers and those who invest in the technologies and the actual construction of these projects. We've got to have another model than the ones that have been in play and that have gotten us to the devastating environmental place we are in now. So I'd love to see more conversation about what does decommissioning look like and what is our plan beyond 20 and 30 years.

ENVIRONMENTAL JUSTICE

Comment ID	Comment Text
F-1-21	Mitigation measures outlined or analyzed in an environmental assessment, environmental impact statement, or record of decision, whenever feasible, should address significant and adverse environmental impacts of proposed Federal actions on minority communities and low-income communities.
F-1-22	[W]e encourage BOEM to analyze whether noise, air and traffic impacts from onshore construction and associated project operations within port areas may cause community impacts that should be considered in the environmental justice analysis in the EIS. As a preliminary step we recommend that BOEM use EJSCREEN to help determine if there are potential environmental justice impacts that should be analyzed and discussed associated with potential work at the ports under consideration in Massachusetts, Rhode Island, Connecticut, New York and New Jersey.

Comment ID	Comment Text
F-1-24	We also note that the economic analysis in Appendix III-L makes no mention of low-income communities that would be impacted by the project (positively or negatively), and mainly discusses full-time equivalent jobs and tax revenue. We believe the Draft EIS should include a broader discussion of this issue and we point to the COP analysis that notes that approximately 80% of the FTE jobs created would be in Bridgeport, CT which has many (15+) census tracts where all 11 EJ Screen Indexes exceed the 80th percentile. We encourage BOEM to explore these issues in the Draft EIS and for the discussion to acknowledge these environmental and demographic indicators and provide a description how the project will address EJ issues in Bridgeport.
F-1-54	Environmental justice, as defined by EPA, means the fair treatment of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws and policies, and their meaningful involvement in the decision-making process of the government.
F-1-55	We also encourage BOEM to use the results of the screening to help refine a more in-depth analysis of environmental justice issues for the project and how best to focus outreach efforts to affected communities.
F-1-56	Based on our review of the COP we also suggest that the Draft EIS EJ analysis provide additional information to explain how concerns from the affected fishing industry will be accounted for and addressed. The plan described in the COP references follow-up communication but does not describe a formal process for reviewing complaints/concerns, the methods to be used for resolving them, or a way to track concerns to identify trends in the communications received.
F-1-57	[A] comparison of the EJSCREEN results from both host communities (Bridgeport and Barnstable) reveals that census tracts in Bridgeport exceed the 80th percentile for the 11 EJ Indexes at a greater number than those in Barnstable (2 census tracts with 2 EJ Indexes that exceed the 80th percentile). BOEM and Vineyard Wind should consider these facts as work is conducted with the affected communities to develop current and future HCAs/HCPs.
F-2-41	The NEPA document should address effects of the project on Environmental Justice, including those specific to fishing communities with minority and low-income populations...for coastal communities that include tribal nations who value the sea and fish to sustain Native American life, projects should also consider E.O. 13175 (65 FR 67249; November 6, 2000), which requires federal agencies to establish regular and meaningful consultation and collaboration with tribal officials where tribal implications may arise.
S-2-9	Community involvement throughout construction, operation, and decommissioning is essential for co-existence with existing maritime industries to be realized, particularly in environmental justice areas and disadvantaged communities. Notably, the COP Volume III identifies population and economic statistics for potentially affected NYS counties (Section 7.1.1.4) and discusses potential impacts to environmental justice areas and disadvantaged communities (Section 7.2). Please visit the State's Office of Environmental Justice (https://www.dec.ny.gov/public/333.html) for additional information on potential environmental justice areas and visit the New York State Energy Research and Development Authority's website for additional information on disadvantaged communities (https://www.nyserda.ny.gov/ny/disadvantaged-communities).
B-5-2	In undertaking an EIS for the Vineyard project, BOEM should... ensure beneficial impacts are fulfilled by taking efforts to increase job opportunities by creating a high-road offshore wind industry that... Delivers community benefits with attention to improving access... to displaced energy workers as well as low-income and Black, Brown, Indigenous, and People of Color ("BIPOC").
B-10-3	Replacing these [fossil fuel] plants with offshore wind will reduce pollution and lead to improved air quality, which COVID-19 has clearly demonstrated is an extremely important public health issue, especially in our most vulnerable communities.
B-10-5	With the right policy and comprehensive planning, [the offshore wind] industry also has the potential to drive equity and economic inclusion and build wealth in communities that have been historically overburdened by the energy system in our region.

Comment ID	Comment Text
B-13-5	Part of [Vineyard Wind's] support is scholarships. Particularly part of it toward low income individuals that are interested in working in the offshore wind industry, and really trying to meet the needs of the workforce, a workforce that is really necessary to build this project. The barriers to employment for a lot of disadvantaged individuals are really high. The state of Connecticut is a particularly high cost area to live in and to remain in, and so the ability to be able to access training and the support for the programs and Vineyard has put in place is really going to make a difference for those kids and those youngsters that are going to become the workforce of the future for New England. Not just for this project, but for all of the offshore projects that are going to come up once they start rolling up and becoming available.
B-22-2	In undertaking the EIS of the Vineyard Wind South project we encourage BOEM to fulfill its obligations under NEPA by taking efforts to assess the creation of a high road offshore wind industry that...delivers community benefits with attention to improving access to low income and people of color...
N-1-3	Equity and fairness must be a core component in growing the emerging offshore wind industry... The workforce and economic development opportunities for this and all offshore wind projects must flow to all populations, with particular emphasis on those communities who have, to date, been underrepresented in the clean energy industry.
N-1-5	As BOEM conducts its environmental and socioeconomic impact analysis, NECEC respectfully requests that BOEM include analysis of (a) the regional workforce and economic development, with particular attention paid to equity and opportunity for underrepresented communities.
N-2-42	In considering the environmental justice impacts, BOEM must look at how power plants are frequently located in or close to population centers and disproportionately located in or near communities of color, lower income communities, and Indigenous communities.
N-2-43	The ability of offshore wind to displace fossil fuel generation thus has a potentially important environmental justice benefit. This displacement could be particularly pronounced, as offshore wind facilities' 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.
N-2-48	We encourage BOEM to also adopt early consultation as envisioned in Secretary Haaland's recent Secretarial Order: "Bureaus/Offices will proactively...engage potentially impacted environmental justice communities early in the project planning process. 'Early in the project planning process' includes when a Bureau/Office has enough information on a proposed action to determine that an environmental assessment or an environmental impact statement will be prepared."
N-5-3	Offshore wind energy is in a unique position to address the unprecedented and intersecting environmental, public health, and economic crises that exacerbate racial and social injustices. We can transition away from fossil fuels that are concentrated in low-income and communities of color, and develop this renewable energy resource with attention to stakeholder input, improving access to public comment opportunities to ensure that impacts are properly evaluated.
N-11-1	We look at ways clean technology, including renewable energy infrastructure can help address the dual crises of climate change and systemic inequality. We see that Vineyard Wind, with its Park City Wind project in Bridgeport, will do just that by creating family-sustaining prevailing wage jobs for people who have been historically marginalized.
N-11-2	To meet the needs of the workforce necessary to build the [Vineyard Wind South] project, Vineyard understands the barriers to employment for disadvantaged community members, and has developed scholarships for those who traditionally wouldn't be able to take advantage of these educational opportunities.
N-15-2	Closing these plants and replacing them with offshore wind would also reduce pollution and improve air quality which...is an extremely important public health issue, particularly in overburdened communities
N-16-4	With that said, reliance on fossil fuel is jeopardizing life and habitat worldwide, and wind power is a critical piece to address the global challenges we're all facing and which, as we all know, are dramatically harming people of color disproportionately over white people everywhere.

Comment ID	Comment Text
I-23-3	The Park City project adds to the growing number of jobs in offshore wind...these jobs will be based out of Connecticut and provide career opportunities to residents of port communities that are economically disadvantaged...Vineyard Wind understands the need to address the racial and gender gaps in the offshore industry. Throughout all projects Vineyard Wind is committed to a strong diversity, equity, and inclusion policy.
I-28-2	How will participation in these [workforce development] initiatives be monitored and adjusted as needed so that the economically disadvantaged truly benefit?...Metrics, such as the number of economically disadvantaged students matriculating in the needed skills for the wind industry, or the number of economically disadvantaged small business owners actually receiving technical contracts from the wind industry. These metrics should be public, distributed widely, especially to agencies that serve the economically disadvantaged.
I-32-3	The [labor] agreement also includes hiring targets for woman and people of color.

FINFISH, INVERTEBRATES, AND ESSENTIAL FISH HABITAT

Comment ID	Comment Text
F-1-28	EPA recommends that the Draft EIS fully describe potential impacts to finfish from entrainment associated with jet plowing for cable installation associated with the project. Entrainment rates will likely vary depending on the time of year and bottom type. In order to better understand this direct impact to finfish and invertebrates, particularly those of commercial importance, the Draft EIS should include details about water withdrawal from the jet plow, including where the intake is located relative to the sea floor, the intake velocity, area (swath) of bottom potentially affected by the jet plow intake, and an estimate of possible entrainment loss given the total distance expected to be jet plowed, time of year jet plowing will take place, and bottom types expected to be affected. A rough estimate could be derived by assessing what demersal species will likely be present as eggs and larvae during this construction period.
F-1-50	We specifically recommend that BOEM consider an export cable corridor alternative that avoids and minimizes impacts to cod habitat within Muskeget channel. The analysis should expand upon the information included in the COP Appendix 1-G regarding the proposed corridor siting and selection process
F-1-60	Portions of the lease area may serve as high value habitat for a variety of commercially important species, especially Atlantic cod. The Draft EIS should provide the best and most currently available information regarding benthic habitats and their potential use by cod spawning aggregations within the lease area. This information should then be used to help characterize the impacts of the alternatives in the Draft EIS. Avoidance and mitigation for potential project impacts (from monopiles and both the inter-array and export cables) to complex bottom habitat and spawning areas should be discussed. The Draft EIS discussion should also describe whether construction time of year restrictions can be implemented to help reduce overall impacts to cod spawning.
F-1-65	The Draft EIS discussion should also describe whether construction time of year restrictions can be implemented to help reduce overall impacts to cod spawning.
F-2-19	The most up-to-date EFH and HAPC designations should be used in your evaluation of impacts to EFH...The NEPA document, and the EFH, benthic resources, finfish and invertebrates sections, in particular, should accurately describe the project area, including both the export cable corridor and lease area, and the resources that rely upon these habitats. The document should fully describe the distinct habitat features of the entire project area and the importance of different habitat types for providing structure and refuge, particularly for juvenile species and other sensitive life stages....It will be important to consider impacts of the project on all life stages (adults, juveniles, larvae, eggs), and we recommend focusing on species and life stages that may be more vulnerable to impacts.

Comment ID	Comment Text
F-2-32	The section describing the "Affected Environment" for protected species should include information on the seasonal abundance and distribution of ESA-listed marine fish, anticipated habitat uses (e.g., foraging, migrating), threats, and the habitats and prey these species depend on throughout the area that may be directly or indirectly impacted by the project.
F-2-43	Data used should include a sufficient range of years to reflect natural variability in... fishery operations, but also current conditions. We recommend that fisheries... resource survey analyses consider at least 10 years of data up to and including data within the past two years.
F-2-68	Species for which EFH has been designated in the project area include, but are not limited to, Atlantic cod (<i>Gadus morhua</i>), ocean pout (<i>Zoarces americanus</i>), summer flounder (<i>Paralichthys dentatus</i>), pollock (<i>Pollachius virens</i>), silver hake (<i>Merluccius bilinearis</i>), winter flounder (<i>Pseudopleuronectes americanus</i>), Northern longfin squid (<i>Doryteuthis pealii</i>), winter skate (<i>Leucoraja ocellata</i>), little skate (<i>Leucoraja erinacea</i>), windowpane flounder (<i>Scophthalmus aquosus</i>), bluefish (<i>Pomatomus saltatrix</i>), black sea bass (<i>Centropristis striata</i>), red hake (<i>Urophycis chuss</i>), scup (<i>Stenotomus chrysops</i>), yellowtail flounder (<i>Limanda ferruginea</i>), Atlantic sea scallop (<i>Placopecten magellanicus</i>), and Atlantic surfclam (<i>Spisula solidissima</i>). The proposed project area is also designated EFH for four species of highly migratory tunas and eleven species of sharks.
F-2-70	The analysis should include a broad discussion of the potential effects of habitat alteration from construction and operation of the project using the best available scientific information. The analysis should address the potential impact of converting smaller-grained hard habitats that support early life history stages of finfish to artificial reefs that may attract larger predator species. Within soft bottom habitats in the lease area WTGs may create a reef effect, and the document should clearly distinguish the difference between man-made structures and the natural complex habitat present in the project area. Specifically, artificial habitats are only a component of the EFH designation for two managed fish species (black sea bass and red hake) in the region. The distinction between the natural and man-made structures should be incorporated into the analysis and should not be evaluated as equal in terms of habitat functions and values. The limitations of habitat value from scour protection and other man-made structures should be clearly disclosed and analyzed.
F-2-75	To help ensure adequate information to initiate the EFH consultation, the expanded EFH Assessment should include full delineation, enumeration, and characterization of all habitat types in the project area including the lease areas, cable corridors and landing sites...The habitat mapping data should also be shared directly with us in usable GIS format for review, apart from the body of the EFH Assessment and maps and figures contained therein.
F-2-79	The southern New England spawning population represents the southernmost spawning contingent of [Atlantic Cod] along the Atlantic coast...Recent information indicates these fish comprise a genetically distinct spawning population. The protection of this spawning population enhances genetic diversity and may increase the potential for the species as a whole to adapt to climate change. Atlantic cod spawn in southern New England between November and April, with preliminary results of suggesting peak spawning times occur between November and January. Spawning aggregations can be easily disturbed by in-water activities and disruptions to spawning aggregations may affect reproductive success, which could result in significant long-term effects to the stock. The NEPA document should fully evaluate potential impacts of project construction and operation on Atlantic cod...measures to avoid and minimize these impacts should also be analyzed

Comment ID	Comment Text
F-2-96	The project area also overlaps with the designated Habitat Area of Particular Concern (HAPC) for juvenile Atlantic cod, specifically along the export cable route through Muskeget Channel. HAPCs are designated as high priorities for conservation due to the important ecological functions they provide, their vulnerability to anthropogenic degradation and development stressors, and/or their rarity. Under the Omnibus Essential Fish Habitat Amendment, the New England Fishery Management Council (NEFMC) has designated HAPC for juvenile cod in southern New England as far west as the Rhode Island - Connecticut border from the mean high water line up to depths of 20 meters (m) to include rocky habitats (pebble, cobble, and boulder) with and without attached macroalgae or emergent epifauna, submerged aquatic vegetation (SAV), and sandy habitats adjacent to rocky or SAV habitats, which are used for foraging. An alternative that evaluates ways to minimize project impacts on these important habitats should be developed for the EIS.
F-2-97	Longfin squid is also a species that may be particularly vulnerable to project impacts because it spawns in the project area by depositing eggs in large clusters on open sandy bottom habitats. Longfin squid spawning and demersal egg development largely occur in the spring and summer months when construction is expected to occur.
F-2-98	The cable corridor, as proposed, (including 3-5 export cables in addition to impacts incurred by the first Vineyard Wind project) will result in substantial long-term impacts to this vulnerable and slow recovering habitat designated as HAPC for juvenile cod.
F-2-112	It is also important to note that based on our initial review of the COP, Vineyard Wind habitat information for the project area does not appear to be accurately defined...These definitions are not consistent with our EFH consultations, nor is it consistent with habitat definitions used by the Fisheries Management Council....We strongly recommend you work with us to ensure habitat information incorporated into your EFH Assessment is provided to us consistent with CMECS and our Habitat Mapping Recommendations.
S-6-6	New England Wind should evaluate potential impacts to the distribution, abundance, and feeding of key [fisheries] species that currently inhabit areas within and adjacent to the project footprint. The EIS should describe a fisheries and benthic research plan that describes how New England Wind will coordinate with other developers to better understand and report on project-specific and regional effects upon fisheries species.
B-1-17	The COP proposes to use the same cable corridor for all three projects...coordinated transmission could have environmental benefits to the extent that it might reduce the number of cable installations required. However, in this case, it should also be noted that adjacent swaths of seabed along the same corridor would be disturbed sequentially as the cables for Vineyard Wind 1 and Vineyard Wind South Phases 1 and 2 are laid...It will be important for the impacts analysis, including the EFH assessment, to consider how installation during different seasons will affect particular species and lifestages during spawning, juvenile settlement, etc. The nature of these repeated effects over time should be accounted for in the analysis of impacts to habitats and fishes.
B-1-19	The COP states that electromagnetic fields (EMF) are not likely to affect demersal or benthic fishery resources (positively or negatively) (Volume III, page 4-18, 6-187). We do not believe that sufficient information is available to conclusively support this statement...EMF is listed as an impact producing factor in Table 6.6-4, where cable burial and cable protection are listed as mitigation measures to reduce the impact to fishery resources, however, further research citations would be helpful to verify the effectiveness of these mitigation measures. Potential differences in impacts between HVAC and HVDC cables should be evaluated in the EIS since both are under consideration for Phase 2.
B-1-33	Coastal areas off Massachusetts to a depth of 20 meters, including Muskeget Channel and the remainder of the offshore export cable corridor headed to the landfall site, are designated by the New England Council as a Habitat Area of Particular Concern for juvenile Atlantic Cod. Cod spawning grounds occur east of the lease area off Nantucket (DeCelles et al. 2017)

Comment ID	Comment Text
B-1-39	The COP proposes to use the same cable corridor for all three projects...coordinated transmission could have environmental benefits to the extent that it might reduce the number of cable installations required. However, in this case, it should also be noted that adjacent swaths of seabed along the same corridor would be disturbed sequentially as the cables for Vineyard Wind 1 and Vineyard Wind South Phases 1 and 2 are laid....It will be important for the impacts analysis, including the EFH assessment, to consider how installation during different seasons will affect particular species and lifestages during spawning, juvenile settlement, etc. The nature of these repeated effects over time should be accounted for in the analysis of impacts to habitats and fishes.
B-6-3	Fish with swim bladders, like cod or Black Sea bass, and those without, including loligo squid, a species that has the highest catch value within the WEA, risk death and injury from the pile driving and jet plowing. Jet plowing liquifies the ocean floor to a depth of six to eight feet. Trenching offers a similar trauma to larvae and young of the year. Loligo is also a forage species for a multitude of other fish indigenous to the area.
B-7-1	It is of the utmost importance that initial [baseline] studies be conducted not only the lobster resource from the larval stage to the legally harvestable size lobsters as well as an entire benthic habitat pre, post and during construction of any wind turbine in SNE. A survey on the larval settlement in each developed area will help paint a better picture going forward as to what the impacts are to the lobster resource as these projects become more actively built. Also a survey along the cable routes is imperative given the limited research on Electromagnetic Fields (EMF) on the lobster and conch resources... the sheer amount of electric cables out there is unprecedented and we do not know what the outcome will be.
B-7-2	The wind lease area has been utilized by the NARW to feed on the abundant calanus resource...what will the impact be on the calanus? More research is undeniably needed in this area of concern so that the commercial fleet does not further endure any more baseless constraints
B-7-5	The MLA is pleased to report that we have been conducting pre-construction survey with Vineyard Wind through the University of Massachusetts School for Marine Science and Technology (SMASST). The MLA is currently embarking on the third year, pre-construction survey in the Vineyard Wind 1 lease area- OCS-A-0501 lease area. The survey results will be shared during our Annual Weekend and Industry Trade Show in March of 2022.
N-2-60	The Draft EIS must present a detailed assessment of the anticipated impacts of Vineyard Wind South on benthic resources, finfish, invertebrates, and essential fish habitat (EFH).
N-2-62	In completing the Draft EIS, not only should BOEM include a detailed evaluation of the impacts of the project on EFH, but particular attention should be given to areas designated as an HAPC.
N-2-63	Vineyard Wind South will take place in EFH designated for many species, including several overfished fish populations such as Atlantic cod, Atlantic wolffish, winter flounder, witch flounder, yellowtail flounder, and ocean pout. There are also four fish species listed under the U.S. Endangered Species Act (ESA) that are present in the Project Area, including giant manta ray, Atlantic salmon, Atlantic sturgeon, and shortnose sturgeon.
N-2-75	Static subsea cable installation would result in temporary displacement of species inhabiting the cable route, including Atlantic cod and American lobster.
N-2-76	Vineyard Wind intends to primarily employ jet plow technology to bury the subsea cable. While jet plows have lower impacts than other technologies, use of jet plows for cable installation still results in entrainment of benthic larvae, and eggs and larvae of pelagic finfish and invertebrates, resulting in 100% mortality. Entrainment would affect several overfished species that have EFH in the route of the cable, including Atlantic cod and yellowtail flounder. The Draft EIS should adequately assess the impacts from entrainment of eggs and larvae during cable installation and burial.

Comment ID	Comment Text
N-2-78	The Draft EIS should adequately assess the impacts from increased turbidity and sediment deposition on benthic resources, finfish, EFH, and invertebrates during cable installation and require Vineyard Wind to undertake measures to avoid, minimize, and mitigate these impacts.
N-2-79	As part of the Vineyard Wind South project, BOEM and/or NMFS should establish a program for monitoring the effects of EMF from the project's subsea cables on marine wildlife, including finfish and invertebrates.
N-2-80	Given that important complex, hard bottom habitats in Muskeget Channel are considered HAPC for juvenile Atlantic cod and the fact that Atlantic cod demonstrate spawning site fidelity to such habitats, it is crucial that the Vineyard Wind South Draft EIS fully consider and analyze these issues and all available information on Atlantic cod habitat as part of its impact analysis.
N-2-81	For the Revolution Wind project, BOEM is funding an acoustic telemetry study to better understand the distribution and habitat of spawning cod. BOEM should consider conducting a similar study in complex, hard bottom habitat areas of the SWDA and OECC and including it in the analysis for the Vineyard Wind South Draft EIS to fully measure the project's impacts on Atlantic cod.
N-2-82	as part of the EIS for South Fork Wind, BOEM and NMFS have worked to quantify benthic habitats in the area of South Fork Wind as either complex or non-complex and to assess the areal extent of impacts to complex habitats. Because of the importance of habitats in the path of the OECC, and particularly Muskeget Channel, to Atlantic cod and other species, BOEM should conduct a similar quantification of habitat types in the OECC area to ensure that its evaluation of impacts to EFH and benthic resources in the Draft EIS is as complete and accurate as possible.
N-2-83	The Draft EIS should also provide a more particularized and species-based analysis of the impacts to EFH corresponding with complex habitats in the area of the SWDA and OECC, specifically including overfished species.
N-2-84	Further, impact levels to EFH may vary depending on the biological status of each EFH species and whether an EFH species is abundant in an area. In the Draft EIS, BOEM should discuss the biological status of each EFH species and which EFH species are abundant and non-abundant in the area of Vineyard Wind South and the overall impact to these species' EFH.
N-2-85	BOEM and Vineyard Wind should work closely with Massachusetts fishery managers and NMFS to consider and implement appropriate mitigation measures to avoid, minimize, and mitigate potential adverse impacts to EFH, finfish, benthic resources, and invertebrate populations which may be affected by construction activities, particularly during vulnerable times of spawning, larval settlement, and juvenile development.
N-3-20	During scoping, evaluate how the project may impact structurally complex hard bottom habitats in the project area, especially boulder fields, ledges, spawning and foraging habitat for cod and lobster, the presence of corals, essential fish habitat, and other important ecological resources. In general the applicant should avoid these structurally complex habitats to the maximum extent feasible and to configure the array in a way that minimizes impacts to these habitats.
N-3-6	Consider potential effects of electromagnetic fields and their impact on fish and crustaceans in the Draft EIS.
N-8-9	both state and federal fishery managers have identified habitats that support critical life history processes such as spawning, breeding, feeding, and growth to maturity. A complete EIS must include a detailed assessment of the effects of the project on these habitats, including EFH designated under the MSA and a range of alternatives to conserve these habitats and minimize the effects of the project on EFH and other marine habitats.
N-9-100	The EIS must include the following measures...investment in research to better understand the potential cumulative effects of OSW related acoustic and barometric disturbances on, and behavioral responses on economically and ecologically important fisheries and benthic resources. This study should focus on a broad representative group of species with the widest "range of hearing capabilities and mechanisms of the fishes present in the OSW areas".

Comment ID	Comment Text
N-9-105	<p>The SWDA encompasses EFH of ESA-listed species, ecologically important forage species, overfished species and species caught as bycatch, etc. Among the ESA-listed fish species in SWDA are: Atlantic sturgeon (<i>Acipenser oxyrinchus</i>) -Endangered Atlantic salmon (<i>Salmo salar</i>) - Endangered Shortnose sturgeon (<i>A. brevirostrum</i>) - Endangered Giant manta ray (<i>Mobula birostris</i>) - Threatened Of the 4 tuna species (which are highly migratory) found in SWDA, all have decreasing populations on the Atlantic coast and 3 are red-listed by the International Union for Conservation of Nature (IUCN)48 as are the 11 shark species with EFH in the SWDA: Atlantic bluefin tuna (<i>Thunnus thynnus</i>) - Endangered Atlantic albacore tuna (<i>T. alalunga</i>) - Near Threatened Atlantic yellowfin tuna (<i>T. albacares</i>) - Near Threatened shortfin mako (<i>Isurus oxyrinchus</i>) - Endangered basking shark (<i>Cetorhinus maximus</i>) – Endangered* dusky shark (<i>Carcharhinus obscurus</i>) – Endangered* porbeagle shark (<i>Lamna nasus</i>) - Endangered sand tiger shark (<i>Carcharias taurus</i>) – Vulnerable* common thresher (<i>Alopias vulpinus</i>) - Vulnerable spiny dogfish (<i>Squalus acanthias</i>)- Vulnerable white shark (<i>Carcharodon carcharias</i>) - Vulnerable sandbar shark (<i>Carcharhinus plumbeus</i>) - Vulnerable blue shark (<i>Prionace glauca</i>) - Near Threatened tiger shark (<i>Galeocerdo cuvier</i>) - Near Threatened *Species of Concern (federal)</p>
N-9-15	<p>The complex EFH and the benthic environment more generally in SWDA is essential for multiple commercially and environmentally important species at various life stages, including juvenile and adult Atlantic cod (and for cod reproduction), juvenile and adult black sea bass, etc.</p>
N-9-16	<p>The COP proposes to use monopiles or piled jacket foundations for WTG installations. A comparison of underwater noise (sound exposure level (SEL)) generated during the piling activities of steel monopiles at the Blighbank wind farm with that from jacket pin piles used in the C-Power Thorntonbank project by Belgian researchers found "no statistical difference between monopile and jacket and (the SEL) varied between 145 and 168?dB?re 1??Pa2s". The COP states that a "maximum of four monopiles or one complete piled jacket (3–4 piles) could be driven into the seabed per day". The repetitive, high-intensity (impulsive) sounds generated by impact pile driving and/or vibratory pile driving of monopile foundations severely impact all marine species, "causing mortality, ruptured gas bladders, damage to auditory processes, and altered behavior in some fish species."</p>
N-9-17	<p>Additional continuous (non-impulsive) lower-frequency noises produced by vessel propulsion, cable installation, continuous, DPS of working vessels, dredgers used for soil preparation, and other vessel noises can be expected. 51 These sounds differ in their frequency and intensity causing different sound pressure level (SPL) and SEL. Further impacts can be caused by the combined simultaneous effects of acoustic disturbance, pressure and particle motion sensitivity in fish masking communication and potentially elicit behavioral changes, temporary or permanent auditory injury, or even mortality. Studies have shown that not only fish but also invertebrates appear to be able to detect both sound pressure and particle motion and are most sensitive to low frequency (LF) noises.</p>
N-9-20	<p>We appreciate the measures proposed in the COP to minimize adverse impacts from project activities to complex seafloor habitats and EFH...While these measures are a starting point, they are not sufficient nor are they comprehensive. The EIS must include the following measures to avoid and mitigate adverse impacts to fish and invertebrate species and their habitats affected by the VWS activities:consultations and collaboration with regional fishery managers and NMFS to develop and implement appropriate measures to avoid, minimize, and mitigate potential adverse impacts to fish and benthic resources particularly during vulnerable times of spawning, larval settlement, and juvenile development.</p>

Comment ID	Comment Text
N-9-99	The EIS must include the following measures...commitment to conducting comprehensive long-term science-based monitoring before, during, and after construction to document impacts to benthic habitat and EFH and recovery, compared to pre-construction survey baseline. The monitoring strategies must incorporate relevant stakeholder recommendations where practicable. Monitoring reports must be made publicly available in real time. Adaptive management strategies must be included in the EIS to address and mitigate, in near real time, any adverse impacts identified.
N-18-27	BOEM should conduct a detailed analysis of the operational noise levels expected to be generated by New England Wind...in terms of its potential impacts on... fish and invertebrates that comprise the foundation of the trophic pyramid
N-19-2	Through years of research, ACCOL scientists have shown the importance of Buzzards Bay and Nantucket Sound to numerous marine species, and the proposed cable variants will likely impact these habitats. Buzzards Bay is an important migratory corridor, especially for striped bass, and contains numerous complex bottom habitat that are feeding and spawning areas for numerous fishes...additional research is necessary to ensure the cable variants do not disrupt these vital habitats. Scientists have an incomplete understanding of the impact of export cables on benthic and pelagic fish migration in the proposed cable routes. To date, there has been limited investment in the studies needed to assess these potential impacts.

IMPACT METHODOLOGY AND DEFINITIONS

Comment ID	Comment Text
F-2-13	The "Environmental Consequences" section of the EIS must consider impacts resulting from the construction, operation, and maintenance, and decommissioning of the proposed facility, including survey and monitoring activities that are anticipated to occur following approval of a COP....All activities included in construction of the project should be considered, including the deposition of fill material, dredging, water withdrawals, pile driving, increased vessel traffic, anchoring, and transmission cable installation. All relevant impact producing factors affecting marine resources should be evaluated, including, but not limited to, elevated noise levels, increased vessel traffic, turbidity and sedimentation, electromagnetic fields (EMF), habitat alteration, presence of structures (WTGs, substations, and cables), and localized changes in currents.
F-2-24	The description of the "Affected Environment" should recognize the ocean environment as dynamic, not static, and acknowledge that the environment, and species within the environment, vary over time and seasons. This section should include information on the physical (temperature, salinity, depth, and dissolved oxygen) and biological (e.g. plankton) oceanography. It is important that the EIS discuss seasonal changes and long-term trends in the environment as well as hydrodynamic regimes and how they influence the distribution and abundance of marine resources. Within this section, the EIS should include results of on-site surveys, site-specific habitat information, and characterization of benthic and pelagic communities. Additional details should be provided related to all habitat types located within the project area with a particular focus on complex habitats

Comment ID	Comment Text
F-2-37	Importantly, the significance criteria definitions identifying the level of impacts from the project (e.g., negligible, minor, moderate, major) should not embed terms defined by other statutes (e.g., the definition of minor should not refer to the MMPA definition of "level A harassment") or apply other statute definitions to the impact criteria used for NEPA purposes. Rather, these definitions should be written in a way that it is clear to a reader how these impact determinations consider the spectrum of effects to individual animals (e.g., temporary behavioral disturbance, injury). We also encourage you to use definitions that are appropriate for the resource being considered (e.g., benthic habitat vs. marine mammals). As you know, we recently worked with you on the South Fork EIS to develop significance criteria definitions for impacts to NOAA trust resources (i.e. marine mammals, and benthic habitat, EFH, finfish, and invertebrates). That collaborative work should be carried forward for this and future NEPA documents.
F-2-42	As we have stated in the past, to the extent that any conclusions are based on inclusion of mitigation measures, those measures must be clearly defined and include an indication as to whether the measure is considered part of the proposed action and will be required upon approval or an option that may be implemented by the developer at their own discretion. In preparation of the NEPA document for Vineyard Wind South, we strongly recommend you review and incorporate comments we have made on previous BOEM documents to ensure a robust and sufficient analysis of NOAA trust resources.
F-2-45	Temporary, long-term, and permanent direct and indirect impacts to water quality, protected species, habitats, and fisheries (ecological and economic) throughout construction, operation, and decommissioning should be addressed in the EIS. The temporal classification (e.g., short-term or long-term) should be appropriate for the species, habitat types, and impacts considered and should be clearly and consistently defined. The time of year that construction activities occur is also an important factor in evaluating potential biological, economic, and social impacts of the project and should be clearly specified for each project activity to the extent possible.
F-2-48	It is vital that all costs and benefits of available alternatives, including the no action alternative, are considered in a cost-benefit analysis. Costs and benefits should include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider (including potential economic, environmental, public health and safety, distributive impacts, equity, etc.).
B-1-1	As the impacts analysis is developed, clear terminology will be important for readers to understand the complexity of the alternatives considered and the large number of impact producing factors and environmental resources evaluated. It also would be useful to specify both magnitude and direction when characterizing impacts, and for the EIS to define short and long term in the context of impacts
B-3-2	The Network also encourages a comprehensive analysis of benefits, not just costs, as part of BOEM's environmental review process for Vineyard Wind South and other offshore wind proposals. Studies conducted by the federal and state governments and other organizations have observed that offshore wind projects provide measurable positive benefits to the environment, grid reliability, ratepayers, and the state, regional, and national economies.
B-3-7	For Vineyard Wind South specifically, BOEM can build upon the extensive review conducted for Vineyard Wind 1, and can reinforce the standards from that project, including adopt uniform layouts across projects, robust protections for marine mammals and other species, and valuable contributions to marine research. The recently approved Vineyard Wind 1 project can serve as a template for the environmental review of Vineyard Wind South.
B-20-5	The network also wants to encourage analysis of benefits, not just costs, as part of BOEM's environmental review process for Vineyard Wind South and other offshore wind proposals. Offshore wind projects provide benefits to the environment, grid reliability, rate payors, and the state, regional, and national economies.
N-2-1	As BOEM reviews and permits projects, it is imperative that the agency's analyses build and improve upon what we have learned from Vineyard Wind 1, include significant new information created in recent years, and be responsive to changing ocean conditions; therefore BOEM should not rely on conclusions provided in the EIS for Vineyard Wind 1 in its impact assessment for Vineyard Wind South.

Comment ID	Comment Text
N-2-19	<p>Additionally, under NEPA, BOEM must make every attempt to obtain and disclose data necessary to its analysis in order to provide a "full and fair discussion of significant environmental impacts." Under previous regulations, the simple assertion that no information or inadequate information exists will not suffice. Unless, under the 1978 regulations, the costs of obtaining the information are exorbitant, NEPA requires that it be obtained...agencies were 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 here, so much about an activity's impacts depend on newly emerging science.</p>
N-2-20	<p>NEPA does not permit agencies to "ignore available information that undermines their environmental impact conclusions."</p>
N-2-25	<p>As previously noted, offshore wind remains a new technology in the United States and, as such, BOEM must closely monitor the impact of offshore wind construction and operations on marine wildlife and the ocean ecosystem to guide its adaptive management and future development. It is necessary to understand baseline environmental conditions prior to large-scale offshore wind development in the United States, so offshore wind impacts can be clearly understood with relation to pre-development environments. To this end, BOEM must ensure the creation of a robust, long-term scientific plan to monitor the effects of offshore wind development on marine mammals, sea turtles, fish, bats, birds, and other species and their habitats before, during, and after the first large-scale commercial projects are constructed.</p>
N-2-27	<p>Without strong monitoring in place, we lose the ability to detect and understand potential impacts and risk setting an under-protective precedent for offshore wind development. Monitoring must inform and drive future project siting, design, implementation, and mitigation as well as potential changes to existing operations to avoid or minimize negative impacts to wildlife and other natural resources.</p>
N-2-29	<p>BOEM must require continued monitoring and employment of adaptive management practices in the Draft EIS as a condition of continued operation and maintenance by Vineyard Wind South. This will ensure that BOEM can swiftly minimize damages of unintended or unanticipated impacts to coastal ecosystems or wildlife, as well as inform strategies for future wind projects to avoid potential impacts.</p>
N-2-49	<p>The definitions of potential adverse and beneficial impact levels (i.e., negligible, minor, moderate, and major) include language that provides minimal guidance on how impacts may be quantified. BOEM should look to previous analyses for more meaningful definitions. For example, adverse moderate and major impact levels in previous analyses include "notable and measurable" and "regional or populationlevel impact."</p>
N-2-50	<p>the definitions of negative factors included in previous analyses specify "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 Lease area," and "The richness or abundance of local species common to the Lease Area." The terms "richness" and "abundance" are both quantifiable ecological terms that have been described in decades of ecological literature</p>
N-2-53	<p>The Draft EIS 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. 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 Vineyard Wind South Draft EIS representing these changes as "beneficial." This is especially the case because it is unclear what implications these changes may have on the wider ecosystem. We recommend that the Vineyard Wind South Draft EIS remain objective in language used in its impact analysis (e.g., by using terminology such as "increase," "decrease," and "change").</p>

Comment ID	Comment Text
N-2-55	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 offshore wind and wildlife interactions. For instance, we do not know the degree to which bats, marine birds, and nocturnal migrants may interact with offshore wind turbines in U.S. waters and whether those interactions will lead to population-level impacts. Many of these species are currently facing stressors on land, which may make their populations more vulnerable to additional take.
N-8-3	Due to changing ocean conditions and presence of ocean wildlife in the U.S. Atlantic Wind Energy Areas, Oceana also suggests that BOEM require new biological and ecological surveys of all proposed lease areas where the data is over 5 years old to ensure that development of these areas is appropriate and compatible with other marine conservation goals.
N-8-4	Oceana is aware of the recent FEIS, COP and ROD for the Vineyard Wind I project and is reviewing this carefully. Oceana notes that while the Vineyard Wind South permitting in a nearby site may serve as an example, separate new analysis must be completed for each project with improvements and additions as necessary. While it may be attractive to simply replicate the analyses and conclusions in its EIS and associated reviews for the current project, that approach must be avoided.
N-14-2	Fundamental criteria necessary to ensure a strong framework to help mitigate potential and environmental and ecological impacts include the need for, One, flexibility through an adaptive operational plan approach that can meet changing circumstances
I-12-4	The environmental assessments and design reviews for the Vineyard Wind 1 project showed that the Federal EIS process worked. We need to build on that process and make Vineyard Wind South environmental review more efficient and predictable by using and thereby reinforcing the standards from the Vineyard Wind 1 project, including uniform layouts across projects, robust protections for marine mammals and other species, and valuable contributions to marine research. Extensive work done for the first project should serve to settle design questions for the wind farm and review questions for agencies that are involved.
I-14-1	The environmental review process should focus on positive impacts, including environment and climate, economic and energy benefits of these projects.
I-14-2	Build on the long review of Vineyard Wind 1, and reinforce the standards from that project, including uniform layouts across projects, robust protections for marine mammals and other species, and valuable contributions to marine research.
I-21-1	One is that we need to do a comparative analysis in the scoping document of wind versus fossil fuels. And what I mean by that is that it's not a reasonable analysis just to say it's wind or nothing. Because that's not the reality. So we believe very strongly that the environmental evaluation should do a comparison of the 2300 megawatts generated by wind against 2300 megawatts generated by fossil fuels. And that includes such things as what are the air pollution impacts of 2300 megawatts by wind and 2300 megawatts by fossil fuels. What are the impacts to ocean acidification...what are the impacts of extraction of fossil fuels for 2300 megawatts...it's our obligation, societal obligation to choose the one with the least impact.
I-31-1	Pre-construction, during construction, and post construction monitoring so that we are not talking about the political game of impacts and who's going to write who the next corporate check. Instead of that, knowing what actual impacts are, learning, and then figuring out mitigation afterward. And I don't see that being set up appropriately in the current process.

IMPACT PRODUCING FACTORS

Comment ID	Comment Text
F-2-26	Potential effects of offshore wind energy development on listed species that should be considered by BOEM when making any determinations about construction and operation in the Vineyard Wind South project area include: ? Potential for an increased risk of vessel strike due to increases in vessel traffic and/or shifts in vessel traffic patterns due to the placement of structures; ? Impacts of elevated noise during any geophysical and geotechnical surveys, pile driving, wind turbine operations, and other activities; ? Potential interactions, including entanglement, injury, and mortality, of listed species from proposed surveys or monitoring of fisheries resources; ? Any activities which may displace species from preferred habitats, alter movements or feeding behaviors, increase stress and/or result in temporary or permanent injury or mortality;
F-2-64	Potential effects of offshore wind energy development on listed species that should be considered by BOEM when making any determinations about construction and operation in the Vineyard Wind South project area include:...The EIS should also consider how any proposed wind farm may displace or alter fishing or existing vessel activity that may change the risk to protected species from interactions with fisheries or vessels either within or outside the lease area, including potential risks of interactions with recreational fishing activity around foundations and entanglement in marine debris that may become ensnared on the foundations..
F-2-81	the EIS should consider effects of any surveys that may occur following potential COP approval that may affect listed species (e.g., gillnet or trawl surveys to characterize fisheries resources), as well as any pre- or post-construction monitoring that may affect listed species.
F-2-95	Any surveys or monitoring that are carried out related to the project (e.g., gillnet or trap surveys to document fisheries resources) must carefully consider the effects to North Atlantic right whales and other ESA-listed species, and mitigation measures should be considered to eliminate the potential for entanglement of whales and to minimize risk to sea turtles and Atlantic sturgeon during such activities.
B-1-6	The different impacts associated with the various types of foundations should be clearly identified in the EIS, particularly bottomframe foundations which readers may be less familiar with.
N-2-51	More transparent information on how the level of an IPF is quantitatively or qualitatively assessed is needed. As a general matter, the impact analysis should be undertaken in an objective, transparent, and, where possible, quantitative manner.
N-2-52	In the absence of available data, BOEM should acknowledge that an IPF is indeterminate and that additional research is needed. BOEM should provide detail on how IPFs and associated criteria have been quantitatively or qualitatively measured in the Draft EIS.
N-4-11	It is imperative that the offshore wind project not facilitate the introduction of invasive species into the lease area. We did not see any specific discussion relative to this issue within the COP. Vessels used for the transport of wind turbine construction materials and the installation of the turbines, cables, and other infrastructure have the potential to introduce invasive species into native waters. This may be particularly relevant in the context of specialized wind turbine installation vessels from Europe. Specific protocols should be established and agreed upon in order to prevent any introduction of invasive species.

LAND USE AND COASTAL INFRASTRUCTURE

Comment ID	Comment Text
N-6-8	APCC commends Vineyard Wind for pursuing discussions with the town of Barnstable about laying the project's land-based cables in coordination with Barnstable's planned sewer installation along the same route. Doing so would minimize construction disruptions along the route and save the town money. Most important, the end result will reduce wastewater impacts on water resources, including impacts to Wequaquet Lake—another significant project benefit in addition to the clean energy the project will provide.

MARINE MAMMALS

Comment ID	Comment Text
F-2-12	We encourage you to work with Vineyard Wind to develop a project schedule that minimizes potential impacts to North Atlantic right whales. Specifically, you should consider time of year restrictions for pile driving that would avoid pile driving during the months when the density of North Atlantic right whales is highest in the lease area and the development of robust measures for other times of year that would minimize the exposure of right whales to noise that could result in behavioral disturbance.
F-2-31	The section describing the "Affected Environment" for protected species should include information on the seasonal abundance and distribution of marine mammals, sea turtles,anticipated habitat uses (e.g., foraging, migrating), threats, and the habitats and prey these species depend on throughout the area that may be directly or indirectly impacted by the project. The status of marine mammal stocks (see our stock status reports), population trends, and threats should also be identified. Similar information should also be provided for all ESA listed species (see relevant status reviews on our ESA Species Directory, https://www.fisheries.noaa.gov/species-directory/threatened-endangered).
F-2-33	As the EIS is developed, specificity between species groups (e.g., low frequency vs. mid frequency cetaceans) of marine mammals and sea turtles should be incorporated. A broad grouping approach (e.g., all marine mammals) creates uncertainty and gaps in the analysis and does not fully represent the variability of impacts amongst different taxa. As species within these taxa have different life histories, biology, hearing capabilities, behavioral and habitat use patterns, distribution, etc., project effects may not have the same degree of impact across all species. Thus, the impact conclusions (e.g., minor, moderate, major) are clearer and better supported if the document describes the degree of impacts to each species (e.g., green sea turtle vs. hawksbill) or groups of species (e.g., mysticetes, odontocetes, pinnipeds). Additionally, for some marine mammal species (e.g., harbor porpoise), data from European wind farms can be used to support each determination. This approach also allows the analysis to better identify the ability of those species or groups to compensate when exposed to stressors and better identify the benefit from mitigation and monitoring measures. This approach would ensure the analysis reduces uncertainty and reflects the best available scientific information. Also, wherever possible, we encourage you to identify effects to individuals (e.g., injury, behavioral disturbance, disrupted foraging), as well as impacts at the population level.
F-2-44	Data used should include a sufficient range of years to reflect natural variability in resource conditions, but also current conditions. We recommend that marine resource survey analyses consider at least 10 years of data up to and including data within the past two years. This is especially important for marine mammals given recent distribution and habitat utilization shifts.
F-2-67	Recent events and new information (see, https://doi.org/10.1111/mms.12745) demonstrate that large whales are susceptible to lethal vessel strikes from vessels of all sizes.
F-2-80	.A summarized list of NOAA's [EIS] adoption requirements is below, and more information can be found in NOAA's NEPA Companion Manual...Therefore, the EIS must contain an adequate evaluation of the impacts on all marine mammals that may be present in the project area...Specifically, the EIS must include an analysis of the impacts of elevated underwater noise on marine mammals resulting from pile driving, site characterization surveys, and other project-related activities; the risk of vessel strike due to increases in vessel traffic and/or changes in vessel traffic patterns; any activities that may increase the risk of entanglement; any activities that may result in the displacement of individuals or changes to migratory behavior; any activities that may result in altered prey assemblages or changes in feeding behavior; and any other activities that may result in harassment, injury or mortality to marine mammals....For the noise impacts analysis, we recommend a similar approach using the hearing groups identified in NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (NMFS, 2018).
F-2-82	While BOEM and Vineyard Wind will need to consider effects to all listed species, given the imperiled status of North Atlantic right whales, implementing measures to ensure that no right whales are injured or killed as a result of the Vineyard Wind South project is critical.

Comment ID	Comment Text
F-2-91	North Atlantic right whale sightings are available at our NOAA Right Whale Sightings Map page . Please note, a tech memo was recently published with the new population estimate (368 individuals) for North Atlantic right whales, which was significantly lower than the previous estimate. Additionally, the 2020 draft marine mammal Stock Assessment Reports are available, and we aim to publish the final drafts in July 2021.
B-4-12	Additionally, Appendix M of the COP, “Assessing the Potential Acoustic Impact on Marine Fauna during Construction of Vineyard Wind South” estimates the total number of marine mammals predicted to receive Level A and Level B threshold levels of sound to be based on exposure estimates utilizing habitat-based models to derive species densities. However, it states that “These numbers may not be reflective of the current state of certain species’ current populations, e.g. NARW, but are the best available data.”. The model inputs should be made publicly available, and we are unsure if a habitatbased model is the best available data when NOAA and online real-time North Atlantic Right Whale location tracking tools such as WhaleMap can show actual whale presence for dates and date ranges.
B-4-13	Considering that NOAA frequently reports high levels of critically endangered North Atlantic Right Whales in the vicinity of the Vineyard Wind lease- all public information- there is no reason for this information to be redacted. However, this issue should receive high levels of both public and agency scrutiny considering that in 2019 alone, NOAA reported 100 North Atlantic Right Whales in the vicinity of the Vineyard lease area.2
B-4-2	Marine Mammals: Volume II-A of the COP, one of the documents available at least for the public to open, contains many sections "redacted in its entirety". It also completely redacts/blacks out Section 5.3, "Protected Species Observation Results"...This is not confidential technical information that would be proprietary to a developer's technology. This should be publicly available information, just as the location and number of marine mammals and marine mammal analysis is publicly available information at all fishery management related meetings.
B-4-3	The analysis in Appendix M additionally acknowledges that North Atlantic Right Whales feed in the Vineyard Wind lease area. It also acknowledges that it expects- even with what may be faulty modeling- to injure up to three critically endangered North Atlantic Right Whales. With fewer than 400 North Atlantic Right Whales left in the world, more than 25% at one time in the Vineyard Wind lease vicinity, and with an Unusual Whale Mortality Event occurring since 2017 with up to 50 mortalities, more in depth and public analysis must be completed on this matter.
B-4-4	There has also been no specific impact analysis on North Atlantic Right Whales from the impacts of low frequency noise due to operations of up to 130 turbines of Vineyard Wind South, from Vineyard Wind 1, as well as adjacent lease areas. All data must be made public.
B-6-2	By co-opting and industrializing the ocean floor through pile-driving monopiles 66-148 feet deep into the ocean floor based on VW's projections, utilizing a high db (220-240 db) low frequency sound, the project risks level A and level B takes of not only the extremely endangered North Atlantic Right Whale but other protected Baleen species in the area.
B-7-3	While, the governments' ongoing and aggressive conservation efforts to increase the population of the North Atlantic Right Whale (NARW) is distressing to the commercial trap/pot industry when the government allows large scale construction projects while not fully understanding and exploring the long-term impacts of OSW on the NARW. Furthermore, the commercial lobster and fixed gear industries are continually constrained because of potential future interactions with these animals, there is not enough known about the impacts of OSW construction, EMF and noise impacts on the NARW? The MLA continues to express concerns that the NARWs habitat and food sourcing locations will not be disrupted or eliminated completely.
N-2-88	Since 2010, North Atlantic right whale distribution and habitat use has shifted in response to climate change-driven shifts in prey availability. Best available scientific information, including recent regional aerial surveys, acoustic detections, photo-identification data, stranding data, a series of Dynamic Management Areas (DMAs) declared by NMFS pursuant to ship strike rule, and prey data, indicate that North Atlantic right whales now rely heavily on the waters within, and regionally proximate to, the Project Area year-round. Recent aerial surveys and passive acoustic studies conducted by the Northeast Large Pelagic Survey Collaborative (NLPSC) have detected North Atlantic right whales in and near the Massachusetts and Rhode Island WEAs during all seasons.

Comment ID	Comment Text
N-2-89	<p>Not only are right whales present in the Project Area year-round, but their presence appears to be increasing. A new scientific analysis comparing the NLPSC aerial survey campaigns conducted in 2011- 2015 with those conducted in 2017-2019 show that right whale occurrence has increased during the study period. Since 2017, right whales have been sighted in the area nearly every month, with peak sighting rates between late winter and spring. Modeling suggests that 23% of the species' population is present from December through May each year, and that mean residence time has tripled to an average of 13 days during these months. A total of 327 unique right whales were identified during the combined survey effort off southern New England between March 2011 and December 2019; by the end of 2019, 87% of the current population had been sighted. The discovery curve had a steep slope during the 2011?2015 surveys and was even steeper in 2017?2018, suggesting an open population or that sightings in the area were underestimated.</p>
N-2-90	<p>Fourteen marine mammal species occur regularly in waters in and near the Project Area. Of these species, four (North Atlantic right, fin, sei, and sperm whale) are listed as endangered under the ESA, and as depleted and strategic stocks under the Marine Mammal Protection Act (MMPA). In addition, humpback whales occurring off Rhode Island are part of the Gulf of Maine stock which is considered strategic under the MMPA. Vocalizations of blue whales, which are endangered under the ESA, have been detected from acoustic devices located in the Project Area. However, due to the far detection range of a blue whale vocalization (>200 km) and the lack of blue whale sightings in the Project Area during recent surveys, these vocalizing blue whales were likely not within the Project Area. Therefore, this species is not considered a regularly occurring species for the Project Area. Harbor porpoise are expected to be common to the Project Area in the winter and spring; while not a listed species or strategic stock, the marked sensitivity of the harbor porpoise to noise requires BOEM's specific attention.</p>
N-2-91	<p>All demographic classes of right whales have been documented in or near the Project Area and the age-ratio of the whales using the area is reflective of the species. Both reproductive females and conceptive females have been seen in the study area. Forty-five of the 108 reproductively active females (42%) known to be alive during the study were sighted in the southern New England region, and 17 were resighted in multiple years. The overall yearly proportions of reproductively active females varied from 0.25 to 0.57 (0.4 +/- 0.05).¹⁷⁰ In the case of conceptive females, only 4 females were identified in 4 years (2011, 2012, 2017, 2018), and their yearly proportion varied from 0 to 0.14 (0.03 +/- 0.02).¹⁷¹ The area also provides important habitat for cow-calf pairs. Six different calves (inferred by the presence of known mothers) were recorded during the study in southern New England (4 in 2011, 1 in 2015, 1 in 2019; 89 calves were born in the population during this time). Three calves were sighted twice in the same year.</p>
N-2-92	<p>Protection of North Atlantic right whale foraging and mating habitat is essential, and further research to determine whether North Atlantic right whales are currently engaging in these behaviors should be undertaken during site assessment...North Atlantic right whales 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. Indeed, North Atlantic right whale body lengths have been decreasing since 1981, a change associated with entanglements in fishing gear as well as other cumulative stressors. Undisturbed access to foraging habitat is necessary to adequately protect the species, as is the minimization of disturbance during the species' energetically expensive migration.</p>
N-2-93	<p>The Project Area is also part of the NMFS-designated migratory corridor BIA for the North Atlantic right whale. While helpful in identifying key areas of importance, the BIAs are not comprehensive and are intended to be periodically reviewed and updated to reflect the best available scientific information. All of the East Coast marine mammal BIAs were defined in 2015 before evidence emerged of the new foraging areas south of Martha's Vineyard and Nantucket. Until the current review is completed for the East Coast, NMFS should not rely on the North Atlantic right whale migratory corridor BIA as the sole indicator of habitat importance for the species.</p>

Comment ID	Comment Text
N-2-95	<p>Ongoing UMEs exist for humpback and minke whales. There have been UMEs for the Atlantic population of minke whales since January 2017 and humpback whales since January 2016. Alarming, 107 minke whales have stranded between Maine and South Carolina from January 2017 to July 2021. Elevated numbers of humpback whales have also been found stranded along the Atlantic Coast since January 2016 and, in a little over five years, 150 humpback whale mortalities have been recorded (data through 28 July 2021) with strandings occurring in every state along the East Coast. Partial or full necropsy examinations have been conducted on approximately half of the stranded animals and a significant portion showed evidence of pre-mortem vessel strikes. NMFS recently proposed to designate the Gulf of Maine humpback whale stock, which occurs off Rhode Island and Massachusetts, as a strategic stock under the MMPA based on the total estimated human-caused average annual mortality and serious injury to this stock, including from vessel strikes. The declaration of these UMEs by NMFS in the past few years for three large whale species for which anthropogenic impacts are a significant cause of mortality, and the recent classification of humpback whales as a strategic stock by the agency, demonstrates an increasing risk to whales from human activities along the East Coast.</p>
N-2-96	<p>Harbor porpoises also require special attention during offshore wind energy development because of their extreme sensitivity to noise. Harbor porpoises are substantially more susceptible to temporary threshold shift (i.e., hearing loss) from low-frequency pulsed sound than are other cetacean species that have thus far been tested.</p>
N-2-97	<p>Harbor porpoises have been reported to react to pile driving beyond 20 km and may be displaced from areas for months or years after construction. High-amplitude pile driving noise may also negatively affect harbor porpoise foraging by decreasing their catch success rate and increasing the termination rate of their fish-catching attempts. Both captive and wild animal studies show harbor porpoises abandoning habitat in response to various types of pulsed sounds at well below 120 dB (re 1 uPa (RMS)) and, in fact, evidence of the acoustic sensitivity of the harbor porpoise has led scientists to call for a revision to the NMFS acoustic exposure criteria for behavioral response. Impacts to harbor porpoises must, therefore, also be minimized and mitigated to the full extent practicable during offshore wind siting and development in the waters off Rhode Island and Massachusetts.</p>
N-2-99	<p>The agency is obligated by NEPA to consider the full range of potential impacts on all marine mammal species and to protect the critically endangered North Atlantic right whale from additional harmful impacts of human activities. Considering the elevated threat to federally protected large whale species and populations in the Atlantic, emerging evidence of dynamic shifts in the distribution of large whale habitat, and acoustic sensitivity of the harbor porpoise, BOEM must ensure that any potential stressors posed by site assessment activities on affected species and stocks are avoided, minimized, mitigated, and monitored to the full extent possible.</p>
N-2-100	<p>To adequately assess the occurrence of and potential impacts to marine mammals, it is extremely important that BOEM consider a variety of local and regional data sources. For example, aerial survey and passive acoustic monitoring data must be combined to provide a comprehensive look at the seasonal and annual occurrence of large whales. Data sources that should be assessed include NLPSC aerial surveys and passive acoustic studies, the Center for Coastal Studies surveys, and the Atlantic Marine Assessment Program for Protected Species (AMAPPS) data. Where possible, density estimate modeling for the WEAs should include these multiple data sources, particularly the most recent data for this region.</p>
N-2-101	<p>BOEM currently relies on estimates of marine mammal densities derived from the habitat-based density model (the "Roberts et al." model) produced by the Duke University Marine Geospatial Ecology Laboratory. However, the current "Roberts et al." model, which was released in 2020, does not include all of the site-specific data. This model includes the NLPSC survey data from 2011-2015 and 2017-2018 (campaigns 1-4) but does not include any data from 2019-2020...BOEM should not use the Duke University habitat-density models as the sole information source when estimating marine mammal occurrence, density, and impact. Project Area-specific and regional survey data, including aerial survey data from all NLPSC campaigns, and passive acoustic data should be utilized to provide a comprehensive assessment of occurrence and density to evaluate potential impacts to marine mammal species.</p>

Comment ID	Comment Text
N-2-102	While the best available scientific information justifies the use of seasonal restrictions to temporally separate development activity from North Atlantic right whales in some areas, it is becoming increasingly clear that there may not be a time of "low risk" for this species, particularly off Rhode Island and Massachusetts where right whales are known to occur year-round. . The population size is now so small that any individual-level impact is of great concern.
N-2-103	we recommend BOEM work with NMFS and other relevant agencies, experts, and stakeholders, towards developing a robust and effective near real-time monitoring and mitigation system for North Atlantic right whales and other endangered and protected species (i.e., fin, sei, minke, and humpback whales) during all phases of offshore wind energy development.
N-2-104	The ability to reliably detect North Atlantic right whales and other species on a near real-time basis and adjust survey/construction activities accordingly (e.g., if an endangered whale species is detected within X meters distance of the survey/construction area, then no survey/construction activity will be undertaken within a defined time period) would enable BOEM and NMFS to adaptively manage and mitigate risks to protected species in near real-time while affording flexibility to offshore wind energy developers. This approach could be used in conjunction with seasonal restrictions in North Atlantic right whale primary foraging areas (e.g., off southern New England) or potentially year-round in the MidAtlantic region (as long as a mandatory 10-knot vessel speed restriction is in place) where a changing climate is leading to novel spatial and temporal habitat-use patterns.
N-2-105	A near real-time monitoring and mitigation approach would also minimize risks posed by North Atlantic right whale seasonal restrictions to other protected species that may be present at high densities at times when North Atlantic right whales are expected to be present in lower numbers (e.g., fin whale foraging that occurs in the summer months east of Montauk Point when North Atlantic right whale presence may be relatively low). An added benefit is that the biological data collected could be used to inform future wind energy development activities and adaptive management.
N-2-106	There are several technologies in various stages of development that would allow near real-time detection of protected species (e.g., Robots4Whales, SeaTrac) and convey that information to decision makers (e.g., "Mysticetus") to inform mitigation action. Near real-time monitoring systems are already being deployed to mitigate risks to North Atlantic right whales.
N-2-107	BOEM should coordinate with NMFS to evaluate the current status of near real-time detection technologies and develop recommendations for an integrated near real-time monitoring and mitigation system that combines, at minimum, both visual and acoustic detections.
N-2-108	As part of [near real-time monitoring and mitigation], the acoustic detection ranges for different species of large whale should be modeled for each offshore wind energy area (i.e., accounting for site-specific oceanographic conditions, ambient and anthropogenic noise levels, etc.) to inform the subsequent expansion of the near real-time monitoring and mitigation approach to other protected large whale species.
N-2-110	BOEM must also require strong protections for other endangered and threatened marine mammal species, including those currently experiencing a UME. BOEM must take all necessary precautions to reduce the number of Level A takes (any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild) and Level B takes (any act that has the potential to disturb [but not injure] a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering) for large whales to be as close to zero as possible.
N-2-111	In general, when designing mitigation, BOEM must require the most protective measures possible for all endangered and at-risk species, including fin whales, humpback whales, and minke whales, as well as harbor porpoises.

Comment ID	Comment Text
N-2-112	Pile driving noise during the construction phases has been identified as a stressor of high concern for marine mammals. Potential impacts of unmitigated exposure to pile driving noise include physical injury, hearing impairment, disruption of vital behaviors such as feeding, breeding, and communication, habitat displacement, stress, and other health effects. Although not considered in the Project's design envelope, there are commercially available options for the construction of offshore wind turbines that do not require pile driving and thus avoid the significant noise impacts stemming from this activity. These options, referred to here as "quiet foundations," currently include various designs of suction bucket (or "caisson"), gravity-based foundations, and jack-up foundations. ²¹¹ We recommend BOEM incentivize the use of quiet foundations as a means of avoiding underwater noise during offshore wind for all fixed foundation wind energy projects in the United States.
N-2-113	The mitigation measures below reflect our current (July 2021) set of recommendations for North Atlantic right whales during construction and operations of fixed foundation turbines along the East Coast. While these mitigation measures were designed specifically for North Atlantic right whales, some offer co-benefits to other large whale species (as identified in parentheses below). Please note that these recommendations may be subject to change as new information becomes available, additional or updated mitigation measures are incorporated, and a near real-time monitoring and mitigation system for large whales is advanced.
N-2-114	Prohibition on pile driving during times of highest risk (North Atlantic right whales only): i. Pile driving should not occur during periods of highest risk to North Atlantic right whales, defined as times of highest relative density of animals during their migration, and times when mother-calf pairs, pregnant females, surface active groups (indicative of breeding or social behavior), or aggregations of three or more whales (indicative of feeding or social behavior) are, or are expected to be, present, as supported by review of the best available science at the time of the activity. ii. If a near real-time monitoring system and mitigation protocol for North Atlantic right whales and other large whale species is developed and scientifically validated, the system and protocol may be used to dynamically manage the timing of pile driving and other construction activities to ensure those activities are undertaken during times of lowest risk for all relevant large whale species.
N-2-115	Diel restrictions on pile driving (all large whale species): i. Pile driving shall not be initiated within 1.5 hours of civil sunset or in times of low visibility when the visual "clearance zone" and "exclusion zone" (as hereinafter defined) cannot be visually monitored, as determined by the lead Protected Species Officer (PSO) on duty. ii. Pile driving may continue after dark only if the activity commenced during daylight hours and must proceed for human safety or installation feasibility reasons, and if required nighttime monitoring protocols are followed (see subsection e).
N-2-116	Clearance Zone distances (for a minimum of 10-12 dB noise reduction (see subsection h); North Atlantic right whales only): i. Avisual clearance zone and exclusion zone shall extend at minimum 5,000 m in all directions from the location of the driven pile.ii. An acoustic clearance zone shall extend at minimum 5,000 m in all directions from the location of the driven pile. iii. An acoustic exclusion zone shall extend at minimum 2,000 m in all directions from the location of the driven pile.iv. BOEM, in consultation with NMFS, should design clearance and exclusion zone distances for other large whale species in a manner that eliminates Level A take and minimizes behavioral harassment to the full extent practicable.

Comment ID	Comment Text
N-2-117	<p>Shutdown requirements (for a minimum of 10-12 dB noise reduction (see subsection h); North Atlantic right whales only): i. When the application of monitoring methods defined in subsection (e), below, results in either an acoustic detection within the acoustic clearance zone or a visual detection within the visual clearance zone of one or more North Atlantic right whales, pile driving should not be initiated. ii. When the application of monitoring methods defined in subsection (e) results in a visual detection within the visual exclusion zone or an acoustic detection within the exclusion zone of one or more North Atlantic right whales, piling shall be shut down unless continued pile driving activities are necessary for reasons of human safety or installation feasibility.iii. In the event that a North Atlantic right whale is visually detected by PSOs at any distance from the pile, piling activities shall be shut down unless continued pile driving activities are necessary for reasons of human safety or installation feasibility. iv. Once halted, pile driving may resume after use of the methods set forth in subsection (e) and the lead PSO confirms no North Atlantic right whales or other large whale species have been detected within the relevant acoustic and visual clearance zones.</p>
N-2-118	<p>Real-time monitoring requirements and protocols during pre-clearance and when pile driving activity is underway (all large whale species): i. Monitoring of the acoustic clearance and exclusion zone will be undertaken using near real-time PAM, assuming a detection range of at least 10,000 m, and should be undertaken from a vessel other than the pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by the pile driving vessel or development-related noise.ii. Monitoring of the visual clearance and exclusion zone will be undertaken by vessel based PSOs stationed at the pile driving site and on additional vessels circling the pile driving site, as required. On each vessel, there must be a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon per pile driving location. Additional vessels must survey the clearance and exclusion zones at speeds of 10 knots or less. iii. Acoustic and visual monitoring should begin at least 60 minutes prior to the commencement or re-initiation of pile driving and should be conducted throughout the duration of pile driving activity. Visual observation should continue until 30 minutes after pile driving. iv. Passive acoustic monitoring and infrared technology must be used during any pile driving activities that extend into periods of darkness. v. The deployment of additional observers and monitoring technologies (e.g., infrared, thermal cameras, drones, hydrophones, 25x150 power "big eye" binoculars) should be undertaken, as needed, to ensure the ability to effectively monitor the established clearance and exclusion zones.</p>
N-2-119	<p>Vessel speed restrictions (all large whale species):i. All Project-associated vessels should adhere to a 10-knot speed restriction at all times except in limited circumstances where the best available scientific information demonstrates that whales do not use the area. ii. The Project may develop, in consultation with NOAA, an "Adaptive Plan" that modifies these vessel speed restrictions. However, the monitoring methods that inform the Adaptive Plan must be proven effective using vessels traveling 10 knots or less and following a scientific study design. If the resulting Adaptive Plan is scientifically proven to be equally or more effective than a 10-knot speed restriction, the Adaptive Plan could be used as an alternative to a 10-knot speed restriction</p>
N-2-120	<p>Other vessel-related measures (all large whale species): i. All personnel working offshore should receive training on observing and identifying North Atlantic right whales and other large whale species.ii. Vessels must maintain a separation distances of 500 m for North Atlantic right whales and 100 m for other large whale species, maintain a vigilant watch for North Atlantic right whales and other large whale species, and slow down or maneuver their vessels as appropriate to avoid a potential interaction with a North Atlantic right whale or other large whale species. iii. All vessels responsible for crew transport (i.e., service operating vessels) should carry automated thermal detection systems to assist monitoring efforts while vessels are in transit (while maintaining a speed of 10 knots).</p>

Comment ID	Comment Text
N-2-121	Underwater noise reduction: i. BOEM should require a combination of near field (e.g., reduced blow energy, resonant panel noise abatement system, Hydrosound Damper) and far field noise mitigation (e.g., single bubble curtain), and/or a combination system (double bubble curtain), expected to achieve at least 15dB (SEL) noise attenuation taking, as a baseline, projections from prior noise measurements of unmitigated piles from Europe and North America. A minimum of 10 dB (SEL) must be attained in the field during construction in combined noise reduction and attenuation. ²¹⁷ ii. Field measurements should be conducted on at least the first pile installed, and ideally data should be collected from a random sample of piles throughout the construction period. We do not, however, support field testing using unmitigated piles. iii. Sound source validation reports of field measurements must be evaluated by both BOEM and NMFS prior to additional piles being installed.
N-2-122	Reporting: i. BOEM should require the Project to report all visual observations and acoustic detections of North Atlantic right whales to NMFS or the Coast Guard as soon as possible and no later than the end of the PSO shift. We note that, in some cases, such as with the use of near real-time autonomous buoy systems, the detections will be reported automatically on a preset cycle. ii. The Project must immediately report an entangled or dead North Atlantic right whale or other large whale species to NMFS, the Marine Animal Response Team (1-800-900- 3622), or the United States Coast Guard immediately via one of several available systems (e.g., phone, app, radio). Methods of reporting are expected to advance and streamline in the coming years, and BOEM should require projects to commit to supporting and participating in these efforts.
N-2-126	all future cumulative impact analysis must include the following considerations...Vessel strikes 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, and vessels of any length travelling below this speed still pose a serious risk. The number of recorded vessel collisions on large whales each year likely grossly underestimates the actual number of animals struck, as animals struck but not recovered, or not thoroughly examined, cannot be accounted for. In fact, observed carcasses of North Atlantic right whales from all causes of death may have only accounted for 36% of all estimated death during 1990-2017.
N-2-127	all future cumulative impact analysis must include the following considerations...Vessel strikes are one of the two main factors driving the North Atlantic right whale to extinction. North Atlantic right whales 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. Some types of anthropogenic noise have been shown to induce sub-surface positioning in North Atlantic right whales, increasing the risk of vessel strike at relatively moderate levels of exposure. Scientists have deemed it "likely" that noise from pile driving during offshore wind development could lead to displacement of large whales and that this potential impact should be treated as "high importance." It is possible that noise from large-scale site assessment and characterization activities will have the same effect. BOEM should therefore act conservatively and implement mitigation measures to prevent any further vessel collisions for North Atlantic right whales or other species of large whale currently experiencing an UME (i.e., humpback whales and minke whales), as well as 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
N-2-128	BOEM has significantly downplayed the risk of vessel strike to endangered whales in previous offshore wind permitting documents.
N-2-129	all future cumulative impact analysis must include the following considerations...any interaction between a vessel and whale poses a risk of serious injury or mortality. This is true irrespective of the number of other vessels operating in the same location... an addition of even a single vessel traveling at speeds over 10 knots poses an unacceptable risk. Thus, when analyzing impacts from vessel traffic, BOEM should concern itself less with "relative risk" and instead focus on the actual risk to the animal and the offshore wind project vessel.
N-2-130	all future cumulative impact analysis must include the following considerations...even through the lens of relative risk, the North Atlantic right whale cannot currently withstand a single vessel strike if the species is to survive.

Comment ID	Comment Text
N-2-131	all future cumulative impact analysis must include the following considerations...BOEM's assumptions about smaller vessels posing lower risk of a fatal collision are not supported by best available science...Observations compiled by Laist et al (2001) —the primary reference cited by BOEM—suggest that the most severe injuries occur as a result of vessel strikes by large ocean-going vessels; this research has led to a number of mitigation and management actions in the United States and internationally. However, there is increasing recognition that smaller vessels can also cause lethal injury, even when traveling at relatively low speeds (i.e., below 10 knots). The NMFS Large Whale Ship Strike Database reveals that blood was seen in the water— indicative of serious injury—in at least half of the cases where a vessel known to be less than 65 feet in length struck a whale. This is likely an underestimate of the magnitude of the threat, as small vessel collisions with whales are underreported.
N-2-132	all future cumulative impact analysis must include the following considerations...BOEM's assertion that existing federally required mitigation measures will "minimize" collision risk is flawed. NOAA requires a mandatory vessel speed restriction of vessels 65 feet and greater within Seasonal Management Areas (SMAs) to reduce the risk to North Atlantic right whales and voluntary 10- knot speed reduction zones (i.e., NOAA DMAs and North Atlantic right whale "Slow Zones") offer an additional layer of protection. However, a recent analysis undertaken by NMFS shows that compliance with voluntary speed reductions is woefully low. BOEM recently required additional sector-specific vessel speed restrictions for the Vineyard Wind 1 project, including a requirement that project-related vessels of any length must adhere to SMAs and DMAs and that all vessels must travel at 10 knots or less when transiting to, from, or within the project site, except for certain geographic areas and crew transfer vessels, that may travel faster than 10 knots upon submission of a North Atlantic right whale "strike management plan." We encourage BOEM to continue to strengthen vessel speed requirements for future projects.
N-2-133	all future cumulative impact analysis must include the following considerations...PSOs stationed aboard a vessel may increase the likelihood that a whale is detected, but this approach cannot be relied upon particularly in periods of darkness or reduced visibility, and the whale would need to be detected with adequate time for the vessel captain to be alerted and to undertake evasive action (which may inadvertently strike another undetected whale). The use of vessel based PSOs may therefore provide some additional benefit when a vessel is already traveling at slow speeds (i.e., less than 10 knots), but will provide little benefit for faster vessels.
N-2-134	all future cumulative impact analysis must include the following considerations...Vessel speed restrictions and additional mitigation and monitoring measures must... be explicitly required as part of the permitting process. BOEM should acknowledge the significant risk vessel strikes pose to North Atlantic right whales 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.
N-2-136	all future cumulative impact analysis must include the following considerations...BOEM should consider the level and potential impacts of vessel-related noise during construction, particularly noise emitted by dynamic positioning systems. Reported source levels of noise from dynamical positioning system (DPS) vary among 177, 162–180, and 121–197 dB re 1 ?Pa (SPL) at 1 m. The latter intensity range reports frequencies in the 50–3,200 Hz range, within the hearing frequency of large whales and fish, and may have biologically significant effects. For example, research has shown mesopelagic fish migrate deeper in the water column upon exposure of DPS noise, and there is extensive scientific literature on the impacts of continuous low frequency vessel noise on marine mammals and fish.
N-2-137	all future cumulative impact analysis must include the following considerations...BOEM should undertake an analysis of DPS and vessel-related noise associated with the construction of Vineyard Wind South, as well as cumulatively for existing and reasonably foreseeable projects in the Rhode Island and Massachusetts WEAs.

Comment ID	Comment Text
N-2-138	We recommend that BOEM take a precautionary approach and acknowledge that it is not possible to assess all of the potential hazards of physical structures in water column at the current time and commit to an explicit monitoring plan that will allow for future assessment (i.e., pre-, during-, and postconstruction monitoring). 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 and/or displacement, by the top scientists and experts working in this field.
N-2-139	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 help fund a robust, long-term scientific plan to monitor effects of offshore wind development on marine mammals before the first large-scale commercial projects are constructed. Without this in place, we risk losing the ability to detect and understand potential impacts and set an under-protective precedent for future offshore wind development.
N-2-142	BOEM should conservatively assess the potential loss to the right whale 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.
N-2-148	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 160 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's 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).
N-3-4	During scoping, address potential impacts to federally protected species including marine mammals. North Atlantic Right Whales (NARW) are known to congregate in the project area and are of particular concern to the Conservancy due to their critically endangered status. This part of the scope must include thorough consideration of the benefit/cost and feasibility of state-of-the-art methods for eliminating or reducing potential acoustic impacts to the NARW and other marine mammals, including the choice of turbine foundations and installation methods.
N-2-307	Given the acute vulnerability of the North Atlantic right whale, it is essential that, at a 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 North Atlantic right whale population. This analysis should be incorporated into the agency's NEPA compliance documents...We recommend that the analysis quantify the percentage of the North Atlantic right whale population potentially exposed to conceivable impacts from offshore wind development on an annual basis and, as a worse-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 North Atlantic right whales 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.

Comment ID	Comment Text
N-2-308	Habitat avoidance may also result in North Atlantic right whales 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 directly resulting from wind development activities 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.
N-3-13	Developers should minimize risk of impacts from survey, construction, and decommissioning noise by: a. Using the best available sound control technology. In general, we recommend technologies that avoid generating RMS sound pressure levels >180 dB re 1 uPa at 1 meter. i. We note that the original RFP that Vineyard Wind responded to in proposing the Park City Wind project (from August 16, 2019) requires developers provide a Specific Hazard Assessment and "Include a plan to employ Best Management Practices to avoid exposure of marine mammals to sound at levels that will cause injury and behavioral changes as informed by the latest acoustical guidance". ii. We also note that this same RFP suggests that the latest acoustical guidance is "NOAA guidelines as described in NOAA technical guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) and the recent Southall et al. (2019) peer reviewed publication, support a SEL threshold value of 168 dB (re 1 ?Pa2S) for onset of temporary threshold shift (TTS -onset) and 183 dB for onset of permanent threshold shift (PTS-onset) in baleen whales upon impulsive noise."
N-3-14	Developers should minimize risk of impacts from survey, construction, and decommissioning noise by:b. Identifying methodology for detecting potential impacts and identifying and evaluating corresponding mitigation measures, including science-based seasonal restrictions on pile driving or high resolution geophysical (HRG) surveys needed to protect the critically endangered NARW.
N-3-15	Developers should minimize risk of impacts from survey, construction, and decommissioning noise by:c. Minimizing risk of sound exposure by use of integrated monitoring within established Monitoring, Exclusion, and Clearance zones during noise-generating activities: i. Developers should indicate the process, models, and data for identifying the size of each Zone, including what site and project specifics are considered. ii. Developers should use an integrated suite of monitoring methods to ensure there are no species of concern in these zones subject to injury. iii. Developers should commit to not commence pile driving or HRG survey work at sound pressure levels >180 dB re 1 uPa at 1 meter for equipment that operates between 7 and 35 kHz at night or during periods of low visibility when visual monitoring of exclusion zones is not possible.
N-3-22	Developers should indicate what baseline data (previously published or new) they will be using to evaluate impacts relative to avoiding, minimizing and mitigating impacts to marine mammals...especially to species of special concern such as the NARW. Data gaps should also be identified and addressed. i. Developers should provide an overview of field surveys they are, or will be, conducting to address data gaps, including a detailed scientific methodology, taxa examined, and research leads. ii. Developers should indicate any modeling they are conducting to evaluate anticipated impacts from noise generation and propagation, electromagnetic fields , habitat/forage resource alterations, etc.
N-4-12	Save the Sound appreciates that special attention has been paid to develop recommendations to protect the North Atlantic right whale, one of the world's most endangered species, from the risk of excessive underwater sound and collision with vessels. It appears, however, that much work is yet to be done with respect to the impact of underwater sound on this species, and we recommend ongoing research into these impacts to inform this and other projects.

Comment ID	Comment Text
N-8-1	Because the immediate proposals for offshore wind development are along the Atlantic seaboard in the areas that the critically endangered NARW may frequent, offshore wind needs to consider, avoid, and mitigate effects to protected species, particularly the critically endangered NARW to ensure that wind development will not come at the expense of the species. NARWs spend the majority of the year in the waters of New England and Eastern Canada with mothers migrating south seasonally to have calves in the U.S. SE region. Wind development in persistent aggregation habitats and calving grounds pose particular issues with wind development but those where NARWs migrate are likely more appropriate because of the reduced frequency, intensity and duration of interactions with these areas. As offshore wind is developed along the eastern seaboard, strong measures and regulations are needed to protect this critically endangered species
N-8-12	Research suggests that reducing vessel speed will reduce risk of vessel collision mortality up to 86 percent for large whales like the North Atlantic right whale. Due to the risk of ship strikes to North Atlantic right whales in the project area, the EIS must include alternatives to limit vessels of all sizes associated with the offshore wind project to speeds less than 10 knots at all times. If and when a North Atlantic right whale is sighted, regardless of season, speeds should be reduced for all project vessels for at least 48 hours and/or an aerial survey confirms the NARW has left the area. Additionally, if a large whale is sighted and cannot be identified, it should be assumed to be a NARW and speeds reduced for at least 48 hours.
N-8-13	The EIS should also...require all vessels associated with offshore wind to comply with all Seasonal Management Areas (SMAs) and Dynamic Management Areas (DMAs) created by NMFS regardless of vessel size.
N-8-14	Consistent with NOAA regulations under the Endangered Species Act for all vessels, aircraft, the EIS should include requirements that all vessels maintain a separation distance of at least 500m from North Atlantic right whales at all times with clear requirements to safely move away from NARWs that are detected within this range.
N-8-17	[T]he EIS must...require all phases of the project to subscribe to the highest level of transparency, including frequent reporting to federal agencies, requirements to report all visual and acoustic detections of North Atlantic right whales and any dead, injured, or entangled marine mammals to NMFS or the Coast Guard as soon as possible and no later than the end of the Protected Species Observer shift.
N-8-18	When SMAs or persistent DMAs cannot be avoided, the most stringent mitigation measures will be required...The EIS should include alternatives to avoid development of offshore wind in 1) Seasonal Management Areas and 2) in areas where persistent or long-duration DMAs are established and extended for more than 3 months in any one year of the most recent five.
N-8-20	In 2008 NOAA promulgated regulations to reduce the risk of vessel strikes with NARWs known as the Ship Strike Rule. The heart of this management strategy is to designate important areas where NARWs are expected to aggregate in certain times of the year, known [as] Seasonal Management Areas (SMAs), and require vessels to avoid these areas or slow to below 10 knots when transiting the area. Additionally, the Ship Strike Rule requires NOAA to create 15-day reactive vessel speed areas when aggregations of NARWs are detected outside of the established SMAs called DMAs...Oceana includes a recent NOAA summary of SMAs DMAs in the U.S. Atlantic to show the persistence of DMAs in certain regions.
N-9-12	The EIS must address the listed marine mammals to be found in the [Vineyard Wind South] area, the adequacy of current policies in protecting them, and provide a comprehensive programmatic approach to ensure that the [Vineyard Wind South] and other Atlantic OSW projects avoid/minimize adverse impacts on these species all along their spatiotemporal migratory movements.

Comment ID	Comment Text
N-9-60	Among the 38 species found in SWDA, all protected by MMPA, are 31 cetaceans (27 odontocetes: toothed whales, dolphins, porpoises and 6 mysticetes: baleen whales), 4 phocids (harbor seals, gray seals, harp seals, and hooded seals), and 1 sirenian (Florida manatee). Of these, five are listed species under the ESA and MA state law: North Atlantic right whale (<i>Eubalaena glacialis</i>) - Critically Endangered fin whale (<i>Balaenoptera physalus</i>) - Endangered sei whale (<i>B. borealis</i>) - Endangeredsperm whale (<i>Physeter microcephalus</i>) - Endangeredblue whale (<i>B. musculus</i>) - Endangered Florida manatee (<i>Trichechus manatus latirostris</i>) - Threatened The ESA listed whale species are also listed as depleted and strategic stocks under the MMPA. The humpback whale (<i>Megaptera novaeangliae</i>) is Endangered under MA law and is part of the Gulf of Maine stock which is considered strategic under the MMPA.
N-9-61	In an authoritative study published yesterday, scientists quantified North Atlantic right whale distribution, residency, demography, and movements in the OSW development corridor in southern New England region south of Martha's Vineyard and Nantucket, which includes the SWDA. Their analysis showed that: NARW occurrence increased in the region during the study period between 2011 ?2019, based on aerial survey data Since 2017, NARW have been sighted in this region nearly every month, with peak sighting rates from December (late winter) through May (spring) of nearly a quarter of NARW populationThe mean residence time of NARW tripled to an average of 13 days during the peak period.Southern New England is an important destination for conceptive and reproductive NARW females, as well as males, based on movement models and qualitative observations The scientists emphasize the urgent need for NARW conservation in the development of regional OSW projects, stating, "(I)mplementing mitigation procedures in coordination with these findings will be crucial in lessening the potential impacts on right whales from construction noise, increased vessel traffic, and habitat disruption in this region."
N-9-62	The SWDA is just south of a designated North Atlantic right whales (NARW) Critical Habitat (Northeastern US Foraging Area Unit 1). The COP focuses only on 4 of the above federally listed species since the manatee is presumed to be only a rare visitor to the area. However, given the current limitations of accurate identification, lack of any real-time monitoring of these mammals, changing weather conditions from year to year, and climate crisis impacts, their occurrences may already be or become more common than being assumed.
N-9-64	The COP focuses only on 4 of the above federally listed species since the manatee is presumed to be only a rare visitor to the area. However, given the current limitations of accurate identification, lack of any real-time monitoring of these mammals, changing weather conditions from year to year, and climate crisis impacts, their occurrences may already be or become more common than being assumed.
N-9-65	The SWDA is just south of a designated North Atlantic right whales (NARW) Critical Habitat (Northeastern US Foraging Area Unit 1).
N-9-66	The NARW has been listed as endangered species under the ESA since 1970 and its population has never recovered. Over these past 50 years, it has been facing ever increasing threats from anthropogenic activities and sliding towards extinction. The current trend of a precipitous population decline started in 2010 with an ongoing Unusual Mortality Event (UME) declared in 2017 and NMFS reported in 10/2020 that 218 right whales had died from fishing gear entanglements and vessel strikes since 2011, at "a rate of roughly 24 whale deaths per year." At the end of 2019 the New England Aquarium released a NARW population estimate of just 356 individuals. Scientists warn that low birth rates coupled with whale deaths "means that there could be no females left in the next 10 to 20 years". NMFS reports that currently fewer than 94 breeding females of NARW left on the planet.
N-9-67	Atlantic populations of minke whales and humpback whales are also experiencing ongoing UMEs, caused primarily by vessel strikes, with strandings of 105 minke whales seen between Maine and South Carolina from 1/2017 through 4/2021, and large numbers of humpback whales strandings in every state along the Atlantic Coast 186 since January 2016 with 149 mortalities recorded from 1/2016 through 4/2021. These events led to the recent designation of the Gulf of Maine humpback whale population as an MMPA strategic stock.

Comment ID	Comment Text
N-9-68	Vessel strikes and fishing gear entanglements are the drivers of ongoing UMEs of some whale species and forcing NARW closer to extinction... Severe injury or mortality to marine mammals can occur from a vessel traveling >10 knots irrespective of its length, and even
N-9-69	Marine mammals vary in their hearing sensitivities so that different noise source types affect them differently. Repeated exposure to noise is potentially more damaging as cumulative acoustic impact elicits TTS or PTS. The COP uses NMFS 2018 technical guidance which sets acoustic threshold criteria for the two harassment levels under the MMPA with Level A resulting in PTS and Level B causing behavioral changes. Multiple marine species have been observed to exhibit strong, even lethal, behavioral reactions to sound levels well below the current 160 dB threshold for Level B take.
N-9-70	Sound and other disturbances cause marine mammals to be displaced from their foraging, feeding, nesting, or calving habitats which might become a permanent abandonment of the area with serious consequences. Studies on captive and wild harbor porpoises have shown them to abandon their habitat for months and years after OSW construction noises cease. Noise may also result in NARW being displaced from their habitat and inadvertently entering shipping lanes thereby increasing their risk of vessel collision. Scientists have deemed it "likely" that noise from pile driving during OSW development could lead to displacement of large whales and that this potential impact should be treated as "high importance."
N-9-71	incorporate all available data including aerial survey records available through sightings databases (e.g. NMFS Right Whale Sighting Advisory System; Northeast Fisheries Science Center Monthly Dynamic Management Areas (DMA) analysis) and passive acoustic monitoring data (e.g. Robots4Whales detections, Acoustic Right Whale Occurrence, large whale acoustics) for accurate estimation of population densities and seasonal presence.
N-9-72	The cumulative analysis must also examine the large-scale habitat displacement and the additional energy expenditure by NARW if it were to avoid all lease areas expected to be developed during their migration. This is particularly important in light of new data indicating the need for NARW to undertake efficient and uninterrupted foraging to maintain their energy budget. The energetic implications of displacement of pregnant females during their southern migration (e.g. offshore into the Gulf Stream) must also be taken into consideration.
N-9-73	include a comprehensive quantitative analysis of cumulative impacts on listed marine mammals expected from VWS and other activities in the region, relative to the baseline level. The analysis must quantify the percentage of NARW population potentially exposed to conceivable impacts from OSW development on an annual basis and, as a worse-case scenario, the potential impact on population viability from a permanent loss of foraging and other habitat within SWDA...use the cumulative impact analysis to ensure that any potential shifts in habitat usage by NARW and other large whale species and stocks are reflected in sound exposure modeling associated with OSW development.
N-9-74	focus on the actual risk to the animals and not on "relative risk" when analyzing impacts to marine mammals from vessel strikes
N-9-75	Acoustic Disturbances...LF noise from DPS vessels has an intensity range of 121–197 dB re 1 ?Pa at 1 meter which is within the hearing frequency range (50–3,200 Hz) of large whales and fish impacting them seriously, with the mesopelagic fish migrating deeper in the water column upon exposure to DPS noise.
N-9-76	Acoustic Disturbances... Exposure to even moderate levels of noise within NARW hearing range could cause loss of their communication abilities, and displacement from/avoidance of their foraging habitat, but in a triple hit it could induce their sub-surface positioning increasing their risk of vessel strike.
N-9-77	Acoustic Disturbances... Harbor porpoise (<i>Phocoena</i> sp.) requires special attention because of their extreme sensitivity to noise, being substantially more susceptible to temporary threshold shift (i.e. hearing loss) from LF pulsed sound well below 120 dB (re 1 uPa (RMS))201 (even 20 km from the acoustic source) compared to other cetacean species that have been tested.

Comment ID	Comment Text
N-9-78	consider the use of all emerging and established monitoring technologies (e.g. unmanned acoustic gliders, Robots4Whales) that allow near real-time detection of protected species and share the data with experts (e.g. "Mysticetus") to inform adaptive management and near real-time mitigation action.
N-9-79	include a quantitative analysis of vessel strike risk posed by OSW vessels (i.e. total number of vessels, proportion of vessels associated with reasonably foreseeable OSW activities, locations of the primary route between ports and OSW project areas, and marine mammal occurrence and density) using all available data (e.g. on the Mid-Atlantic Data Portal).
N-9-80	require VWS and all OSW developers as part of the permitting process to reduce speed of all project-associated vessels of all sizes to 7 knots at all times and locations (i.e., transiting to/from the project area) except in those circumstances where the best available scientific information demonstrates that NARW and other marine mammals do not use the area. Vessel stationed PSOs could provide additional benefit in reliably detecting whales but only if the vessel is traveling at slow speeds (i.e.
N-9-81	We recommend the following avoidance/mitigation measures...require training of all personnel working offshore on observing and identifying NARW and other large marine mammals.
N-9-82	We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed...require vessels to maintain a separation distances of 500 meters (m) for NARW, maintain a vigilant watch for NARW and other large marine mammals, and slow down or maneuver their vessels as appropriate to avoid potential collision with any large marine wildlife
N-9-83	We recommend the following avoidance/mitigation measures...require all service operating vessels to carry automated thermal detection systems.
N-9-84	We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed...require a minimum of 10 dB (SEL) reduction in radiated sound level to be attained during construction using a combination of emergent and proven current technologies such as shields, screens, and barriers around the sound source, e.g. air bubble curtains, Hydro Sound Damper Systems, isolation casings (Noise Mitigation Screen (NMS)), dewatered cofferdams, reduced blow energy, and prolonging pulse duration by modifying the hydraulic hammers. relative to a reference baseline of prior noise measurements of unmitigated piles.
N-9-85	We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed... petition NFMS to revise its guidance on harassment thresholds for acoustic exposure criteria for behavioral response to be consistent with the best available current science and be truly protective of marine mammals from the noise generated by VWS activities. BOEM must be conservative in its assessment of potential loss of communication and listening range to NARW and other listed species
N-9-86	We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed... partner with acoustic data scientists (from NYDEC, NYSERDA, Wildlife Conservation Society, NEFSC, NEAQ, Woods Hole Oceanographic Institution, etc.) and acoustic modeling scientists (e.g. from JASCO) to obtain and collate best available current scientific data to inform a comprehensive acoustic impacts and cumulative impacts analyses.
N-9-87	We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed... take all necessary actions to reduce the number of Level A takes and to ensure Level B takes for large whales are as close to zero as possible.
N-9-88	partner with NMFS, other relevant agencies, and science and technology experts to develop a robust and effective a long-term scientific plan: a. to understand baseline environmental conditions prior to utility-scale OSW development off any US coast, b. for continued monitoring of environmental conditions in project area, c. for continued real-time monitoring of NARW and other marine mammals, d. to formulate avoidance/mitigation strategies based on scientific recommendations

Comment ID	Comment Text
N-9-89	<p>We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed. • set a visual clearance zone and an exclusion zone extending at least 5,000 m in all directions from the location of the driven pile. • require monitoring of the visual clearance and exclusion zone by vessel-based PSOs stationed at the pile driving site and on additional vessels, as appropriate, during pre-clearance monitoring period and during pile driving activity • require the presence of at least 4 vessel-based NOAA-certified PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon per pile driving location. Additional vessels must survey the clearance and exclusion zones at speeds of ?10 knots. Consider deployment of additional observers and monitoring technologies (e.g. infrared, drones, hydrophones) to ensure comprehensive monitoring of clearance zones.</p>
N-9-90	<p>We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed. set an acoustic clearance zone extending at least 5,000 m in all directions from the driven pile; set an acoustic exclusion zone extending at least 2,000 m in all directions from the driven pile.require monitoring of acoustic clearance and exclusion zones using near real-time passive acoustic monitoring (PAM), assuming a detection range of at least 10,000 m, undertaken from a vessel other than the pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by construction-related noise.</p>
N-9-91	<p>We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed. visual and acoustic monitoring must begin at least 60 minutes prior to the commencement or re-initiation of pile driving and must be conducted throughout the duration of pile driving activity. Visual observation of the minimum 5,000 m visual clearance zone must continue until 30 minutes after pile driving.</p>
N-9-92	<p>We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed. extend seasonal restrictions to those times of the year when at-risk species other than NARW are present and schedule construction activities around the presence of these species. The best available scientific information validates the use of seasonal restrictions to temporally suspend OSW activity when NARW are likely present, but it is becoming increasingly clear that there may not be a time of "low risk" for this species...there are other endangered species (other mammals and sea turtles) that are present in SWDA when NARW are not.</p>
N-9-93	<p>We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed. prohibit pile driving: during periods of highest risk (to NARW and other listed marine mammals) defined as times of highest relative density of individuals during their migration, and times when mother-calf pairs, pregnant females, surface active groups (indicative of breeding or social behavior), or aggregations of three or more individuals (indicative of feeding or social behavior) are present or expected to be present as indicated by the best available science at the time of the activity. from being initiated within 1.5 hours of civil sunset or in times of low visibility when visual clearance and exclusion zones cannot be visually monitored by PSOs, if there is acoustic detection within the acoustic clearance zone or visual detection within the visual clearance zone of NARW</p>
N-9-94	<p>We recommend the following avoidance/mitigation measures...subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed. require shut down of pile driving activities if there is visual detection of NARW within the visual exclusion zone or acoustic detection within the acoustic exclusion zone, or sighting by PSOs at any distance from the pileallow paused pile driving to resume only after the lead PSO confirms no NARW have been detected within the acoustic and visual clearance zones or to continue after dark only if the activity commenced during daylight hours and must proceed for human safety or installation feasibility reasons.</p>

Comment ID	Comment Text
N-9-95	We recommend the following avoidance/mitigation measures...Reporting • require VWS to report all visual observations and acoustic detections of NARW to NMFS or the Coast Guard as soon as possible and no later than the end of the PSO shift. • require use of near real-time autonomous buoy systems for automatic report of NARW detections on preset cycles • require VWS to immediately report the sighting of any entangled or dead NARW to NMFS, Marine Animal Response Team (1-800-900-3622) or the USCG via phone, app, or radio. Methods of reporting are expected to advance and streamline in the coming years, and BOEM should require projects to commit to supporting and participating in these efforts.
N-9-115	The EIS must consider the full range of potential impacts of VWS project activities, cumulatively with those of all Atlantic OSW projects, and climate crisis impacts on marine mammals all which are protected by the MMPA. Further consideration must be given to the conservation of ESA-listed species by developing and implementing the most robust strategies to avoid, minimize, and mitigate all potential adverse impacts, and monitoring the efficacy of these strategies throughout the life of the project. An integrated comprehensive ecosystem approach is needed and must be required to protect all resident and migratory species whose spatiotemporal presence in SWDA do not overlap with each other.
N-9-116	Current policies and strategies to protect listed species of whales, particularly the NARW, having been proven to be ineffective, BOEM must use its regulatory authority in OSW development to avoid any/all impacts to NARW and other listed species from VWS activities before they permanently disappear from the planet.
N-9-117	include a comprehensive quantitative analysis of cumulative impacts on listed marine mammals expected from VWS and other activities in the region, relative to the baseline level. The analysis must quantify the percentage of NARW population potentially exposed to conceivable impacts from OSW development on an annual basis and, as a worse-case scenario, the potential impact on population viability from a permanent loss of foraging and other habitat within SWDA.
N-9-119	Since 2010, North Atlantic right whale distribution and habitat use has shifted in response to climate change-driven shifts in prey availability. Best available scientific information, including regional shipboard and aerial surveys, acoustic detections, photo-identification data, stranding data, a series of DMAs declared by NMFS pursuant to ship strike rule, and prey data, indicate that NARW now rely heavily on the waters of SWDA nearly all year-round.
N-9-120	Foraging areas with suitable prey density are limited relative to the overall distribution of the 356 North Atlantic right whales, and an ever decreasing amount of habitat is available for resting, pregnant, and lactating females...NARW is already experiencing significant food-stress with juveniles, adults, and lactating females having significantly poorer body condition relative to southern right whales and the poor condition of lactating females may cause a reduction in calf growth rates. Unrestricted access to suitable areas, wherever they exist, and minimization of disturbance are thus essential for the species to maintain their energy budget, especially during their energetically expensive migration This analysis must inform avoidance and mitigation strategies in a programmatic ecosystem-wide approach to protect NARW and all other species using the same habitats from the common threats of OSW projects which will be installed along the east coast which overlaps the NARW/marine mammal migratory corridors and foraging/calving habitats.
N-9-121	use scientifically valid real-time monitoring system and mitigation protocol for NARW and other large marine mammals to dynamically manage the timing of pile driving and other construction activities to ensure those activities are undertaken during times of lowest risk

Comment ID	Comment Text
N-18-24	A recent scientific study summarized data on operational noise levels from offshore wind energy projects based on published measurements and simulations from the gray literature. Based on these data, the authors extrapolated the sound levels that could be generated from larger offshore wind turbines and assessed the impact ranges for behavioral response of marine mammals based on the National Marine Fisheries Service's acoustic thresholds (i.e., behavioral disruption for continuous noise may occur above a threshold of 120 dB rms). The results of the analysis indicated that a 10 MW geared turbine required 6.3 km to fall below that threshold, and a direct drive turbine—a newer technology—would be expected to cause behavioral disruption at distances up to 1.4 km from the turbine. With turbine spacing at 1 nm apart, even the lower impact direct drive 10 MW turbine could potentially elevate underwater noise to levels capable of disrupting marine mammal behavior across the entire Project Area.
N-18-26	BOEM should conduct a detailed analysis of the operational noise levels expected to be generated by New England Wind, both in terms of its potential impacts on marine mammals and their habitat
N-18-28	We also recommend BOEM take immediate steps to reduce these potential [noise] impacts [on marine mammals, fish and invertebrates]. Pending further study and the development of technology to permit acoustic decoupling of the turbine from the mast, we recommend BOEM require the use of direct drive WTGs as opposed to WTGs that rely on a gear box.
I-13-1	How will you keep the types of noise from ocean wind turbines from killing all the Atlantic Right whales by destroying the communications between whales?
I-18-1	I write today in total disbelief that my Country is considering building many wind Factories right in the middle of the endangered Right Whales feeding grounds...Your giving the Right Whales a death sentence total extinction...I really don't think America should have the Right Whales Extinction blood in their hands.

MITIGATION

Comment ID	Comment Text
F-2-14	The EIS must clearly identify which mitigation measures are included as part of the proposed action and thus, evaluated in the analysis, which measures are proposed as required, and measures that are optional and could be implemented by the developer to potentially reduce impacts.
F-2-17	Through the EIS, you should consider requiring the development of minimization and monitoring measures that minimize the risk of exposure to potentially harassing or injurious levels of noise to marine mammals, sea turtles, and Atlantic sturgeon
F-2-38	Mitigation measures should also be included that minimize the risk of vessel strike for whales, sea turtles, and Atlantic sturgeon, including consideration of vessel speed restrictions regardless of vessel size and robust measures to monitor vessel transit routes for North Atlantic right whales
F-2-50	[M]itigation necessary to offset negative impacts to longstanding marine scientific survey operations (e.g., loss of access to project areas, changes to sampling design, habitat alterations, and reduced sampling due to increased transit time) and fisheries dependent data collections must also be considered and evaluated in the document (see description of scientific survey impacts below).
F-2-51	The document should provide information on how mitigation measures are considered in the context of the definition of effects levels (e.g. negligible, minor, moderate, major), and how mitigation would offset those levels of effect. An analysis of the effectiveness of any proposed mitigation should also be evaluated in the NEPA document. Measures to avoid and minimize impacts such as speed restrictions for project vessels, soft start procedures, noise dampening technologies, construction time of year restrictions, anchoring plans, or micro-siting should be discussed in detail, including what resources would benefit from such mitigative measures and how/when such benefits (or impact reductions) would occur. The EIS should analyze temporary effects and anticipated recovery times for marine resources within the impacts analysis.

Comment ID	Comment Text
F-2-66	Mitigation measures should be required during pile driving that will act to reduce the intensity and extent of underwater noise and avoid exposure of listed species to noise that could result in injury or behavioral disturbance. The use of protected species observers to establish and monitor clearance zones prior to pile driving is essential and project scheduling should take into account the need for adequate visibility during the pre-pile driving clearance period, as well as for the duration of pile driving activities. Real-time and archival passive acoustic monitoring should also be used as a secondary detection/monitoring system during construction, to increase situational awareness in vessel corridors and around the project area, and to monitor the distribution of marine mammals in the lease area during construction and operations.
F-2-90	It is imperative that project-specific monitoring efforts are integrated into existing regional monitoring programs throughout the outer continental shelf
B-1-7	For all alternatives, the EIS should be clear on which mitigation measures will be required as opposed to discretionary. Only required mitigation measures should influence the impacts conclusions in the EIS.
N-2-109	It is vital that we gain an understanding of baseline environmental conditions prior to large-scale offshore wind energy development in the U.S. To this end, BOEM must coordinate with NMFS to establish and fund a robust, long-term scientific plan to monitor the effects of offshore wind energy development on marine mammals and other species before, during, and after large-scale commercial projects are constructed. Without strong baseline data collection and environmental monitoring in place, we risk losing the ability to detect and understand potential impacts and risk setting an under-protective precedent for future offshore wind energy 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.
N-2-5	[I]t is imperative that all offshore wind development activities move forward with strong protections in place for already stressed coastal and marine habitats and wildlife, using science based measures to avoid, minimize, mitigate, and monitor impacts on valuable and vulnerable wildlife and ecosystems.
N-2-54	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.
N-2-59	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 environmental considerations in lieu of necessary mitigation measures, the agency is allowed and encouraged to adopt further adaptive management measures if needed.
N-2-6	BOEM must consider sufficient measures to protect our most vulnerable threatened and endangered species and require a robust plan for pre-, during, and post-construction monitoring that can enable effective adaptive management strategies.
N-2-87	Moreover, because the offshore wind industry is in its infancy, a comprehensive monitoring effort is crucial. Thus, BOEM and/or Vineyard Wind, in consultation with Massachusetts fishery managers and NMFS, should conduct long-term monitoring before, during, and after construction to document impacts to benthic habitat and EFH, and habitat recovery, and if necessary, design appropriate adaptive mitigation strategies to address the impacts identified.
N-3-1	Establish an adaptive management process that enables decisions concerning later phases of this project and future projects to be readily informed and or revisited when the best available science changes as data from yet to be completed research and monitoring programs becomes available

Comment ID	Comment Text
N-3-10	Developers should provide a site-specific inventory including all species that could reasonably be expected to be present at the development site. The Developer should also plan for developing an inventory and monitoring for species where none currently exists. This inventory and monitoring plan needs to address all project phases: pre-construction, construction, operation, transition, and decommissioning. Inventory and monitoring locations need to address all areas manipulated by the project including interconnection points and transmission cable corridors/landfall alternatives, as well as the site of the OSW farm. The inventory should include the status of each species (Federally and/or State Threatened, Endangered, Low Conservation Concern, etc.). Developers should coordinate with agencies and institutions about methods that are consistent with existing datasets.
N-3-11	[W]e encourage BOEM to consider the application of Nature-Based Design of foundation scour protection and cable mattresses as a means of mitigating impacts through intentional habitat enhancement at, or adjacent to, the potentially impacted sites. We direct BOEM and Vineyard Wind to a soon-to-be-released report and vendor catalog that the Conservancy is developing with INSPIRE Environmental featuring a description, rationale, and list of U.S. vendors that can provide resources for incorporating Nature-Based Design into scour protection and cable mattresses. This approach intentionally creates habitat for particular assemblages of fish and invertebrates by incorporating their habitat preferences into upfront plans for scour protection design and scour protection materials.
N-3-19	Ensuring proper siting, monitoring, mitigation, and environmental protections are in place will enable OSW projects to be developed in a sustainable manner that future administrations and future generations do not regret.
N-3-2	Require applicants to provide detailed plans and commitment to pre- and post-construction monitoring of vulnerable marine and avian life. Such plans should include consideration of the merits and efficacy of establishing an applicant sourced mitigation fund as a measure to provide appropriate compensation for potential adverse environment impacts.
N-4-2	[A] sustained monitoring and research effort that informs necessary course-corrections to the operation of the project and environmental mitigation efforts is essential.
N-4-3	Any and all environmental mitigation plans developed must be transparent and subject to independent review. Any proposed changes to established mitigation plans should be made publicly available and subject to stakeholder input prior to adoption. Likewise, all research and results of ongoing monitoring efforts should be published to ensure adequate transparency and to inform the development and operation of future offshore wind projects.
N-4-4	Essential elements to be evaluated within the scope of the project should include: A commitment to habitat restoration, and a requirement for funding such restoration through an environmental mitigation and restoration fund to return the development area to pre-built ecological function.
N-5-5	[W]e can protect wildlife and ecosystems while we [implement the Project], requiring the use of best management practices informed by the latest science.
N-6-12	APCC looks forward to reviewing additional information on specific project details for Phase 1 of Vineyard Wind South relevant to Cape Cod that are yet to be finalized (and for Phase 2, when those project plans are made available in more detail), and which are subject to federal, state and/or regional regulatory jurisdiction, such as: • Other appropriate mitigation for any land clearing at the substation or other sites along the onshore cable route. (This mitigation should be finalized in the Cape Cod Commission's Development of Regional Impact review process.)
N-6-4	Given the similarities between Vineyard 1 and Vineyard Wind South in proposed offshore and onshore routing practices, construction, operation, best management practices, monitoring, mitigation and other aspects of the project, including minimizing potential impacts to rare species, APCC does not see the likely potential for concern about additional environmental impacts, or the project's ability to properly mitigate any impacts that may occur. The [Vineyard Wind South] project will continue with, and expand on, the Vineyard Wind 1 project's approved best management practices, monitoring and research, and investment mitigation aimed at protecting marine species—especially marine mammal species—and avian and bat species from offshore wind impacts.

Comment ID	Comment Text
N-8-11	Vessels should be required to carry and use protected species observers at all times when under way. Additionally, because visual sighting of whales, including North Atlantic right whales is difficult, particularly in low light conditions, the EIS should include alternatives to require service vessels to complement observer coverage with additional monitoring technologies such as, infrared (IR) detection devices for whales and other protected species when under way. Recent research has suggested that a complementary approach combining human and technological tools is most effective in capturing the most detections.
N-8-15	To support oversight and enforcement of the conditions on the project the EIS should include alternatives requiring all vessels to be equipped with and using a Class A Automatic Identification System (AIS) device at all times while on the water...The EIS must include alternatives to specify and require all vessels associated with the project, at all phases of development, follow the vessel plan and rules including vessels owned by the developer, contractors, employees, and others regardless of ownership, operator, contract. Exceptions and exemptions will create enforcement uncertainty and incentives to evade regulations through reclassification and redesignation...The EIS must also...specify that developers are explicitly liable for behavior of all employees, contractors, subcontractors, consultants, and associated vessels and machinery.
N-8-16	[T]he EIS must include a monitoring and research plan conducted transparently by NOAA or an independent party to assess and report the effects of the project on the ocean ecosystem including marine habitats, wildlife, fishery resources and protected species...monitoring program...should include...chemical and sonic monitoring, assessment of physical alteration of the seafloor, currents and winds, visual and acoustic surveys for protected species, and biological/ecological surveys for plankton abundance and marine wildlife presence and abundance...The EIS must also include a detailed plan to respond to unintended and unforeseen effects on the marine environment and marine wildlife. This response plan must include thresholds for modification of the project's scope and duration if these conditions are met. There must also be a threshold for possible decommissioning if the project has unexpected effects
N-8-22	High resolution geophysical (HRG) surveys are an essential part of offshore wind development but have noted environmental effects on the marine ecosystem. As such, the EIS should include a range of alternatives to prohibit HRG surveys during seasons when protected species are known to be present in the project area, in addition to any dynamic restrictions due to the presence of NARW or other endangered species.
N-8-23	[T]he EIS should include alternatives that require clearance zones for North Atlantic right whales that extend at least 1,000 meters with requirements for HRG survey vessels to use Protected Species Observers (PSOs) and Passive Acoustic Monitoring (PAM) to establish and monitor these zones with requirements to cease surveys if a NARW enters the clearance zone. When safe to begin, HRG surveys should use a soft start, ramp-up procedure to encourage any nearby marine life to leave the area
N-8-24	The EIS must include alternatives to schedule and complete construction activities to minimize interactions with migratory species, spawning, feeding aggregations and breeding activity and specific seasonal and reactive restrictions on construction activity during times when North Atlantic right whales and other protected species may be present
N-8-25	[T]he EIS should include a range of alternatives to prohibit pile driving during seasons when protected species are known to be present or migrating in the project area, in addition to any dynamic shutdown restrictions due to the presence of NARW or other endangered species

Comment ID	Comment Text
N-8-26	<p>If and when piling installation is permitted the EIS must...require both acoustic and visual clearance zones to ensure protected species are not in the affected area...including...visual clearance zones that extend at least 5,000m in all directions from the location of the driven pile and an acoustic exclusion zone of at least 2,000 meters from the location of the driven pile... Acoustic monitoring should be undertaken using near real-time PAM...from a vessel other than the pile driving vessel, or from a stationary unit...during impact pile driving, vibratory pile driving installation of the cofferdam, and HRG surveys Visual monitoring should use PSOs stationed at the pile driving site and on additional vessels, as appropriate...supplement human observer with IR technology and drones, where appropriate Acoustic and visual monitoring should begin at least 60 minutes prior to...pile driving and should be conducted throughout the duration of pile driving activity. Visual observation of the Visual Clearance Zone should continue until 30 minutes after pile driving...prohibition on initiating pile driving within 1.5 hours of civil sunset or in times of low visibility when the visual clearance zone cannot be monitored.</p>
N-8-27	<p>The EIS must include...reactive restrictions on construction that are triggered by visual or acoustic presence or other means of detection for protected species before or during piling installation: A prohibition on initiating pile driving if a NARW or other protected species is detected by visual or acoustic surveys A shutdown requirement if a NARW or other protected species is detected in the clearance zones, unless continued pile driving are necessary for safety. Condition for resumption of pile driving after the lead Protected Species Observer confirms that no NARW or other protected species have been detected within the acoustical and visual clearance zones</p>
N-8-28	<p>The EIS should include alternatives to use best commercially available technology and methods to minimize sound levels from pile driving coupled with a robust monitoring and reporting program to ensure compliance. The EIS should...require noise reduction technologies such as bubble curtains, noise mitigation systems, or sound dampeners. The projects shall achieve no less than 10dB (SEL) in combined noise reduction and attenuation, taking as a baseline, projections from prior noise measurements of unmitigated piles from Europe and North America...the EIS should include alternatives to require field measurements to be taken throughout the construction process including on the first pile installed. These compliance measurements should be taken by independent evaluators at intervals established to reduce observer bias and ensure full compliance with noise reduction requirements.</p>
N-9-44	<p>There are several monitoring and survey methods available to collect baseline data on the spatiotemporal presence and trends of avian species in SWDA before and during construction to be compared with data collected post-construction. But all these methods have limitations in their scope and specific use...To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:i. an avian activity monitoring plan for SWDA and surrounding area which must include:monitoring requirements and implementation strategiesmethods to collect the most effective data and to fill knowledge gaps to inform future OSW operation and siting processescoordination and consultation with other stakeholders, including the project developers, MA state agencies, and avian research experts to support the development of a regional monitoring plan for birds and other wildlife. commitment to process outlined for addressing unforeseen impacts through compensatory mitigation...</p>
N-9-45	<p>To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:...ii. Expand on the monitoring framework proposed in the Draft EIS for South Fork and the FEIS for Vineyard Wind I, which is to be developed by the industry in coordination with the federal and state jurisdictions. This framework includes:Acoustic monitoring for birds and bats Installation of Motus receivers on WTGs in the WDA and support with upgrades or maintenance of two onshore Motus receivers Deployment of up to 150 Motus tags per year for up to 3 years to track roseate terns, common terns, and/or nocturnal passerine migrants Pre- and post-construction boat surveys Avian behavior point count surveys at individual WTGs Annual monitoring</p>

Comment ID	Comment Text
N-9-47	To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:iv. Support the development technologies to detect bird collisions or mortalities informed by onshore post-construction mortality studies. The Department of Energy recently funded development of collision detection technology to detect small object collisions with WTGs. Similar technologies being tested elsewhere might become available in time if/when VWS COP is approved and ready to be implemented. Require lease applicants to report mortality events promptly and publicly and require turbine developers to integrate these systems into their turbines.
N-9-48	To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:v. The impacts of less energy production from increased spacing with fewer larger turbines within the footprint of OSW project versus the additional habitat loss impacts from more of smaller projects (and more space) required to meet state and national energy goals must be balanced in the context of avian conservation. Fund studies to address this alternative through financial support of OSW project developers or using tax revenues.
N-9-49	To overcome the limitations described above, the EIS must provide the following as part of the avoidance/mitigation measures:vi. Pursue studies to verify CRM utility in the offshore environment and its integration into viable collision detection requirements for VWS and future OSW projects
N-9-52	Apply compensatory mitigation to offset potential long-term adverse impacts from VWS project. Migratory birds pose huge conservation challenges since their lifecycle spans multiple regions/countries requiring significant investment of resources to restore equivalent quality habitats at multiple sites. The large number of migratory species potentially affected by VWS will require directed environmental compensatory mitigation for meaningful beneficial outcomes...If a project-specific approach is not feasible, then a compensatory mitigation fund should be set up by OSW developers (funding amounts to be based on likely or actual impacts) which would be administered by trustees of federal agencies...Mortality from OSW development is likely additive and, if skewed to breeding adults, will likely have a greater potential to drive declines in population trajectories requiring long-term substantial commitment to reach the offset needed.
N-9-96	We offer the following general recommendations for OSW sector-wide consideration: • Invest in scientific research and development of monitoring technologies to inform proactive adaptive management of impacted species of all taxa and their habitats. • Develop programmatic, ecosystem-wide Best Management Practices (BMPs) as part of the OSW industry permitting requirements, based on current science and state-of-the-art/emergent technologies to protect natural resources in all OSW projects. • Require individual OSW project developers/applicants to contribute funding for these studies
N-9-98	We offer the following general recommendations for OSW sector-wide consideration:• Create a publicly available centralized data portal to serve as a clearinghouse of real-time data collection and dissemination for all OSW-related scientific and technological data. Make all decision-making data transparent and available for public review.
N-14-1	We all know that offshore wind is poised to play a central role in the ability of Connecticut and the entire region and to meet its greenhouse gas reduction energy roles and, accordingly, we do encourage robust procurements of offshore wind resources that maximize deployment of these resources, consistent with satisfying strict environmental mitigation standards...., we emphasize such opportunities must be taken advantage of in a manner that minimizes potential harm to the ecosystem and wildlife that may be impacted.
N-14-4	[W]e recommend that efforts being undertaken to ensure that the project proceeds with minimum environmental footprint continue.
I-26-1	I want to ask for some additional reassurances. I know that the State of Maine has recently passed some kind of legislation about protecting their coastline within certain parameters. And I would like to know whether these projects are matching that kind of protection, or whether we don't have that because we got moving on this earlier...I also believe that public private partnerships have a disastrous record of privatizing profits and socializing the risks. And I would love to see this project provide some narrative around how that's not going to be the case here.

Comment ID	Comment Text
I-4-2	I know from previous experience with Vineyard Wind that they go above and beyond their due diligence when it comes to mitigating environmental impacts of the construction of the wind turbines as well as working with other stakeholders in the area so that the outcome is a net positive for the local surroundings.

NAVIGATION AND VESSEL TRAFFIC

Comment ID	Comment Text
F-2-110	It is inaccurate to suggest that survey vessels or airplanes could simply alter course to avoid WTGs, or that a sampling location that is occupied by a WTG could be removed from future consideration without affecting the survey, sampling design assumptions, or concomitant scientific advice derived from the data collections.... This project would have direct impacts on the federal multi-species bottom trawl survey conducted on the FSV Henry Bigelow, the surfclam and ocean quahog clam dredge surveys conducted on chartered commercial fishing platforms, the integrated benthic/sea scallop habitat survey, ship and aerial-based marine mammal and sea turtle surveys, and the shelf-wide Ecosystem Monitoring Survey (Ecomon).
S-2-12	See attached Figure 1 and Table 1 identifying the yellow transit routes from Port of Montauk, NY crossing through the project area to Nantucket Lightship Closed Area and Lydonia Canyon. Notably, the vessels making these long trips are not equipped with Automatic Identification System (AIS) transponders, and therefore do not appear in most vessel transit analyses...Careful consideration is also needed to reduce conflicts that may arise between transiting and fishing vessels when designating transit lanes.
S-2-2	New York fishermen should be afforded the same consideration for safe and efficient transit as other maritime users in the RI/MA Wind Energy Areas. During the Coast Guard public meeting in Montauk, NY on April 29, 2019, New York fishermen identified that [two-nautical mile] east-west transit routes are necessary, preferably a northerly and a southerly route, for safe and efficient access through the RI/MA WEA from Long Island ports to fishing grounds. New York fishermen have consistently expressed the need for east-west corridors to safely transit to and from their traditional fishing grounds, like those off Nantucket and Martha's Vineyard, Massachusetts and south and west of Nantucket Shoals.
S-2-3	See attached Figure 1 and Table 1 identifying the yellow transit routes from Port of Montauk, NY crossing through the project area to Nantucket Lightship Closed Area and Lydonia Canyon. Notably, the vessels making these long trips are not equipped with Automatic Identification System (AIS) transponders, and therefore do not appear in most vessel transit analyses. BOEM should consider impacts to New York fishermen separate and in addition to those for fishermen from other States, given the different patterns of vessel transit that may necessitate access to restricted NY-specific routes. BOEM should investigate opportunities to mitigate those impacts through the establishment of transit lanes or other means. Careful consideration is also needed to reduce conflicts that may arise between transiting and fishing vessels when designating transit lanes.
B-1-40	If operators shift their effort outside the project area during construction or long-term operations, this will potentially put them in areas of higher vessel traffic and gear conflict. Also, depending on operating conditions at sea, commercial and recreational fishermen cannot always reap the benefits of any increased catchability of target species due to safety concerns of fishing in swells around the turbines. These safety considerations will be different than the existing artificial reefs in the Greater Atlantic region which, except for the Block Island Wind Farm turbine foundations, are all submerged structures.
B-4-15	Having no operational solutions for HF radar interference is a problem for the safety of the lives of professional mariners, including commercial fishermen, whom BOEM expects to "coexist" with offshore wind. The High Frequency Radar Wind Turbine Interference Community Working Group Report gives a 3-6 year timeline for fully testing and documenting the efficacy of proposed mitigation approaches with validation datasets. BOEM is well aware that HF radars are necessary for effective USCG SAR.

Comment ID	Comment Text
B-4-8	BOEM... must include a full-fledged analysis of [HF radar and marine radar] interference as part of the EIS...BOEM abdicated its responsibility to ensure safety per OSCLA by approving Vineyard 1 before ensuring a sure solution for mitigation of this interference prior to project buildout. Instead, it merely requires the developer to "conduct a marine radar study to evaluate potential radar impacts and identify potential future mitigation measures, the results of which will be discussed with BOEM and the USC. BOEM and USCG may work with Vineyard Wind to implement any identified mitigations." BOEM cannot do this with again with Vineyard Wind South...Approving a COP knowing that safety issues are at stake and before solutions exist is simply unacceptable. This is a violation of OSCLA, and BOEM must do its due diligence to analyze what HF radar loss would look like in the Vineyard South area and to mitigate those impacts as part of EIS development
B-9-1	In this section [(Appendix III-N Draft Economic Exposure of Commercial Fisheries)] VW states: "Despite the availability of safe and efficient transit lanes in the SWDA, the possibility remains that some fishermen may opt to transit around rather through the SWDA during extreme weather events and, possibly, at other times" ... We have been consistent from the start that properly spaced and dedicated lanes are required for safe transit through the ENTIRE wind energy area...Vineyard Wind and BOEM ignore the fishing industry's advice on this important issue.
B-9-6	[I]f squid vessels shifted to the north of the SNEWEA, but below the islands you will now have a bottle neck effect and congestion issues from vessels fishing for squid in the area they are allowed to legally fish where squid are known to be present clashing with those vessels transiting that area due to lack of safe passage through the WEA. This now creates a safety and navigation issues; one we've brought up in previous conversations and is yet another reason for a cumulative impacts analysis on safety, navigation, fishing and ecological effects of offshore wind construction and operation.

NEPA PROCESS AND PUBLIC ENGAGEMENT

Comment ID	Comment Text
F-1-1	In addition to coordination with affected states and local communities, we recommend that BOEM continue to work closely with federal agencies and tribes with relevant air, water and natural resource responsibilities and interests during the development of the EIS. This coordination will be even more critical given the phased nature of the development. We also encourage BOEM to continue to expand upon past coordination with the fishing industry and state and federal agencies charged with protecting fishing and marine mammal resources.
F-1-42	First, we strongly recommend that figures, plans, tables, charts and similar materials be directly incorporated into the EIS document itself instead of being referenced in other documents. These types of supporting information do not count against EIS page count goals and they make the overall analysis more dynamic, understandable and accessible.
F-1-43	Second, we continue to strongly advocate for hyperlinking to supporting documents that are referenced in the EIS...make sure that the referenced materials are available if referenced. Past searches of EISs for referenced materials were often more complicated than necessary and at times led to materials that were redacted. In the future we recommend that provided links be as specific as possible taking the reader to the exact source referenced. If this is not possible, we encourage BOEM to provide sufficient detail to describe exactly where to find the relevant information if the link only brings the reader to the doorstep of a large document.
F-1-44	If page limits continue to be an issue preventing the inclusion of relevant information in the EIS we suggest the referenced materials be placed in an Appendix to the EIS.

Comment ID	Comment Text
F-1-45	we note continued inconsistencies in the types of information labelled as confidential across the various COPs we have reviewed for several projects. Our review of the Vineyard Wind South COP revealed that large sections of information that are redacted or labelled as classified. In particular we note that much of Volume II was redacted, including the sections on site geology and environmental conditions (Section 2) Protected Species Observation Results (5.3). Sections 1-4 and 7 are redacted entirely. This redaction in combination with a BOEM notice that the COP will be revised in September 2021 prevents us from fully understanding existing benthic conditions, and how they might be impacted by this project. Both also make it challenging to offer informed scoping comments
F-1-46	We continue to strongly recommend that BOEM work to make as much project information publicly available as possible as transparency and access to project information increases the value of the NEPA process.
F-1-47	It would be helpful if BOEM announces when the revised COP becomes available and specifically highlights which sections of the COP have been revised. This type of communication and timely public and agency access to project information is even more critical in situations such as the phased Vineyard Wind South project.
F-1-48	EPA is willing to serve as a cooperating agency in support of BOEM's NEPA work for the project, and in that role review draft documents and attend coordination meetings as appropriate and as resources permit.
F-2-1	sections of the COP are redacted, including habitat data that may be relevant to comments and technical assistance we provide during this scoping process. Your website notes that the project has been recently refined and that the COP has not been fully updated to reflect these project changes...The lack of a completed and updated COP for review limits the extent of technical assistance we can provide during this scoping process. As a result, we may need to provide additional comments and technical assistance upon review of any updated information, including comments on any potential alternatives to minimize and mitigate impacts of the project on marine and estuarine resources.
F-2-2	We request...that if the COP is updated or changed at any time during the regulatory process, you notify the agencies immediately and make the most updated COP available to the agencies and the public. In addition, it is critical that you describe which sections and information in the COP have been updated...updates to the COP that occur after initiation of consultation with our agency may affect our consultation timelines. To reduce the potential need for multiple reviews, supplemental consultation and comment, and project delays...ensure that project information is complete before initiating a project or continuing to advance the process for existing projects
F-2-3	You have not provided us with a detailed timeline for this project, which outlines the steps in the NEPA process, including points for coordination under our Cooperating Agency role, as well as coordination related to our consultations. As you know, we will need to review the detailed timeline to provide you with updated milestone dates for the permitting timeline.
F-2-62	Given the extremely tight timelines proposed for this project, it is critical that we receive a draft Biological Assessment with the Cooperating Agency draft of the Draft EIS....the BA must reflect any and all proposed survey or monitoring activities proposed for any stage of the project, including surveys of fisheries resources. We encourage you to use the ESA Information Needs Checklist when developing the BA.
F-2-63	We expect that any environmental documentation regarding a proposed wind facility in the lease area will fully examine all potential impacts to our listed species, the ecosystems on which they depend, and any designated critical habitat within the action area. We have developed a checklist (ESA Information Needs document) to identify information needs for considering effects of wind projects on ESA-listed species and critical habitats and we strongly encourage you to use that as you develop the EIS.

Comment ID	Comment Text
F-2-76	The high number of projects moving through the NEPA process between now and 2024 makes it very difficult for us to provide the detailed level of review and interagency cooperation we have provided in the past. Most recently, you have issued three NOIs within nine calendar days, making it difficult for agencies and the public to offer detailed and meaningful feedback on each project during this scoping period. The extensive interagency cooperation we have invested with you to improve the NEPA documents for previous wind energy projects is no longer feasible, and we will be required to take a more limited Cooperating Agency role in the process.
F-2-83	Because the information contained within the EIS is needed to support a complete EFH Assessment, we request you use the NEPA document as the vehicle within which to present the EFH assessment. The EFH Assessment should be included within a separate section or appendix of the Draft EIS document and be clearly identified as an EFH assessment.
F-2-111	We are concerned about the lack of early coordination and communication for the Vineyard Wind South project, particularly the lack of coordination on habitat mapping and data collection in Muskeget Channel....Accurate characterization of these complex habitats and features at a fine scale will be critical to ensure our recommendations are appropriate and feasible....To help alleviate further issues for Vineyard Wind South, we recommend coordination with our agency for any additional benthic sampling in this area....We also recommend a habitat mapping-specific meeting be scheduled with us as soon as possible and prior to finalizing the integration of the new benthic data into habitat delineations and characterizations.
F-3-7	It is our understanding that potential landfall locations will be at Craigville Beach and/or Covell's Beach in Barnstable, Massachusetts. A review of the Land and Water Conservation Fund (LWCF) – State and Local Assistance sites database as well as communication with our Massachusetts' State Liaison show that neither site is an LWCF site and therefore not subject to review for possible conversion. If the proposed route and potential landfall of electric transmission infrastructure for the project changes, NPS would appreciate notification so that it may review the new locations for any potential conflicts.
F-3-12	NPS notes that many coastal areas across from the Vineyard Wind South project, including Martha's Vineyard and Nantucket Island, are important to the Wampanoag Tribe of Gay Head, a Federally Recognized Indian Tribe. NPS encourages meaningful tribal consultation between BOEM and the Wampanoag Tribe of Gay Head.
F-4-3	BOEM's Draft Environmental Impact Statement (Draft EIS) for the Vineyard Wind South lease area should identify any outstanding issues, alternatives, or important mitigation measures
S-2-1	Our comments include requests for BOEM and the applicant to address impacts to New York stakeholders raised in the COP and a request for DOS to be invited as a cooperating agency on BOEM's National Environmental Policy Review Act (NEPA) review.
S-2-8	COP Volume III identifies nine (9) port facilities in New York State being considered for various phases of construction and operations (Section 7.2). Outreach to New York communities and affected stakeholders, including fishermen, ports, the state's Port Authorities, shore-side support industries, and the Harbor and River navigation safety committees, is necessary to properly inform the EIS. A comprehensive mariner communication plan that addresses all phases of project development, from surveys to decommissioning, is necessary to ensure sufficient outreach and engagement.
S-2-11	While acknowledging that projects geographically further from New York's shores may reveal a more readily identifiable set of impacts to proximate coastal states, impacts may still be significant for New York, thus requiring New York's direct input and consultation to fully address them. As BOEM and coastal states across the nation collectively rise to meet the administration's 30 GW by 2030 goal and their respective state mandates, the Department encourages BOEM to proactively engage with potentially affected states and stakeholders. For this particular project, the Department respectfully requests that BOEM extend an invitation for New York to constructively participate with federal and state partners in the NEPA review as a cooperating agency... Such coordination will allow New York State to most effectively assess and, as needed, efficiently evaluate a project's effects on the State's coastal uses and resources for consistency with its enforceable policies.
S-3-1	We anticipate that the RICRMC will be a cooperating agency as part of BOEM's review of this offshore wind project pursuant to 40 C.F.R. § 1501.8.

Comment ID	Comment Text
S-7-1	The CRMC recommends that BOEM combine the COP, Appendices, notices and other information for both the Vineyard Wind South and New England Wind project pages onto a single web page to reduce any potential confusion for users of BOEM's web pages
B-1-2	The EIS should describe how the phased approach works in terms of BOEM's approval process. The concept of adaptive management is raised frequently in relation to U.S. offshore wind development. Because energy generated from Phase 2 has not yet been procured, the timeline for construction remains uncertain, and development may follow several years after Phase 1. There will likely be lessons learned during that time that might inform and help mitigate negative effects during construction of Phase 2. Will permit issuance, terms and conditions, and mitigation measures identified via the federal consistency process be adaptive such that lessons learned during Phase 1 can be applied to Phase 2?
B-1-27	The pace and number of offshore wind projects in development in our region pose challenges for thorough analysis of potential impacts, informed public input, and adopting lessons learned from each project...Consulting and coordinating on these projects is already taxing available resources in the fishing, fishery management, and fishery science communities, and we expect at BOEM as well. Consistency in approaches and adopting lessons learned from one project to the next will benefit stakeholders who engage in the review process for these complex projects.
B-2-2	The Biden administration stated in an April 22, 2021 briefing that they are targeting a "50-52 percent reduction from 2005 levels in economy-wide net greenhouse gas pollution in 2030." This cannot be achieved unless we speed up the approval processes required to build and operate wind farms like the Vineyard Wind South Project...I urge BOEM to fast track the approvals process so we can not only meet our national needs but become competitive on a global scale.
B-3-6	To meet state and federal climate goals, the Network encourages BOEM to continue advancing Vineyard Wind South through the federal permitting process so that it can commence operations soon and avoid delays. By meeting these crucial timelines, BOEM will foster greater certainty in the U.S. offshore wind market. This certainty drives investment decisions that will create jobs and provide economic benefits to New England residents and businesses.
B-4-1	BOEM is requesting early input on the Vineyard Wind South COP. At the Vineyard Wind South Scoping meetings, BOEM told the public that early input has the most chance of impacting the final result and invited comments. However, 4 out of 8 documents from Volume I of the COP are not available, 8 out of 10 of Volume II are unavailable, Volume II-B is unavailable in its entirety, Volume II-C is unavailable in its entirety, and 3 documents from Volume III are unavailable... BOEM should halt all progression of the EIS and extend the NOI comment period until all appropriate material can be provided to the public, and give the public time to read the information in order to provide comment.
B-4-11	BOEM cannot continue to move forward with COP review and EIS development at lightning speed to advance offshore wind "goals" at the expense of all other interests, public input, as well as at the expense of the proper NEPA process.
B-5-4	To comply with state and federal policies and achieve all necessary permits, all offshore wind energy must be developed in an environmentally responsible manner...This includes analysis of cumulative impacts and adaptive management strategies, obtaining all necessary and relevant data, and requires BOEM to identify all methodologies, and indicate when information is incomplete or unavailable, acknowledge scientific disagreement and data gaps, and evaluate intermediate adverse impacts based on approaches or methods generally accepted in the scientific community. Avoiding sensitive habitat areas, requiring strong measures to protect wildlife throughout each state of the development process, and comprehensive monitoring of wildlife and habitat before, during, and after construction, are all essential for the responsible development of offshore wind energy.
B-6-7	BOEM should put an immediate freeze on all projects and leases, including Vineyard Wind South, until all safety issues can be fixed, before a commercial fisherman gets killed or the productivity of the ocean is destroyed in the process of attempting to solve an issue without having all the facts and data.
B-7-4	[W]e would like to thank BOEM for their ongoing efforts to engage the commercial fishing industry stakeholders throughout this lengthy process and are encouraged that they will do their due diligence when vetting and engaging any industry representative.

Comment ID	Comment Text
B-8-1	...BOEM must ensure the quality of the information contained in the COP for proposed offshore wind energy (OSW) projects. However, with this NOI it has again published false information furnished by a developer without verification, and failed to correct the record when notified of its inaccuracy. In particular, Vineyard Wind's representation of its fisheries engagement, including direct references to RODA and its executive director, are erroneous and BOEM must publicly correct them immediately.
B-8-24	BOEM's solicitation of public comments on the Vineyard Wind South project before it has responded to any substantive comments or questions regarding its environmental review procedures for [the proposed Revolution Wind project], the South Fork project, and others in the contiguous MA/RI Wind Energy Areas underscores the flaws in BOEM's approach to cumulative impacts assessment and fostering authentic engagement from impacted ocean users or the public.
B-8-25	By issuing this NOI, BOEM proffers to have deemed the Vineyard Wind South Construction and Operations Plan (COP) complete and adequate for public review. However, the COP available under this public comment opportunity fails to meet BOEM's requirements for publication due to the absence of information, and incorrect information, regarding the fisheries monitoring and communication plans. These deficiencies constitute a fatal flaw and BOEM must delay any further NEPA actions until a complete and adequate COP is available for review.
B-8-28	Due to the G&G activities occurring outside of the NEPA process, NMFS is unable to conduct Essential Fish Habitat (EFH) consultations, despite the fact that geophysical surveys emit high amounts of acoustic energy, including shallow- and medium-penetration sub-bottom imaging systems that use 'chirp' and 'boomer' equipment... EFH assessments and consultations conducted in later project stages have also failed to adequately assess the impacts of G&G surveys to the acoustic environment, as these activities. For example, consultations for the Vineyard Wind and South Fork projects do not evaluate the projects' impacts to EFH from acoustic surveys under the SAP or the COP.
B-8-39	We repeat our calls on BOEM to prioritize the provision of transparency and initiate a balanced planning process rather than racing to make decisions on projects without a coherent permitting framework.
B-8-6	RODA again calls upon BOEM to develop suitable Programmatic Environmental Impact Statements by region, with tiered analyses for individual projects or contiguous lease areas. This is the only approach that will both meet NEPA's requirements and allow for effective public comment opportunity. Fishermen, scientists, managers, and other non-OSW professionals simply cannot provide meaningful comments on each individual project BOEM plans to review in the near term. Without the ability to provide consolidated reviews and comments, the quality of decision making and project planning and the ability to find suitable mitigation measures will be strongly jeopardized...We further request BOEM to provide explicit information as to how it will approach cumulative impacts reviews for this and future projects...BOEM and OSW developers provide inconsistent approaches to whether projects should be considered on an individual or cumulative level, seemingly based on whichever is more convenient for a given issue...there appears to be no standard protocol for when BOEM will conduct a project's EIS, and inconsistency is increased when analyses are conducted piecemeal for each phase versus across an entire lease area...Even within individual projects, the segmentation of BOEM's NEPA review means that their environmental impacts are not considered cumulatively across the entire project cycle from surveys to construction and operations to decommissioning. The only effective remedy for this segmentation and unpredictability of the environmental review process would be to conduct a Programmatic EIS.
B-8-8	A new section at 40 C.F.R. § 1502.16(a)(10) requires consideration of "economic and technical considerations, including the economic benefits of the proposed action" when evaluating the environmental consequences of major federal action under NEPA....The regulatory revisions make clear that an agency's obligation under NEPA is to provide the public with comprehensive information regarding the economic and technical details of a project itself, in addition to a full analysis of its potential environmental impacts.

Comment ID	Comment Text
B-10-7	[T]he responsible development of offshore wind, consistent with continuously improving best practices informed by the best science and a commitment to rigorous data collection, is essential. Offshore wind energy can be developed in a manner that protects wildlife, habitat, and communities, and should advance as quickly as responsible development allows... we urge the agency to conduct an expeditious and thorough analysis using the best available science and data and an inclusive stakeholder engagement process.
B-14-1	We're supportive of the process of qualifying...the benefits and the impacts, including some of the environmental impacts, decarbonization, reduction of emissions, energy electricity diversity with a different fuel source for future reliability, the community benefits and economic development, including some of the job creation.
B-14-3	So it's our opinion -- my opinion that BOEM has been favor [sic], impending extensive process that's been open, consistent, objective. So we're in agreement, supportive of the process, including the assessment of the impacts and the benefits.
B-17-1	The COP won't be updated until September, well after this scoping process. How is the public supposed to comment on a COP that isn't the real COP? That is a problem. That's a flaw in this public process. And, actually, after the COP is updated, there should be a second scoping process prior to developing an EIS because what we have now is not the updated COP.
B-17-4	the protected species observation results are totally redacted in COP Volume 2. Why is that? Protected species observations are not proprietary construction information that a developer would need to keep proprietary.
B-20-2	after five years of input, conversations, and reviews the offshore wind industry is ready for a more streamlined process to get projects up and running. We know that BOEM is already thinking hard about how it can achieve this. For Vineyard Wind South specifically, we have a template from the recently approved Vineyard Wind 1 project. This is a design that works, and we don't have to recreate the wheel.
B-22-3	In undertaking the EIS of the Vineyard Wind South project we encourage BOEM to fulfill its obligations under NEPA by taking efforts to assess the creation of a high road offshore wind industry that...protects marine ecosystems by avoiding, minimizing, mitigating and monitoring environmental impact.
B-23-2	we respectfully urge BOEM to make every effort to set an achievable NEPA review schedule and execute it in a timely and predictable manner, as there is a strong causal link between the certainty of its COP review process and the timing and size of investments that companies like GE can make in supply chain development. It takes years of planning, coordination, and financial investment for GE to get a nacelle or blade factory from the drawing board to construction to full operation. Before making such investments of time and money, OEMs like GE require comfort that its customers will receive approval of their project—and within a predictable timeframe.
B-23-3	like any major manufacturer, GE and our supply chain partners must minimize the risk of spending hundreds of millions of dollars on purpose-built facilities that remain idle. Conversely, GE and other OEMs will much more willing to make supply chain investments (and sooner) if BOEM and its sister agencies demonstrate a clear commitment to adhering to permitting schedules for each of its project reviews. In the long run, the US can only achieve sustained and sustainable economic development with a regular pipeline of project approvals and new leases. The UK and EU have accomplished this over the past few decades by establishing reliable regulatory processes and meeting the industrv's permitting expectations, with supply chain investments by GE and other manufacturers flourishing as a result.
B-23-4	We recognize that BOEM is only one participant in the regulatory process for offshore wind, and that current uncertainty must be addressed holistically. We join others who are interested in a renewable energy future for the united States in promoting reasonable reforms that increase certainty while promoting public participation.
B-24-1	We have the benefit of following the review of Vineyard Wind 1. It provides a template to follow in this review. After five years of public input, conversations, and multiple reviews of that project, we're ready for a more streamlined process to get projects up and running....I urge the agency to advance the review of Vineyard Wind South promptly and predictably.

Comment ID	Comment Text
B-25-1	<p>We do not feel that adequate time has been put into outreach, and webinars, only three within an apparent week to discuss changes to this project specifically. It is completely inadequate. This is not just a comment about this project, but the entire commenting process within the Rhode Island-Massachusetts wind energy lease areas since South Fork Wind submitted their COP.... it is virtually impossible to read all documents within the timeline BOEM is giving us, when in fact one lease area comment period is virtually right on top of another. For example, the South Fork, Sunrise, Beacon, Vineyard Wind 1, New England Wind, Revolution are pretty much all taking place concurrently, whether via COP or transmission processes at various State public service commissions. Thousands of pages of documents across a half dozen projects all taking place concurrently cannot be digested properly. We need for BOEM to slow down the wind lease process so that each project can be effectively vetted by stakeholders that stand to lose the most economically, southern New England's commercial fishermen, and their fishing communities.</p>
B-27-1	<p>It is increasingly difficult for the fishing community, and the public more broadly, to stay apprised of frequently changing details associated with the large number of current and predicted offshore wind energy (OSW) leases. Recently, RODA staff attempted to draft a summary table with basic information on the status and activities for Southern New England and Mid-Atlantic leases. It was not possible to complete this based on publicly available, printed information....We therefore respectfully repeat our request that BOEM work with RODA to provide shoreside and on-the-water project information through a centralized, up-to-date information repository in formats accessible to fishermen, which currently does not exist</p>
B-27-2	<p>The Notice and supplemental information on BOEM's website provide insufficient detail to inform comments about potential changes in cable routing as proposed by the project developer.... information is absent from the Notice, as are nautical charts showing the newly proposed routes that would allow even basic comparison with fishing activity, sensitive habitats, and other safety and environmental considerations. BOEM and the project developer must work transparently and collaboratively with fishermen who hold significant local ecological knowledge about these marine areas in order to demonstrate that cable planning has met legal mandates of incorporating the best available science.</p>
B-27-3	<p>The Notice "formally announces that the project's name has changed from Vineyard Wind South to New England Wind."...The referenced release, in fact, states that not only has the name of the project changed, but also its ownership. Further corroborating the ownership transfer, Vineyard Wind Staff presenting at the Massachusetts Fisheries Working Group meeting on December 10, 2021 stated an ownership change for lease areas OCS-A 534 and OCS-A 522 had already occurred. BOEM's regulations at 30 C.F.R. § 585.109 require a developer to formally notify BOEM of a name change, if no ownership transfer occurs. However, if a lease is assigned to new ownership, 30 C.F.R. § 585.408-411 sets forth the process for such an assignment, including but not limited to requiring a developer to submit an application to BOEM, furnish proof of financial assurance, and commitment to the original terms and conditions of the lease...the Notice provides no information whatsoever on agency process or filings to date...The Notice should reasonably have included information related to the agency's oversight responsibilities and internal review that would have sufficiently informed the public to provide comments.</p>
B-27-4	<p>As requested by RODA and other fishing industry representatives repeatedly in the past, it is of utmost importance that all terms and conditions fully assign to successive owners if a lease is sold or transferred. Companies that acquire leases or projects must also possess the same qualifications as those that became eligible for the lease. While BOEM's regulations referenced above do require the transfer of obligations and liabilities, no information has been publicly provided to indicate that adequate approval processes are in place and have been followed in this instance.</p>
B-27-5	<p>RODA requests that BOEM evaluate this and all future assignments [of leases or projects] for potential impacts on, or risk to, national security and safety at sea. Differing ethics records, crew and vessel sourcing origins, safety protocols, gear replacement policies, and communication practices among project owners have real and tangible effects upon our members who operate in the region. These impacts are already occurring through existing lease activity, and practices are likely to change upon ownership transfer; therefore, such analysis cannot wait until the final review of Construction and Operation Plans.</p>

Comment ID	Comment Text
N-2-10	Phase Two may be built at a time relatively far down the road when circumstances have changed. For example, several other offshore wind developments now at various phases of review may be constructed and operating. These projects may give us new and significant information regarding how offshore wind projects impact a variety of resources and communities. Ocean conditions may have significantly changed, as well as the conservation status or behavior patterns of key species. New technologies may develop that could significantly impact construction, turbine size, turbine foundations, layout, or other significant factors, including impact minimization strategies
N-2-11	Courts have ruled that "where a multistage project can be modified or changed in the future to minimize or eliminate environmental hazards disclosed as the result of information that will not become available until the future, and the Government reserves the power to make such a modification or change after the information is available and incorporated in a further EIS, it cannot be said that deferment violates the 'rule of reason.' Indeed, in considering a project of such flexibility, it might be both unwise and unfair not to postpone the decision regarding the next stage until more accurate data is at hand."
N-2-12	BOEM has the authority to segment review of the two phases and perform a NEPA analysis for Phase One at this time, and a separate NEPA analysis for Phase Two when the project has a power purchaser and is closer to moving forward. Accordingly, BOEM is encouraged to consider deferring the EIS for Phase Two of the project until more details, such as the proposed construction schedule, are resolved
N-2-123	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 must prepare a full Programmatic EIS encompassing all United States' East Coast renewable energy development as soon as possible to inform future offshore wind development.
N-2-124	Currently, impact analyses are undertaken, and mitigation 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 United States' 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 United States' East Coast on a twice-yearly basis (i.e., northern and southern migration).
N-2-125	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 United States' East Coast
N-2-13	The NEPA process should inform all interested parties about how to responsibly proceed with developing the promising and abundant 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 wildlife, provided that all siting and permitting decisions are based on sound science and informed by key experts and stakeholders. 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.
N-2-14	Despite offshore wind's rapid growth in Europe, United States 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. BOEM recently issued a Record of Decision approving a major project that will be built immediately adjacent to this project –Vineyard Wind 1– and is considering multiple other projects off the east coast. Commenters have provided ample comments on those projects which should provide guidance for this NEPA process as well.

Comment ID	Comment Text
N-2-26	BOEM must ensure the creation of a robust, long-term scientific plan to monitor the effects of offshore wind development on marine mammals, sea turtles, fish, bats, birds, and other species and their habitats before, during, and after the first large-scale commercial projects are constructed. This monitoring data must be made readily available to stakeholders and the public to help inform future decisions in the growing offshore wind industry and minimize risks associated with offshore development.
N-2-7	To comply with NEPA, an EIS must, inter alia, include a "full and fair discussion" of environmental impacts, including positive as well as negative impacts, and assess possible conflicts with other federal, regional, state, tribal, and local authorities.
N-2-8	The scoping process requires the agency to "invite the participation of likely affected Federal, State, Tribal, and local agencies and governments, the proponent of the action, and other likely affected or interested persons" as well as involve the public. The ability of the public and other stakeholders to shape the scope of critical issues analyzed in a subsequent environmental impact statement is critical to ensuring that the EIS properly considers all appropriate impacts and alternatives.
N-2-9	Vineyard Wind has two distinct phases. Phase One has a power purchaser and a relatively defined, high level construction schedule. Phase Two has neither a power purchaser nor any defined construction schedule. As such, the two phases are arguably distinct. The first phase is ready for NEPA review given the relative certainty that it will be developed and in the near term. While it is likely that at some point the proposed power from Phase Two will be purchased, there is far less certainty over when there will be a buyer for the power and how that will impact the timing of construction and perhaps other significant factors involving Phase Two.
N-3-17	BOEM must create a process to appropriately update guidance and even change issued permit conditions based on significant changes in the best available science using an adaptive management approach. While it is possible that adaptive management of this type could result in new requirements or conditions, it is equally likely that new information could result in changing or relaxing of requirements or conditions on later projects based on what is learned from monitoring done as part of the early projects. Results of pre-, during-, and post-construction monitoring of early projects could foreseeably begin to inform guidance for projects later in the project pipeline, projects in other regions and/or decommissioning requirements. Thus, standardization of data collection and transparent and timely sharing of research and monitoring results must be a requirement for all mandatory, developer-led research and monitoring efforts, as well as for all research and monitoring supported in part or in whole with federal funding. While there may be an up-front coordination burden of such provisions, these requirements will undoubtedly save time and money by avoiding unnecessarily repeating or duplicating activities and reducing uncertainty that is inherent in comparing the results of studies performed using different methods.
N-3-9	Because the timing and details of the Phase II project are unknown and could vary widely there is a common-sense question about whether an EIS can be adequately completed for Phase II with particular attention to the possible advances in monitoring, research and information that could emerge between Phase I and Phase II and better inform both project design and EIS scoping and specifications for Phase II. This suggests the subject EIS should be segmented into two EIS's, not one. However, it also makes sense for the EIS process to be as efficient, timely and productive as possible for many reasons including the need to deploy OSW at a pace and scale that is responsive to the urgent need for climate action. To address this challenge we recommend that this EIS be structured for Phase II but conditioned to require integrating new information and revised EIS-based requirements that do not unreasonably undermine timing and overall project feasibility.
N-4-10	Rather than anticipating what technology and data will be available at some undetermined point in the future, it would seem more prudent to propose a project design when such a project has been solicited. Alternatively, any design proposal approved for Phase 2 should be conditioned on the ability of permitting agencies and stakeholders to introduce new facts into the record to inform a final design prior to construction and operation.

Comment ID	Comment Text
N-4-9	We question the prudence of including the Phase 2 development area in the current EIS process. We are mindful of the efficiencies that this approach provides. However, given that there has not been any solicitation for power from the Phase 2 development area and that, accordingly, the timeline for developing this area is uncertain, we are concerned that approval of a design scenario for the Phase 2 project area may preclude (1) informed use of the most up-to-date scientific information related to the lease area, including information related to marine mammals and fisheries, to guide design decisions and (2) incorporating design elements reflective of technological advances in the offshore wind industry
N-5-6	The Bureau of Ocean Energy Management’s swift and thorough review of Vineyard Wind South's Construction and Operations Plan is critical for us to stand up this clean energy solution in a timely and responsible manner.
N-7-4	We urge BOEM to conduct this review in an expeditious manner and advance the permitting of this critically important project.
N-8-2	To ensure that the Vineyard Wind South project is developed in a responsible manner BOEM must ensure that the project complies with existing laws including NEPA, the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA) and the Magnuson-Stevens Fishery Conservation and Management Act (MSA)...but offshore wind development must adhere to the rigorous review process that uses best available science to consider immediate and cumulative impacts to ocean wildlife.
N-8-30	To foster stakeholder relationships and allow public engagement and oversight of the permitting, construction, and operation of the project the EIS must...require all reports and data related to the project and its monitoring programs to be accessible on a publicly available website.
N-9-3	Even though Phase 2 generation is not certain at this time, the VWS COP includes plans for both Phase 1 and Phase 2 of OSW project development without any consideration of future changes in environmental conditions of the SWDA region, evolution of scientific knowledge, and emergence of technological developments, and lessons to be learned from other Atlantic OSW projects already underway. Therefore, a new and separate COP must be prepared for Phase 2 of the VWS project when the possibility of its development becomes more certain. A new and separate review of the environmental impacts based on the most up-to-date and best available scientific data must be required in the COP for Phase 2
N-9-6	Tribal, state, county, and local planning officials, as well as all stakeholders must be engaged in continued consultation from the outset to identify all actions that should be considered in the impact analysis. Improving outreach and providing educational and informative resources and factsheets (via in-person townhall meetings, online webinars, using print and digital media) at the outset of the pre-planning process will ensure better participation and robust engagement of local communities that would be impacted by the OSW development.
N-10-3	Green Energy Consumers urges BOEM to move through an environmental impact statement process that is rapid, prompt, standardized, and thorough.
N-13-3	And while we understand that this resource must be built responsibly to transition our grid to locally sourced clean energy, the need to move forward quickly is urgent, and projects such as Vineyard Wind South should advance as quickly as responsible development will allow....And as BOEM moves forward through this process, approves this COP, and prepares an environmental impact statement, we urge you to conduct a comprehensive and thorough analysis of not only the obvious environmental and climate impacts and benefits of this proposed project but also, as I said, the economic and workforce benefits that are so important to our region.
N-14-3	Fundamental criteria necessary to ensure a strong framework to help mitigate potential and environmental and ecological impacts include the need for...continuing stakeholder engagements. And we know that Vineyard Wind is committed to that...[and] a really robust data gathering, information sharing, and environmental management plan.
N-15-4	Offshore wind energy can be developed in a manner that protects wildlife and habitat, and should advance as quickly as responsible development allows. A thorough and expeditious environmental assessment using the best available science and data, as well as an inclusive stakeholder engagement process, will ensure the responsible expansion of this industry off our shores.

Comment ID	Comment Text
N-18-1	To comply with NEPA, an EIS must, inter alia, include a "full and fair discussion" of environmental impacts, including positive as well as negative impacts, and assess possible conflicts with other federal, regional, state, tribal, and local authorities.
N-18-15	...the COP presently does not comply with BOEM's regulations governing COPs because it does not include such information [on benthic survey data]. The lack of benthic survey data for the OECC South Variant and lack of information on the cable landing sites are serious deficiencies in New England Wind's COP and BOEM should not proceed to analyze the impacts from the OECC South Variant in the Draft EIS—or permit construction of the OECC South Variant—until complete information is provided.
I-15-1	To meet our climate goals, BOEM should advance review of Vineyard Wind South (and other offshore wind proposals) promptly and predictably.
I-16-1	Since the initial VW1 Project, stakeholders were engaged and kept informed by the local staff of VW. I encourage them to continue this effort with further education of local residents who will be impacted during the construction of the expanded cable corridor and the decision about which landing sites are best. I also appreciate all the consultations that VW and BOEM are doing and will continue to do to study and assess mitigation as well as the best design of ways to care for wildlife, marine life and ocean health.
I-25-1	This current project's environmental review process is expected to last two full years. We need to streamline this process. The Vineyard Wind 1 project can act as a guiding template for the Vineyard Wind South project review and other offshore wind project reviews. Compromises included a uniform layout of the turbines that reduce the amount of clean energy that support shared use of the leased area. Please carry these forward and expedite review where precedent calls....Please leverage the existing record of the Vineyard Wind 1 compromises and please weigh environmental cost benefits accurately to create an efficient, streamlined review process.
I-29-2	We encourage an expeditious review
I-3-6	after five years of conversations, and multiple reviews of Vineyard Wind 1—not to mention needless delays—the country needs a more streamlined process to get projects up and running.
I-30-2	A five-year permitting process for Vineyard Wind 1 was an arduous journey. Result was a strong, thoroughly vetted plan to build the first large scale offshore wind project in the United States....So much of the hard preparatory work has already been done. I strongly urge you now to leverage the standards, the templates, and the knowledge that were developed from that two-year investment. I hope that BOEM will act aggressively and accelerate the review processes for the succeeding offshore wind projects at the prompt, efficient pace that the public needs.

NON-ROUTINE ACTIVITIES

Comment ID	Comment Text
B-8-20	Current turbine designs based on the International Electrotechnical Commission, are not designed to withstand the extreme winds and directional wind shifts of hurricanes larger than Category 2, which can occur in the Northeast region (and are predicted to become stronger and more frequent due to climate change)...The EIS must analyze how gusts and wind shifts during extreme weather events may damage turbines and negatively impact energy generation capacity.
B-8-34	Ice accumulation on turbines is a known issue for wind energy areas in cold climates. Icing should be analyzed for not only the safety risks associated with ice throws to mariners, but also for the environmental and energy contributions from any voluntary ice-remediation technologies...Currently BOEM does not require de-icing or pretreatment but analysis should consider impacts to power generation if Northeast winter storms could impact turbine capabilities. Given the size and height of the turbines, in addition to unique geographic features in New England, ice accumulation and safety risks must be analyzed in the EIS. If BOEM finds that safety or power risks are possible due to icing, it must require mitigation measures as a condition of any OSW permit it may issue... Rime icing is a major concern for wind turbines, and once temperatures rise, the ice is likely to dislodge from the blades...Indeed, the NYT article plainly highlights the need for BOEM to independently verify any claims regarding icing; it cites several studies that directly contradict information provided by the OSW trade association at the time.

OTHER RESOURCES AND USES

Comment ID	Comment Text
F-2-104	Given the anticipated development of offshore wind in our region, it is critical to expeditiously establish and implement a regional federal scientific survey mitigation program...[to] include the following elements: 1. Evaluation of scientific survey designs; 2. Identification and development of new survey approaches; 3. Calibration of new survey approaches; 4. Development of interim provisional survey indices; 5. Integration of project-specific monitoring plans to address regional survey needs; and 6. Development of new data collection, analysis, management, and dissemination systems.....
F-2-105	Consistent with work we have done with you in the past, the NEPA document should include a full description of scientific surveys to be impacted, the history of each time series, and relative importance of the impacted scientific surveys on management advice, decision-making, and other end-users...In addition to impacts on fisheries independent survey data collections, analysis of impacts on fisheries dependent data collections, e.g., landings, biological samples, and observer data, due to potential changes in effort should also be required...This analysis should also consider the potential changes in fisheries dependent data collections on stocks expected to be impacted by offshore wind development impact producing effects and on the anticipated displacement of fishing operations.
F-2-108	[M]itigation necessary to offset negative impacts to longstanding marine scientific survey operations (e.g., loss of access to project areas, changes to sampling design, habitat alterations, and reduced sampling due to increased transit time) and fisheries dependent data collections must also be considered and evaluated in the document (see description of scientific survey impacts below).

Comment ID	Comment Text
F-2-23	It is inaccurate to suggest that survey vessels or airplanes could simply alter course to avoid WTGs, or that a sampling location that is occupied by a WTG could be removed from future consideration without affecting the survey, sampling design assumptions, or concomitant scientific advice derived from the data collections....the Vineyard Wind South project is anticipated to have major adverse impacts on NMFS Northeast Fisheries Science Center scientific surveys, which will, in turn, result in adverse impacts on fishery participants and communities, conservation and recovery of protected species, and on the American public. This project would have direct impacts on the federal multi-species bottom trawl survey conducted on the FSV Henry Bigelow, the surfclam and ocean quahog clam dredge surveys conducted on chartered commercial fishing platforms, the integrated benthic/sea scallop habitat survey, ship and aerial-based marine mammal and sea turtle surveys, and the shelf-wide Ecosystem Monitoring Survey (Ecomon).
F-2-5	We have done considerable work with you to ensure the NEPA documents for these projects adequately assess the impacts to all seven of our scientific surveys that occur in the project area. Based on our initial review of the Vineyard Wind South COP, the brief description of impacts to our scientific surveys is inaccurate, unsubstantiated, and does not reflect the best available information...In development of the EIS, BOEM should incorporate previous work we have done with your agency within the Vineyard Wind EIS to provide a sufficient and accurate analysis of the major adverse impacts to our NOAA scientific surveys.
S-1-4	DEEP is aware that all construction activities produce waste and would like BOEM to assess how and where waste from this construction area will be managed.
B-1-4	The EIS should evaluate whether [Phase 2] turbines as large as 19 MW will interfere with U.S. Air Force Weather Division NEXRAD radar by limiting the ability to track tropical storms moving in the area. The Department of Defense raised this concern in the New York Bight lease areas. If there are similar concerns here, it may narrow the design envelope for Phase 2.
B-1-38	We continue to have significant concerns about the cumulative impacts of offshore wind development on fishery independent surveys. Major negative impacts to these surveys would translate into greater uncertainty in stock assessments, the potential for more conservative fisheries management measures, and resulting impacts on fishery participants and communities. We are encouraged by BOEM's commitment to working with NOAA on long term solutions to this challenge through the regional, programmatic, Federal Survey Mitigation Program, described in the Record of Decision for the Vineyard Wind 1 project.
B-6-9	Offshore Wind Turbines will throw false targets on a radar screen due to the rare earth minerals that spin inside the turbine. They will affect Airport Surveillance Radars (ASR) – The ASR-8 and ASR-9 series of radars are used as the primary air traffic control system for the airspace surrounding airports; Air Route Surveillance Radars (ARSR) – The ARSR-4 is a long range, L-band radar used by the Federal Aviation Administration (FAA) and Department of Defense (DoD) to monitor airspace on and around the U.S. border; NEXt-generation RADars (NEXRAD) – S-band pulse-Doppler weather surveillance radar used to support the weather assessment, forecast, and warning missions of the National Weather Service (NWS), the FAA, and the DoD, and SeaSonde Radars – High frequency (HF) radar systems used to measure coastal ocean currents that can work individually or in a network with nearby systems.1

PLANNED ACTIVITIES

Comment ID	Comment Text
F-1-5	The number of offshore wind projects currently at various stages of the BOEM review and permitting process presents an opportunity for an expansion of the consideration of relevant intra-lease issues in the upcoming Draft EIS and ones that follow. Starting with Vineyard Wind 1, BOEM successfully incorporated stakeholder and agency input regarding the need for a unified layout (both WTG spacing and orientation) to avoid impacts associated with multiple adjacent projects.
F-1-39	We encourage BOEM to continue to expand and refine the Cumulative Activities Scenario included for both the Vineyard Wind 1 and South Fork Wind EISs.
F-1-40	We believe the discussion in the [cumulative activities] scenario provides an appropriate avenue for BOEM to consider interrelated impacts of the various projects within a geographic region over time and whether additional mitigation or impact reduction measures need to be considered. This analysis will become increasingly valuable as information regarding project impacts for each lease area becomes available from ongoing NEPA analysis or experience and observations gained during project construction and operation. We continue to recommend a strong focus on impacts to complex bottom habitat, endangered species and marine related commerce including commercial fishing.
F-1-41	We also recommend that the [cumulative] activities scenario examine landside effects of the potential for increased noise, traffic, and air impacts from port activity to support the development and operation of offshore wind facilities over time.
F-1-51	we repeat a recommendation made during the Revolution Wind Scoping process that BOEM analyze issues that will affect future lease area development such as capacity limitations of the onshore transmission grid and whether there are opportunities for the development of shared export cables and/or common cable corridors that can benefit multiple projects and also reduce project impacts and costs. BOEM is uniquely positioned to conduct such an analysis...Such a discussion should be integrated into the cumulative impact scenario discussion BOEM initially developed for the Vineyard Wind 1 project.
F-2-15	The EIS should include a complete analysis of the cumulative impacts of the project...This analysis should include a broad view of all reasonably foreseeable activities, including but not limited to, energy infrastructure (including future wind energy projects), sand mining, aquaculture, vessel activity, fisheries management actions, disposal sites, and other development projects
F-2-25	Consideration of impacts from multiple projects is particularly important for migrating species of marine mammals, sea turtles, fish, and invertebrates that may use or transit multiple proposed project areas. The potential cumulative impacts on the migration and movements of these species resulting from changes to benthic and pelagic habitats and potential food sources due to the presence of multiple projects should be evaluated in the cumulative effects analysis.
F-2-52	Specifically, the cumulative effects analysis should consider all 16 COPs BOEM recently announced it plans to process by 2025. We encourage you to use the final cumulative impact analysis from the Vineyard Wind project to help inform discussions of cumulative effects on marine resources from other offshore wind development projects for this EIS. However, for this project, additional focus on cumulative impacts of multiple projects potentially impacting designated HAPC, particularly through Muskeget Channel, should also be incorporated. Although lease auctions for the New York Bight have not yet been conducted, consideration of the impacts from potential projects in the New York Bight Wind Energy Areas are warranted, particularly if the lease areas are defined and auctions completed before the EIS for this project has been finalized.

Comment ID	Comment Text
F-2-53	The EIS should evaluate the cumulative impacts of multiple projects on fishing operations, such as changes to time and area fished, gear type used, fisheries targeted, and landing ports....It is not enough to simply state that economic impacts of this project can be mitigated by fishing elsewhere without considering and addressing other factors that may impede effort displacement, including development of other wind projects in adjacent and nearby waters. The EIS should consider the socio-economic impacts on fishing communities that cannot relocate fishing activity due to cultural norms (fishing grounds claimed or used by others), cost limitations (too expensive to travel greater distances to other fishing areas), and other relevant limiting factors such as regulations that limit where and when a particular vessel can fish with particular gear for a particular species. Shifts in fishing behavior, including location and timing, may result in cumulative impacts to habitat as well as target and bycatch species (both fish and protected species) that have not been previously analyzed in fishery management actions.
F-2-54	The EIS should evaluate, in detail, the cumulative impacts on protected species and fisheries resources associated with overlapping construction activity of adjacent projects, including elevated noise levels, displaced fishing effort, cable routing, and burial, and changes in species abundance, among other impacts.
F-2-55	An assessment of the potential impacts of the Vineyard Wind South project-specific (turbine level) and the full build-out/cumulative offshore wind scenario on hydrodynamics, and oceanographic and atmospheric conditions, will help evaluate impacts on species distribution and the effects to hydrodynamic conditions.large scale energy extraction from wind farms and the physical presence of wind turbine foundations could have a significant impact on stratification in this region and therefore the ecology, habitat, and egg/larvae and prey distribution of a number of federally managed fish species and protected species. We recognize there is uncertainty regarding the scope and scale of impacts that may result from the introduction of new structures into the offshore environment and related energy extraction from the wind turbines; however, it is critical that this issue is thoroughly addressed and that the EIS considers the best available scientific information to support any conclusions regarding these impacts, including ongoing studies on this topic.
F-2-56	the EIS should contain a robust assessment of the potential effects of both the Vineyard Wind South project and the full build-out scenario on prey resources for critically endangered North Atlantic right whales and other species.
F-2-57	An assessment of the potential impacts of the Vineyard Wind South project-specific (turbine level) and the full build-out/cumulative offshore wind scenario on hydrodynamics, and oceanographic and atmospheric conditions, will help evaluate impacts on species distribution and the effects to hydrodynamic conditions. Potential impacts to plankton distribution should be clearly discussed as their distribution, aggregation, and possible abundance may shift, and this could have a significant impact on North Atlantic right whales, along with other large whales and numerous species of planktivorous pelagic fish, as zooplankton are the primary source of prey for many higher trophic level organisms. In addition, consideration of impacts to species recruitment and larval distribution due to changes to ocean stratification and circulatory patterns resulting from the development of wind projects should be discussed in this section.
F-2-58	Given the extent of potential offshore wind development on the OCS and in this region in particular, the cumulative effects analysis will be a critical component of the EIS. Establishing a regional monitoring program will be important to help understand potential impacts of wind energy projects and identify potential mitigation measures for any future projects....You should also coordinate with our agency early in the process related to any potential effects of monitoring activities on NOAA trust resources; we note that survey or monitoring activities may require permits or authorizations from us.
F-2-59	Vessel strikes are a documented threat to a number of protected species including Atlantic sturgeon, sea turtles, and large whales, including critically endangered North Atlantic right whales. The EIS should evaluate, in detail, the cumulative effects of increased vessel traffic during all phases of the project.

Comment ID	Comment Text
F-2-60	an assessment of cumulative impacts of existing and proposed transmission cables should also be considered. Based on the proposed wind development projects in this region, there is the potential for substantial additive impacts associated with the number of required cables. As part of the cumulative effects analysis, measures to minimize the additive impacts should be considered, including the evaluation of designated cable routes and coordination and consolidation with adjacent projects to minimize cumulative impacts.
F-2-61	Finally, reduced regional scientific survey access to project areas could increase uncertainty in associated stock assessments and result in more conservative quotas that would negatively impact fishery operations in all fisheries. Accordingly, the analysis should also consider cumulative impacts of all wind projects in the context of existing fisheries management measures.
S-5-1	Vineyard Wind 1 will create thousands of new jobs. And following the recent signing that was referenced earlier of a project labor agreement, literally hundreds of new jobs will be skilled union jobs with fair pay and workforce safety standards
B-1-23	The EIS must include a meaningful cumulative impacts assessment... scope should now be expanded to include the anticipated New York Bight lease areas. The cumulative effects analysis should also consider the impacts of cables from the many planned offshore wind projects.
B-1-24	Cumulative impacts and risks need to be evaluated for species that are widely distributed on the coast. Species such as bluefish, flounder, and others that migrate along the coast could be affected by multiple offshore wind projects, and well as other types of coastal development.
B-1-26	The Councils support policies for U.S. wind energy development and operations that will sustain the health of marine ecosystems and fisheries resources. While the Councils recognize the importance of domestic energy development to U.S. economic security, we note that the marine fisheries throughout New England and the Mid-Atlantic, including within the Vineyard Wind South project area and in surrounding areas, are profoundly important to the social and economic well-being of communities in the Northeast U.S. and provide numerous benefits to the nation, including domestic food security
B-1-30	Fishing effort can change based on management actions such as a change in access areas, or updated state-by-state quota allocations for a target species like black sea bass. It is important to account for the dynamic nature of fishing effort over time when evaluating impacts to fishermen and fishing communities. This is an area of the EIS where cumulative considerations are especially critical and these two projects cannot be considered in a vacuum; many other wind farms are proposed within the Massachusetts and Rhode Island wind energy areas and in other areas throughout New England and the Mid-Atlantic, and fishing will be affected over a large area if all these projects are installed.
B-1-37	Climate change will also be an essential consideration in the cumulative effects analysis.
B-3-9	The offshore wind developers in the New England region – Vineyard Wind, Equinor & bp, ørsted & Eversource, and Mayflower Wind – have agreed to uniform, predictably-spaced turbine positions across all offshore wind projects within the New England region. This layout, which is supported by the U.S. Coast Guard, means that the area is available for shared use. The layout has also been affirmed through the issuance of the Vineyard Wind 1 Record of Decision.
B-4-17	Lack of cumulative impacts ignores the facts and skews impact analysis. For example, in the Vineyard Wind 1 FEIS states on page 3-202 that the offshore export cable corridor (OECC) “intersects areas with high vessel density for fishermen targeting squid, surfclams/ocean quahogs, and sea scallops”...Now, Vineyard Wind South is proposing 5 additional export cables adjacent to the original Vineyard 1 cable...it will be a cumulative impact that will negatively affect the area of “high vessel density” by multiple mobile bottom tending gear fisheries. Additionally, it is naïve to assume that other leases within the MA/RI WEA will not have export cables either. BOEM cannot continue to ignore major cumulative impacts to the commercial fishing industry in order to achieve project approval.
B-4-9	BOEM must standardize its process, and that standardization must include cumulative impacts per NEPA, all the way through every document...In the [Vineyard Wind 1] SEIS, impacts to commercial fisheries, navigation, and other ocean uses had been analyzed as "major". These cumulative impacts cannot continue to be ignored or swept under the rug by the agency.

Comment ID	Comment Text
B-8-10	BOEM must take immediate action to address ongoing impacts from unregulated OSW surveys, and complete a Programmatic Environmental Impact Statement evaluating the cumulative impacts of all reasonably foreseeable OSW survey effort prior to additional activity. Project-specific Environmental Assessments have not analyzed the readily conspicuous size and scale of these surveys' environmental, economic, and cumulative impacts...Due to the G&G activities occurring outside of the NEPA process, NMFS is unable to conduct Essential Fish Habitat (EFH) consultations, despite the fact that geophysical surveys emit high amounts of acoustic energy, including shallow- and medium-penetration sub-bottom imaging systems that use 'chirp' and 'boomer' equipment. In preparation of a SAP, G&G survey requirements only include a submission of a Biological Evaluation to NMFS Protected Resources Division for the purposes of avoiding marine mammals. EFH assessments and consultations conducted in later project stages have also failed to adequately assess the impacts of G&G surveys to the acoustic environment, as these activities.
B-8-23	We further request BOEM to provide explicit information as to how it will approach cumulative impacts reviews for this and future projects. BOEM, as the agency hiring consultants to draft the Environmental Impact Statements for offshore wind projects, has implemented an inadequate cumulative impacts strategy.
B-8-4	The environmental impacts of Vineyard Wind's multiple proposed projects will be cumulative to those of other projects for multiple fish stocks (and oceanographic processes) and these must be coordinated to maximize the utility of any data that is collected....BOEM must require developers to participate in cooperative monitoring and research programs that adequately examine the cumulative impacts of OSW activities across WEAs. Currently, such coordination is left to the developers' discretion and considered a mitigation measure, which is inappropriate and inadequate.
B-8-9	The extent to which Vineyard Wind's ongoing fisheries research is coordinated with other OSW projects and with fisheries science experts is unclear. BOEM must require such coordination, not just assume that its recommendations will be followed without oversight.
B-17-3	Vineyard Wind South expects five export cables to run right adjacent to [Vineyard Wind 1's] export cable, which is a cumulative impact. And although BOEM knew that this type of information was going to be submitted, it removed all the cumulative impacts analysis from its final record of decision for Vineyard Wind 1. That is a major flaw in this process and needs to be addressed prior to this project, or any other projects, going forward because the cumulative impacts are only going to continue for each and every project.
B-17-5	Also, in the ROD for Vineyard Wind 1 fisheries -- the ROD states that fisheries are expected to completely abandon the area. This is true. Commercial fisherman, particularly in the swim industry, risk loss of livelihood as well as loss of life due to navigational hazards associated with these projects. That's a major, major, major impact for us. And in the Vineyard Wind 1 SEIS it was stated that cumulative impacts are nature to commercial fisheries. However in the SEIS and ROD, the cumulative impact sections were removed. Why? Especially when BOEM was expecting Vineyard Wind South to submit a COP or -- because they already submitted a COP. That's a major problem because there will be major cumulative impacts to commercial fisheries in the region.
B-18-1	I would like to make sure that when Vineyard Wind puts together its EIS, that the cumulative impacts of wind energy development, or that whole area, is taken into consideration and not just that particular area of Vineyard Wind South.
B-18-2	I would like transit lanes to be discussed again, as we discussed -- as it was discussed a couple times with the Coast Guard. The Coast Guard did not take into consideration the cumulative area that's going to be developed; it only went by leased area by leased area
B-20-3	Offshore wind developers in the New England region, Vineyard Wind, Equinor, Rosivin (ph), EquiSource, and Mayflower have agreed to the uniform predictable spacing across all projects in the New England region. That layout has been supported by the U.S. Coast Guard and was affirmed through the Vineyard Wind record of decision. This layout means that the area is available for shared use.

Comment ID	Comment Text
N-2-135	all future cumulative impact analysis must include the following considerations...Data are readily available (e.g., on 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). We encourage BOEM to undertake this quantitative analysis
N-2-140	Given the acute vulnerability of the North Atlantic right whale, it is essential that, at a 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 North Atlantic right whale population. This analysis should be incorporated into the agency's NEPA compliance documents...We recommend that the analysis quantify the percentage of the North Atlantic right whale population potentially exposed to conceivable impacts from offshore wind development on an annual basis and, as a worse-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 North Atlantic right whales 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.
N-2-141	Habitat avoidance may also result in North Atlantic right whales 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 directly resulting from wind development activities 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.
N-2-143	Offshore wind energy development in the Rhode Island and Massachusetts WEAs includes multiple leaseholders developing individual projects on parallel timelines. If not well coordinated, these combined activities have the potential to lead to significant cumulative noise impacts on marine mammals and other marine life. BOEM should proactively address this issue and develop regional construction calendars in coordination with its sister agencies that schedule (spatially and/or temporally) noisy pre-construction and construction development activities in a way that reduces cumulative noise impacts.
N-2-144	The design of an offshore wind farm, such as the location, number of turbines, and foundation types, may affect local and regional hydrodynamics...Although the effect of a single turbine on stratification is relatively low, large-scale build-out of offshore wind energy (i.e., 100 km ²) could significantly affect the vertical structure of a weakly stratified water column, and could modify the stratification regime and water column dynamics on a seasonal scale, depending on local conditions and turbine layout. NOAA Fisheries recently acknowledged that large-scale build out of offshore wind energy in the Northeast region may cause local oceanographic changes that may affect the distribution of North Atlantic right whale prey. BOEM should explicitly consider the cumulative effects of offshore wind on oceanographic conditions, including stratification, and the resulting effects on fish habitat, as part of the Vineyard Wind South EIS.
N-2-145	The New York State Energy Research and Development Authority (NYSERDA) is funding research to model the effects of offshore wind development on Cold Pool stratification. BOEM should incorporate the results of this study and findings from Europe into the analysis for the Vineyard Wind South.
N-2-146	In addition, BOEM, in collaboration with NOAA and the states of Rhode Island and Massachusetts, should establish baseline stratification conditions for the area off southern New England and design and implement a monitoring system capable of detecting deviations from that baseline.

Comment ID	Comment Text
N-2-147	In addition, BOEM should undertake research similar to that conducted in Europe to better understand the effects of individual turbines and the cumulative effects of large-scale build out of offshore wind energy on mixing and stratification in the area off southern New England.
N-2-15	BOEM needs to rigorously review the potential impacts of offshore wind development on wildlife and their habitats, including potential impacts related to future projects at the scale envisioned by the President's offshore wind goals, to ensure appropriate mitigation measures are developed and adopted.
N-2-16	Various potential impacts associated with offshore wind construction and operations could directly, indirectly, and cumulatively impact species and habitats in the coastal zone and offshore environment along the coast...assessing cumulative impacts is essential to understanding the impact of offshore wind on species and ecosystems along the coast.
N-2-17	in drafting the Draft EIS, BOEM should ignore the Trump Administration's repeal of 40 C.F.R. §1508.7, which required the consideration of cumulative impacts. Rather, BOEM should include an analysis of cumulative impacts, as defined under the former 40 C.F.R. §1508.7
N-2-18	BOEM must include a robust cumulative impacts analysis in the Draft EIS, which is required by longstanding case law interpreting NEPA and in no way prohibited by the current regulations...Although the notice of intent did not clearly state that there would be a full cumulative impacts analysis, BOEM must conduct such an analysis.
N-2-21	Critical to a proper cumulative impacts analysis is its scope. In Vineyard Wind 1's June 2020 Supplemental EIS, BOEM greatly expanded the "scope for future offshore wind development . . . from what was considered in the Draft EIS [for Vineyard Wind], which only considered in detail projects that had submitted construction plans"...This [expanded] scope is described as the state capacity planned commitment for existing Atlantic leases (21.8 GW, or approximately 22 GW). While this was a reasonably foreseeable scope for offshore wind development at the time, now that the first U.S. offshore wind facility has been permitted with Vineyard Wind 1, life has been injected into the industry. Paired with an ever-greater urgency to address increasing climate change impacts, the offshore wind industry is materializing quickly. As such, state capacity planned commitment should be re-evaluated to consider a larger role for pledged commitments in cumulative impacts assessment. We urge BOEM to consider expanding the Vineyard Wind South Draft EIS to include the Administration's goal of building 30 GW of offshore wind within the next nine years, future development in the newly identified Wind Energy Areas (WEAs) in the New York Bight, and North Carolina's new commitment for 8 GW of offshore wind by 2040.
N-2-22	Moreover, turbine technology and spacing needs are rapidly evolving and technical resource potential should be reexamined to ensure that the cumulative impacts evaluation is keeping pace with technology and political needs. Given the speed at which offshore wind commitments are increasing, the appropriate scope for reasonably foreseeable offshore wind development could differ between Vineyard Wind South Phase One and Phase Two, depending on the development schedule for Phase Two. If this is the case, BOEM may need to segment the NEPA reviews of the two phases, as discussed in Section II(B) above.
N-2-23	As acknowledged in previous environmental reviews of offshore wind projects, in assessing how future wind sites may be constructed, operated, and sited, it is reasonable to assume that future projects will employ higher output turbines that can generate more power by using fewer physical turbines of larger size. This could change impacts related to hub height, rotor diameter, and total height of turbines for future projects, as well as, inter alia, the number of turbines and the length of inter-array cables.
N-2-24	As mentioned in Section II(B), projects, particularly projects further on the time horizon, may have increasingly larger turbines that could impact the design and layout of the operation. As BOEM has already noted, for future projects, BOEM should assume that "the largest turbine that is presently commercially available" be used to evaluate potential impacts. 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.

Comment ID	Comment Text
N-2-28	BOEM must collaborate with state efforts and agencies (e.g., Connecticut Department of Energy and Environmental Protection, Connecticut Public Utilities Regulatory Authority, and the relevant state agencies from whichever state purchases power from Phase Two of the Project), scientists, nongovernmental organizations, 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.
N-2-32	offshore wind generation will likely directly displace fossil fuel generation. 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. Consequently, cumulative effects of offshore wind development may result in long-term, low-intensity beneficial cumulative impacts on wildlife and long-term beneficial impacts on demographics, employment, and economics.
N-2-35	As explained in prior comments to the agency, if 22 GW of offshore wind displaced coal generation, over a 30-year period this would result in a net reduction in carbon dioxide (CO ₂) emissions of 2.89 billion tons. If these 22 GW offshore wind energy were displacing gas, it would still be displacing nearly 1.5 billion tons of CO ₂ emissions and significant methane emissions. The climate benefits would only increase with the new Biden Administration's offshore wind goal of 30 GW, future development in the newly identified WEAs in the New York Bight, and North Carolina's new commitment for 8 GW of offshore wind by 2040.
N-2-39	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) range from just over \$1 billion/year (in 2007\$) using a 5% discount rate and the 2020 social cost of carbon to more than \$8.3 billion/year (in 2007\$) using a 2.5% discount rate and the 2050 social cost of carbon of \$95/ton. These social benefits would increase when calculated for 30 GW of offshore wind.
N-2-56	Improved and sustained data compilation before and after construction as well as during operation would also advance understanding of species' occurrence in the Vineyard Wind South Project Area and region. As the United States 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 with developers, scientists, managers, and other stakeholders.
N-3-16	The Conservancy has been consistent in our assertion that anticipated project specific effects and impacts be viewed in the context of thorough analyses of potential cumulative impacts of OSW development along the U.S. east coast, as well as through a lens that compares unavoidable impacts to the climate change mitigation tradeoffs of failing to achieve our collective decarbonization goals. Analyses of potential cumulative impacts must be updated as new scientific information becomes available, as new technology becomes available, and as circumstances change (such as the anticipated addition of eight lease areas in the New York Bight later this year and/or if there are appreciable changes to populations of particularly vulnerable habitats and/or species).
N-3-5	During scoping, include potential cumulative impacts that go beyond the footprint of this lease area to consider the full build out potential of all wind farms in the established Offshore Wind lease areas on the Atlantic coast, as well as the new pending lease areas in the New York Bight. In addition to adverse effects on benthic habitats and species, cumulative impacts may include effects on ocean currents, stratification and circulation and potential interference with migratory species, including but not limited to marine mammals.
N-3-7	Consider the implications of this project relative to future regional energy transmission, including options for using a planned approach to siting landfall of transmission cables, in the Draft EIS.
N-4-5	Essential elements to be evaluated within the scope of the project should include:...A cumulative impact analysis that considers the impacts of the project in conjunction with pending and anticipated projects in other offshore lease areas.
N-6-3	The Vineyard Wind South project benefits...complement those of the Vineyard Wind 1 project, which was recently approved by BOEM.
N-8-5	Additionally, it is critically important that the analysis in the EIS consider the cumulative effects of the Vineyard Wind project in the context of all U.S. Atlantic wind development and the full development of the Massachusetts Wind Energy Area.

Comment ID	Comment Text
N-8-7	This analysis must include a complete evaluation of the immediate and cumulative effects of the proposed project as well as the effects of all proposed and potential wind development in the region. Separating the effects of a group of actions that have significant effects into a series smaller discrete actions that may individually not be significant is unacceptable and the government must recognize these cumulative effects.
N-9-106	The EIS must include a cumulative impacts analysis that accurately assesses the impacts to EFH and benthic habitats. The EIS must also consider the Block Island study in its evaluation of the accuracy of the estimates of impacts to complex habitats in the VWS COP.
N-9-4	Because of the large number of impact producing factors of VWS project...BOEM must adopt a programmatic ecosystem-wide approach in conducting a cumulative impacts analysis. This analysis must include not only VWS impacts but those from current and reasonably foreseeable non-VWS activities offshore, near-shore, and onshore, regional OSW development, as well as climate change impacts in order to identify and design effective avoidance and mitigation strategies.
N-9-5	BOEM must use this scoping process to identify & evaluate potential impacts to natural resources from the [Project], in cumulation with those from other current and reasonably foreseeable future actions by federal, non-federal agencies, and private parties. With the national goal of generating 30 GW offshore wind power capacity by 2030, it is more than foreseeable that multiple OSW projects will come online on an expedited schedule. This, coupled with climate crisis, increasing energy demands of growing coastal populations and concomitant expansion of built environment, means the OSW-related impacts to wildlife will only be amplified, further necessitating the analysis of the magnitude and significance of cumulative impacts. On April 16, 2021, Secretary Deb Haaland, Department of the Interior (DOI), issued a Secretarial Order reiterating the fact that the NEPA statute hasn't changed and DOI agencies, including BOEM, must follow the statute in including an analysis of cumulative impacts. BOEM's NEPA EIS analyses must, therefore, assess cumulative effects as required by longstanding case law interpreting NEPA and in no way prohibited by the current NEPA regulations.
N-11-4	Vineyard Wind has committed over \$10 million to redevelop Barnum Landing in Bridgeport, a port that has been underutilized and underdeveloped for over a decade. This will allow the port to see new tenants in the future and will pave the way for additional offshore wind opportunities down the road.
N-18-2	It is also critical that the EIS consider the cumulative impacts of the Project. In July 2020, the Council of Environmental Quality (CEQ) published a final rule revising long-standing NEPA regulations, including 40 C.F.R. § 1508.7, which required the consideration of cumulative impacts. These regulations went into effect on September 14, 2020...Consistent with the Department of the Interior Secretary Haaland's Secretarial Order 3399 asking that agencies not weaken long-standing NEPA protections and in light of the likely reinstatement of the historic regulatory requirement, in analyzing the Project under NEPA, BOEM should include an analysis of cumulative impacts as defined under the former 40 C.F.R. § 1508.7...A robust cumulative impacts analysis is also required by longstanding case law interpreting NEPA, is not prohibited by the current regulations, and will likely be explicitly required once proposed regulations by the Biden Administration are promulgated
I-30-3	The last two years of the Vineyard Wind 1 review were primarily concerned with an extensive analysis of the overall plan to site multiple offshore wind projects in that area. The end result was a vision for the development of not only the Vineyard Wind 1 but also the neighboring lease areas, as the system, including a uniform layout plan allowing for safe contiguous navigation along the turbines, regulations for protecting marine species, and important contributions to marine research

Comment ID	Comment Text
I-31-2	Vineyard Wind 1 is going to be built. It's going to disrupt in one way or another -- and none of us actually know the impacts -- through Muskeget Channel and the habitat run of laying the cable. There is some disruption, and we don't know how much. We're going to build that, put the initial cable in, and then two years later open it back up to do another one? And then if many -- hopefully, many of us believe that this grid and this map is going to be filled with projects. How many times are we going to open up the same set of channels?...I do not see enough comprehensive environmental analysis and comprehensive discussion in any of the documents I've read... We need to not be disrupting Muskeget Channel, you know, year after year. There must be some sort of buffer zones, environmental. We need more science on it.

PROPOSED ACTION

Comment ID	Comment Text
F-1-3	The discussion should present sufficient information regarding both phases of the proposed project to allow the reader to understand how the project is designed to avoid or minimize impacts associated with the installation and operation of WTGs and associated cables. Project phasing should not limit or delay the presentation of key impact information for the entire project in the Draft EIS as the analysis will help inform state and federal permitting for the project.
F-1-63	The Draft EIS should fully explain how mapping done by the applicant influenced the design and layout of the project and depict both the WTGs and associated cables on project plans showing the limits of mapped complex bottom habitat, spawning areas etc.
F-2-4	While we understand and support the PDE approach, we note that it is critical to ensure that the range of design parameters are reasonable. A PDE that is too broad would impact your ability to provide a meaningful effects analysis in both the NEPA document and your consultation documents (BA and EFH Assessment). An analysis based on an overly broad PDE may grossly overestimate the effects of the action on protected species and habitat, which would likely result in very conservative mitigation measures.
S-3-2	Vineyard Wind...however, does not yet have a power purchase agreement (PPA) for Phase 2. Even if Vineyard Wind is awarded additional state energy production contracts in the future, the maximum nameplate capacity of the project needs to stay within the purpose and need. While the two phases combined would provide a total of approximately 2,004- 2,304 MWs of offshore wind energy, the minimum purpose and need for this project only requires 2,004 MW. In addition, the COP indicates that a portion of OCS-A 0501 (Vineyard Wind 1,800 MW project) may be used to satisfy the need for additional WTG positions, if necessary. Accordingly, it is our view that the phased development as described within the COP makes it challenging to evaluate the cumulative impacts across both OCS-A 0501 and 0534.
S-3-4	At the recent public scoping meetings Vineyard Wind indicated that there are 10 foundation locations which may or may not be included from the original Vineyard Wind project (OCS-A 501) that has yet to be constructed. The reason stated for use of these 10 or so sites may be due to micro siting issues for the original project, issues that will not be determined until sufficient geotechnical and geophysical surveys are performed to support the engineering design and installation plans. As demonstrated with the Block Island Wind Farm, construction also bears the risk of impacting undetected submerged obstacles. These locations may or may not be included within the newly designated lease and are to be determined in the future, which may be after the state review of the proposed project. As part of the review of the maximum potential impact of the proposed project, all of these foundation locations should be included in the current review.
S-3-5	In addition there are two reactive compensation stations shown in the COP at the North and North East corners of the 501 lease area that are included in the new 0534 lease area designation. The analysis of impacts due to this project needs to include all the cable routing for the proposed project to reach these isolated pieces of the new lease area. Although these routes pass through another lease area, these paths should be considered part of the current proposed project and included in the analysis of impacts. This will impact the maximum disturbance areas and properly account for the details of this project.

Comment ID	Comment Text
S-3-6	It should be made very clear why a reactive compensation station is required in a location on the northeast point of the lease area(s) when this station is not along the export cable path. Both engineering and environmental analysis need to be included in the EIS to justify why this location is required and minimizes impacts to the environment as opposed to alternative locations for the reactive compensation station.
S-3-7	In a recent public hearing of the Rhode Island Public Utilities Commission (RIPUC) on July 26, testimony was provided in the proceeding for the Revolution Wind project indicating that the life of these offshore wind energy facilities, as stated in the purpose and need, could exceed the PPA by 75%.
S-3-8	It is also critical to monitor the health of these structures beyond the project's useful life because facilities design and engineering can support any extension of plant life or re-powering requests. Based on testimony provided at the RIPUC hearing these facilities would likely be in operation far longer than the EIS review and purpose and need timelines. BOEM should carefully consider realistic project lifetimes of these assets and evaluate a realistic timeline within the EIS process.
S-3-9	If it is not possible for BOEM to evaluate a realistic lifetime of these projects, then we suggest that a clear statement be made in the EIS concerning the process and regulations that govern the extension of life for these projects.
S-3-10	Any extension of life beyond the current review will impact the monitoring requirements and any proposed mitigation for impacts to the existing stakeholders. We suggest that a clear statement be provided within the EIS concerning a realistic timeline based on the life of the assets versus the proposed COP timeline.
S-5-5	the continued advancement of offshore wind technology has already given developers the ability to achieve these goals with fewer turbines. In the past, offshore wind initiatives were forced to plan a single digit turbine outlay that according to data presented earlier will be in the 13 to 16 megawatt range for Park City Wind, and the 13 to 19 megawatt range for Vineyard Wind Phase 2. This...cutting edge technology...has decreased the number of turbines that were needed to get the same amount of energy produced
B-8-30	A sufficient energy analysis must also include considerations regarding transmission...BOEM should expand its analysis of the offshore cable transmission system, including the environmental costs and benefits of coordinated transmission.
B-9-2	Cabling should be coordinated with other wind energy companies to reduce the amount of area on the bottom that is taken up, disturbed and now creates conflicts with gear. When burying cable, it should be deep enough, so the risk of exposure is little to none, 5-8 feet is not deep enough for a highly dynamic area.
B-24-2	The industry has agreed to a uniform predictable and wide spacing of turbines across all projects in the region. That layout has been supported by the U.S. Coast Guard and affirmed through the Vineyard Wind 1 record of decision. This makes the area available for shared use, even though it reduces the amount of clean energy produced.
N-1-1	As it undertakes the important work of reviewing the Vineyard Wind South COP, NECEC urges BOEM to pay particular attention to the...transparent and comprehensive nature of Vineyard Wind South's proposed COP.
N-2-44	we...recognize the benefits of a carefully implemented project design envelope approach. 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...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 enable evaluation of 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.
N-18-13	Project design envelopes cannot be so open ended that a meaningful evaluation of the impacts of the design and an analysis of reasonable alternatives becomes difficult, if not impossible

Comment ID	Comment Text
I-32-4	One part of that template is the layout of the turbines. It is very much recommended that the future - - that the turbine layouts be made uniform for all future offshore wind projects as well. This is important for the future of the offshore wind industry, as well as the interests of all marine uses. The template part was supported by the U.S. Coast Guard and approved by the federal approval of Vineyard Wind 1....That should permit BOEM to be very efficient in streamlining its evaluation process and decision making for the Vineyard Wind South project.

PURPOSE AND NEED

Comment ID	Comment Text
F-1-62	Climate change impact mitigation and overall improvements to air quality due to avoided emissions are important benefits of offshore wind development.
F-2-103	BOEM's purpose and need statement and screening criteria cannot be so narrowly focused to eliminate from full consideration reasonable alternatives that also minimize and avoid adverse effects.
F-4-1	The offshore wind industry will help mitigate [climate change-related] damage and move us towards a greener, cleaner, and safer zero-carbon energy future. Projects like Park City Wind aim to do just that.
S-5-2	Vineyard Wind South consists of two phases that would ultimately result in a total of approximately 2300 megawatts of renewable energy capacity. In terms of emission reductions, the benefits of Vineyard Wind South would represent even greater progress. Decreasing the regional carbon dioxide equivalent emissions by about 4 million tons per year; the equivalent of taking 780,000 cars off the road. Emissions that these initiatives would displace in the northeast region are critical for New England states and, potentially, the Commonwealth of Massachusetts to reach our climate and emission reduction goals.
S-5-3	The affects of our urgent climate emergency will continue to inflict dangerous long-term impacts on the natural environment, including higher sea levels, warm and more acidic oceans, more frequent and more extreme weather events, and unprecedented volatility in global temperature. Thus far, marine life has been extremely resilient in the face of major global changes. However, as the effects of climate change become more extreme the impact on our oceans will become more and more destructive to the natural environment. The Commonwealth's emission reduction requirements have certainly been adopted into law with these considerations in mind, and achieving these new emissions standards would help preserve our natural balance that exists in our marine ecosystem. Failing to do so, would force our environment to adapt to warmer more acidic waters...potentially permanently affecting the migration patterns of various local fish species and the fitness of a variety of sea animals in their early stages of development.
S-5-4	According to the recent studies by local experts at Woods Hole Oceanographic Institute, up to 30 percent of excess carbon dioxide caused by burning of fossil fuels has been absorbed in our ocean. Excess carbon dioxide concentrations make the ocean more acidic, which has been shown to prevent shellfish, such as clams oysters, scallops, muscles, lobsters, and their ability to form and maintain healthy protective shells. Without healthy protective shells these local species that play important roles in our marine ecosystem will be helpless to predators and struggle to ever reach adulthood. The bottom line is that the long-term viability of our ocean and marine ecosystems hinges on our ability to achieve a swift and strategic clean energy future that will drive down emissions in our region.
S-5-6	Here in the Commonwealth we have a new statewide emissions reduction requirement set in net zero by 2050. Legislation approved in March, 50 percent below the 1990 emissions levels by 2030, and 75 percent below the 1990 levels by 2040, and again net zero emissions by 2050

Comment ID	Comment Text
B-2-4	With over 2,600 statute miles of shoreline, the negative impact being felt by climate change is undeniable. We are already behind the curve in addressing CO2 emissions and have fallen behind on the scoping and approvals required for clean energy generating offshore wind farms.
B-3-1	BOEM's commencement of the EIS process for the Vineyard Wind South Project further confirms the Biden Administration's clear focus on offshore wind as a source of jobs, economic development, and clean electricity... Meeting state and federal offshore wind goals will also drive achievement of important public needs, like job creation; immediate and long-term economic development; and securing reliable sources of clean electricity.
B-3-5	The increasing frequency and severity of extreme weather events underscores the need for implementing urgent climate solutions.. Offshore wind plays a central role in combatting climate change.
B-4-10	BOEM cannot continue to put state/developer Power Purchase Agreements and fulfillment of state energy goals or mandates as the "Purpose and Need" of its actions, as it has done in Vineyard Wind 1. BOEM cannot continue to refuse to amend its process or lease areas, or disapprove proposed COPS/parts of COPs because doing so would "preclude [the developer's] ability to meet current contractual obligations with [state] distribution companies and, therefore....not meet the project purpose and need".Or because the proposed COP must "meet [regional] demand for renewable energy" or "contribute to [state] renewable energy requirements". This inappropriately hamstrings the NEPA process and allows BOEM to only consider the developer's proposed plans as the alternative which satisfies its purpose and need. BOEM cannot continue to put developer interests above all other interests. This does not allow BOEM to fulfill its obligations under NEPA nor OSCLA. In the Vineyard Wind South EIS, BOEM must adopt a purpose and need that does not limit its range of alternatives or alternative approval.
B-6-1	The purpose and need for this action as stated by BOEM is due to Executive Order 14008, "to...implement a Government-wide approach that reduces climate pollution in every sector of the economy; increases resilience to the impacts of climate change; protects public health; conserves our lands, waters, and biodiversity; delivers environmental justice; and spurs well-paying union jobs and economic growth, especially through innovation, commercialization, and deployment of clean energy technologies and infrastructure." The LICFA does not believe that E.O. 14008 as written would apply to the Vineyard Wind South project proposal as it does not conserve the waters or biodiversity of the lease area, nor does it deliver environmental justice to the working commercial fishermen and their shoreside businesses in their fishing communities of Massachusetts, Maine, Rhode Island, Connecticut, New York and New Jersey, all of whom fish in the area of the Vineyard Wind South project.
B-8-15	Previous NEPA documents released by BOEM have failed to include any analysis of the electrical benefits of OSW projects (or multiple projects in the cumulative activities scenario) and their relation to energy demands or the power grid. It is simply impossible to evaluate the extent of the environmental impacts, and the trade-offs with a potential public benefit, of the proposed action without a clear understanding of the power the project will realistically produce. The public should also be able to evaluate the interconnectedness of OSW to the oil and gas industry and ensure that any language regarding project benefits is thoroughly corroborated. While RODA unequivocally supports efforts to address climate change, there is little to no information from BOEM regarding what mitigative benefits to climate change are offered by the proposed projects in order to evaluate the veracity of conclusions such as this one.

Comment ID	Comment Text
B-8-7	The "Purpose and Need" Must Not Predetermine the Agency's Decision[. The] NEPA review must be conducted to fulfill the agency's purpose and need, not that of a project applicant (although the applicant's interests and objectives may be taken into account)... An appropriate purpose and need statement for this action would lead BOEM to prioritize OCSLA and NEPA's focus on environmental safeguards and eliminating damage to the environment. It would not be based on achieving states' OSW goals or the terms of private power purchase agreements executed outside of the NEPA process, as those would predispose the outcome of environmental review...It is also important to note that the purpose and need for action under this section of OCSLA—as defined and as it should be defined—differs vastly from public messaging by OSW developers, states, and even the Administration. The two justifications cited for such projects are mitigation of climate change and job creation. If these are priorities of the permitting entities, they should be stated as such and thoroughly evaluated in this and other EIS documents. If not, they should not be cited as the basis for these projects.
B-10-1	[O]ffshore wind 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.
B-10-2	Per ISO-New England's analyses, from one-sixth to one-third 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.
B-16-4	With unprecedented wildfires, hurricanes, and more flooding, millions of Americans feel the effects of climate change each year with climate-related disasters...by investing currently in clean and green reusable energy, our nation's workforce will see (indiscernible) environment and economic for decades to come.
B-20-4	The problem of climate change is urgent and upon us now, and the solution must also be urgent. To meet our climate goals BOEM should advance review of Vineyard Wind South and other offshore wind proposals promptly and predictably
B-21-2	We also support Connecticut's mandate of procuring 2000 megawatts of offshore wind energy in their lofty goal of zero carbon emissions by 2040. This project is the most effective solution for that goal.
I-1-1	Wind energy uses no water and requires no fuel. To our south of Nantucket are some of the strongest offshore breezes in New England. The capacity factor of the turbines would be in the area of 45-60% due to these strong offshore winds. In the summer during peak electricity demand from air conditioning the ocean breezes pick up in the afternoon and would power the grid when the demand is greatest...It makes sense to build wind farms in New England offshore because of space constraints on land.
I-1-2	I have toured offshore wind farms in Europe and they are very benign and out there at sea generating power for 20-25 years.
I-1-3	It is time to phase out fossil fuel burning and phase in clean renewable energy like wind power to reduce emissions of greenhouse gasses and address the negative effects of climate change.
I-1-4	With a power rating at completion of all of its phases of 2,000 to 2,300 megawatts, Vineyard Wind South would displace over 2 million tons of CO2 per year and power about a million homes and businesses annually. This would be like taking almost 1 million cars off the road annually.
I-2-1	Vineyard Wind South Project Offshore Massachusetts is a much needed project that will help supply electricity to Cape Cod, and help reduce the U.S. dependence on fossil fuels.
I-2-2	We are seeing the disastrous impacts of climate change already and every day, every year we delay reducing our dependence on fossil fuel, we are adding to the total costs of climate change impacts, both for the economy and for society in general and individuals in particular. We can save billions of dollars in disaster relief and rebuilding after the destructive storms generated by climate change, if we act now.

Comment ID	Comment Text
I-25-2	With regard to the environmental impact statement itself, Vineyard Wind South will power more than a million homes and prevent almost 4 million tons of carbon dioxide emissions every year. Environmental review should be sure to focus on these climate impacts....The environmental impact statement should discuss beneficial climate change impacts of these projects accurately
I-27-2	Vineyard Wind South will also help us to reduce our carbon footprint and our [reliance] on fossil fuel and aid in the reversal of the global warming, which we can see is having an increasing impact worldwide each year.
I-3-1	Massachusetts has recently enacted a statutory mandate of net zero greenhouse gas emissions by 2050. Offshore wind is among the many approaches to achieving this mandate (a mandate, not a goal). Indeed, without offshore wind this directive is unachievable. The legislation, An Act Creating a Next-Generation Roadmap for Massachusetts Climate, also requires our electric utilities to procure increased amounts of offshore wind.
I-3-2	we get well more than double the energy from a single offshore wind project than from a decade and a half of solar development.
I-3-5	Although there is no way to build anything—or to keep the economy functioning—without some negative impacts, in this case any such impacts are minimal and temporary. But more importantly, any such impacts from this and other offshore wind projects are small compared to the massive impacts of climate change: on birds, on fisheries, on humans, and especially on the most disadvantaged communities. We are not comparing this project to no generation; we are comparing it to fossil fuel generation, which is immeasurably more harmful to the environment.
I-4-1	The region and the country very much need to transition away from fossil fuels in order to slow the progression of the effects of climate change, and investing in clean, renewable energy sources like wind that will create jobs and leave us less dependent on foreign oil for our power is the way to go.
I-6-2	I also believe climate change is real and this project will help the country and the region reduce carbon emissions and put our country on the track to provide cleaner renewable energy.
I-7-2	Projects such as the Park City Wind [Vineyard Wind South] project and other offshore projects not only bring an economic stimulus to the region but also address how power can be generated from a renewable resource resulting in a reduced carbon footprint. Supporting the Park City wind projects and other offshore wind projects should be fully supported as a means of addressing growing climate concerns while providing significant positive economic impact on the region.
I-8-1	This is badly needed now to take care of carbon emissions and to protect our economy here on the Cape.
I-9-1	We need renewable energy on a massive scale right now, and this would be a big step in that direction.
I-10-2	The Northeast US is in need of a transition to non fossil fuel energy production.
I-12-1	There is an urgent need to reduce climate-harming emissions in our energy system. Our community sees higher high tides, increased flooding, expensive repairs to our transportation system already. This proposed project creates a reduction in emissions that trap heat in our atmosphere, warm the oceans, and raise sea levels.
I-17-1	Climate change threatens everything we have--our agriculture systems, the livability of our cities, and the future of our precious and imperiled coasts and islands. We have to get off of fossil fuels, which are the leading cause of climate change, as quickly as possible.
I-17-3	Offshore wind is a crucial part of how we can decarbonize our economy in New England. We have a huge energy resource offshore, close to our population centers which use a lot of electricity.

Comment ID	Comment Text
I-30-4	The most important benefit, of course, is the additional clean renewable power that we will need in order to reduce and eventually eliminate our dependence on fossil fuels... our electricity usage will also be climbing as we replace our fossil fuel-based transportation and heating systems with electrical solutions. We will need a large number of additional projects to the renewable energy power base in order to meet our fossil fuel reduction commitments
I-32-1	Support of critical offshore wind farm 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 will have a positive impact on sea level rise and reduce potential negative impacts to our coastal shore lines and ocean acidification impacts.
I-32-5	This project will provide major economic opportunities in the offshore wind industry... It will greatly boost our efforts to achieve a fossil-free economy, God willing someday. And it's doable.
I-32-6	The federal government, as well as the states on the east coast, have committed to clean energy goals...The Vineyard Wind South project is a big step in the commitment to fulfill those goals... the Vineyard Wind South project could generate up to 2300 megawatts of renewable energy and will power at least 1 million homes. The [Vineyard Wind] south project is the equivalent of taking 780,000 gas-powered cars off the road and reducing approximately 3.95 million tons of carbon dioxide emissions annually.
I-33-3	I did want to talk about is from a national security standpoint...well, from a national security standpoint I think that is important that we are able to produce and provide our citizens with clean energy, while not being reliant on fossil fuels and, particularly, not being reliant on fossil fuels from foreign countries.
N-1-2	Offshore wind energy will help our region transition to clean, renewable energy, and reach state targets for renewable energy procurement. Many states in the region have established aggressive goals for offshore wind procurement to deliver on greenhouse gas reduction targets and clean energy ambitions... there is an established, near-term need for this project to begin delivering clean energy as soon as possible.
N-1-6	As BOEM conducts its environmental and socioeconomic impact analysis, NECEC respectfully requests that BOEM include analysis of... the contributions the project will have on the northeastern states' ability to meet climate and clean energy targets and mandates, particularly as increased electrification of transportation and thermal applications increases overall load.
N-2-2	The Project, if responsibly developed to avoid, minimize, mitigate, and monitor potential environmental, cultural, and economic impacts, will provide substantial benefits to society and the environment. It is part of the urgent transition away from dirty, climate-altering fossil fuels to the clean energy economy envisioned by the Biden Administration that is necessary to avoid catastrophic warming.
N-2-3	This rapid transition to a clean energy economy is paramount to preserving wildlife and the environment. Absent a substantial shift from carbon intensive sources of energy to solutions like offshore wind, we face ever greater impacts from climate change, which is already threatening entire ecosystems. Protecting the complicated webs of biology for future generations is vital to preserving the economic, social, and environmental well-being that our society relies on for our health and survival.
N-2-34	The buildout of offshore wind is a key component of meeting the climate and clean energy goals of the Biden Administration. These benefits should be accounted for in the Vineyard Wind South Draft EIS.
N-2-4	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 climate change impacts. Similarly, a report by National Audubon Society 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 prevent warming from reaching higher levels.

Comment ID	Comment Text
N-3-18	The Conservancy recognizes that along the Atlantic coast of the U.S., OSW offers incredible potential to generate clean, renewable energy nearby to the cities and communities that need it most. The Conservancy believes that expansion of the nascent OSW industry in the U.S. is one of several essential actions needed to set us on the path toward attaining regional and national decarbonization goals.
N-3-25	Development of the Biden Administration's OSW energy goal is an essential part of achieving the east-coast states' collective regional greenhouse gas reduction goals, and an important step towards reducing the rate and severity of climate change.
N-3-8	Frame the Draft EIS in the context of how this project will contribute to regional decarbonization, and clean energy goals, and the consequences of the no-action alternative.
N-5-1	We have no time to lose in advancing clean energy solutions that respond to the environmental, economic, and public health crises our nation faces. It's time to chart another course, and make responsibly developed offshore wind power a pillar of our energy future.
N-5-2	New England is perfectly positioned to seize the environmental, economic, and public health benefits of offshore wind power. While energy demand is high and new clean energy options are few, we are within reach of one of the strongest offshore wind resources in the world.
N-6-1	Offshore wind projects such as Vineyard Wind South will improve energy security and reliability by reducing reliance on fossil fuels and support the transition to a renewable energy grid.
N-6-2	The rapid deployment of offshore wind is essential to achieve Massachusetts' and the Northeast region's greenhouse gas emission reduction targets and limit the worst impacts of climate change.
N-7-1	[W]e enthusiastically support the Vineyard Wind South project... [for] the clear emissions reduction and climate mitigation benefits that have been cited by other speakers... 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 South should advance as quickly as responsible development will allow.
N-9-1	Renewable energy is an urgently needed solution to mitigate fossil fuel-driven climate crisis. Offshore wind energy (OSW) is an important component of the US national renewable energy portfolio and will play a significant role in meeting the high energy demands of densely populated coastal areas where land-based renewable sources could not be easily deployed... Connecticut (CT) has a Renewable Portfolio Standard of generating 70% and 100% of the state's electricity from renewable sources by 2030 and 2040 respectively, sourcing 2,300 MW from OSW. In fulfillment of Vineyard Wind LLC's (VW's) long-term contracts with CT electricity distribution companies, Phase 1 of Vineyard Wind South (VWS) is expected to deliver 804 MW of OSW. Phase 2 of VWS is expected to generate 1,200 - 1,500 MW of OSW for potential offtakers in one or more Northeastern states.
N-9-2	The Biden Administration has set national goals of reducing US greenhouse gas emissions by 50-52% below 2005 levels by 2030 and achieving carbon pollution-free electricity generation by 2035 with economy-wide net-zero emissions by 2050. To realize these goals, the Administration proposed a whole-of-government approach in generating 30 gigawatts of US offshore wind power by 2030 thus avoiding 78 million metric tons of CO2 emissions during the ~3 decade lifespan of these OSW projects.
N-10-1	The buildout of offshore wind is integral to meeting our states' climate goals. In Massachusetts and Rhode Island, modeling done for the Massachusetts climate roadmap and the Rhode Island 100 percent renewable electricity report shows that we need several large scale offshore wind projects be built in each state in order to provide electricity to each state in the next few years if we are to stay on track.

Comment ID	Comment Text
N-13-1	Offshore wind energy is critical for meeting the clean energy goals of the cape and islands, south coastal Massachusetts, Rhode Island, Connecticut, 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 a densely populated area, where energy demands are high and new resource options are few.
N-15-1	We'll need anywhere from 30 to 45 gigawatts of offshore wind to reach net zero emissions and avoid the worst impacts of climate change. Nearly all New England states have mandated emissions limits, all of have emissions goals -- emission reduction goals. Offshore wind is absolutely critical to meeting those mandates. Per our regional grid operator, around one-sixth to one-third of New England's old fossil fuel power plants will likely retire over the next decade, and it is imperative that we fill any gap with clean energy.
N-15-5	We applaud BOEM for initiating the environmental review of Vineyard Wind South, which will be an important part of your region's efforts to mitigate the most severe impacts of climate change.
N-16-5	And projects like this one are an incredibly important strategy to reduce our addiction to fossil fuels, create good local jobs, and move us toward a more hospitable and just society
N-16-6	we are acutely aware of the effects of climate change and sea level rise, as we work every day to protect and restore Boston Harbor, our region's public beaches, the harbor islands... the faster we can get onto a sustainable energy course matters
N-20-1	... [Buzzards] Bay has a long history of repeated oil spills and continues to suffer the long term impacts of that pollution...Appropriately sited renewable energy projects reduce the significant negative impacts suffered by Buzzards Bay due to the reliance on fossil fuels. Wind power generation facilities provide environmental benefits over traditional, fossil fuel driven, power generation facilities

RECREATION AND TOURISM

Comment ID	Comment Text
B-1-14	We recognize that data on private angling are limited compared to commercial fishery data, especially data on fishing locations; therefore, it will be important to clearly articulate the limitations of the available data and work with local fishermen to understand how the project area is used by recreational fisheries...Volume III of the COP does a good job describing the number of angler trips and recent research by Kneebone and Capizzano (2020) to evaluate private recreational activity within and near the lease area; however, economic valuation data from these trips and the likely revenue impacts (beneficial and adverse) from wind farms are missing.
B-1-20	The EIS should acknowledge that the benefits of this artificial reef effect will vary by target species and by fishing sector within Volume III Table 4.2-1. For example, any benefit to recreational anglers targeting highly migratory species (e.g., tunas and sharks) could be offset by the inability to anchor or to drift throughout the area.
B-1-29	Commercial, for-hire recreational, and private recreational fishing should be considered separately, but in the same or adjacent sections of the document...the grouping of private recreational fishing with recreation and tourism, rather than with commercial and for-hire fisheries...makes it challenging for readers to understand the full picture of potential impacts on all fishery sectors. If fishery species are affected by the project (including impacts to target species as well as their prey or forage species and impacts to habitat determinant species), this will affect both for-hire and private recreational fishing. Grouping both types of recreational fishing would make linkages between biological and fishery conditions more straightforward to explain.
N-16-2	We do acknowledge the concerns of fisherman that development of the seabed floor can affect certain fisheries and we are counting on regulators and proponents to appropriately address the concerns of recreational...fisherman

Comment ID	Comment Text
I-10-1	[A]s a recreational fisherman that uses the area south of Martha's Vineyard I support the installation of offshore wind turbines...the recreational fishing industry will benefit in the potential increase of fish stocks due the habitat created by the turbine foundations.
I-31-3	The recreational fisheries portion of the pre-construction science is pitiful. It has not lived up to standard in the Massachusetts -- the state offshore wind fisheries group has continued to ignore the three recreational fisherman that are on that panel, and we don't even get the amount of – the amount of input as commercial fisherman from Rhode Island.
I-31-5	BOEM needs to do a better job, a much better job at assessing [non-commercial] recreational fisheries impacts and demanding that the offshore wind developers do a better job at figuring out what the existing footprint for recreational fisheries are in the area so that we can measure impact... Good science has to be done, comprehensively, and they're not listening to the recreational input.

REFERENCES

Comment ID	Comment Text
F-2-93	Please see Attachment B to this letter for a list of recommended scientific references for consideration related to the presence of ESA-listed species in or near the lease area.
L-1-3	Please see the attached markups illustrating the preferred route as shown on the Phase 2 drawing and overlaid upon the Massachusetts Cultural Resource Information System (MACRIS) to provide contextual representation of historic homes within proximity of the proposed routes.
B-1-28	Summary information on Council-managed fisheries is also available on the Council websites, www.mafmc.org , and www.nefmc.org , at fishery management plan-specific links, typically via annual fishery information reports (MAFMC) or recent plan amendment or framework documents (both councils).
B-1-34	The New England Council’s submarine cables policy recommends that when cable burial is not possible, cables should be protected with materials that mimic natural, nearby habitats where possible. https://s3.amazonaws.com/nefmc.org/NEFMC-Submarine-Cables-Policy-1-Dec-2020_201221_095243.pdf
B-4-16	15 See slide 51 of 83 at https://www.energy.gov/sites/prod/files/2020/07/f77/offshore-wind-turbine-radar?interference-mitigation-webinar-7-27-2020.pdf .
B-5-7	Erin N. Mayfield and Jesse D.Jenkins, Working Paper: Influence of High Road Labor Policies and Practices on Renewable Energy Costs, Decarbonization Pathways, and Labor Outcomes, April 13, 2021. Available online: https://www.dropbox.com/sh/ad9pzifo9w1a49u/AAC2milGD44MlwXo1Sk7EAgSa?dl=0&preview=Working Paper -High Road Labor and Renewable Energy-PUBLIC RELEASE-4-13-21.pdf
B-26-5	we will attach as part of this comment some of the notices from developers distributed to the fishing industry from individual projects that continue to accumulate that detail these routes, which should be included in all project analysis.
N-18-18	https://www.fws.gov/northeast/pipingplover/pdf/recguide.pdf and https://www.mass.gov/service-details/ma-piping-plover-habitat-conservation-plan-hcp
N-2-302	We recommend that BOEM take a precautionary approach and acknowledge that it is not possible to assess all of the potential hazards of physical structures in water column at the current time and commit to an explicit monitoring plan that will allow for future assessment (i.e., pre-, during-, and postconstruction monitoring). 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 and/or displacement, by the top scientists and experts working in this field.

Comment ID	Comment Text
N-2-303	<p>264 Sea Turtle Stranding and Salvage Network. https://www.fisheries.noaa.gov/state-coordinators-sea-turtle?stranding-and-salvage-network</p> <p>265 Dodge, K.L., B. Galuardi, and M.E. Lutcavage. 2015. Orientation behaviour of leatherback sea turtles within the North Atlantic subtropical gyre. <i>Proceedings of the Royal Society B</i> 282:20143129</p> <p>Robinson, N.J., Deguzman, K., Bonacci-Sullivan, L., DiGiovanni Jr., R.A., and Pinou, T., "Rehabilitated sea turtles tend to resume typical migratory behaviors: satellite tracking juvenile loggerhead, green, and Kemp's ridley turtles in the northeastern USA," <i>Endangered Species Research</i>, vol. 43, pp. 133-143 (2020); New England Aquarium, unpublished data.</p> <p>268 See, e.g., https://www.masscec.com/about-masscec/news/massachusetts-rhode-island-boem-award-11-million-regional-fisheries-studies-guide.</p>
N-2-304	<p>326 McGregor RM, King S, Donovan CR, Caneco B, Webb A. 2018. A Stochastic Collision Risk Model for Seabirds in Flight:61. https://tethys.pnnl.gov/sites/default/files/publications/McGregor-2018-Stochastic.pdf.</p> <p>329 Seabird Distribution in 3D: Assessing Risk from Offshore Wind Energy Generation, Shatz Energy Research Center (2020), https://schatzcenter.org/2020/04/seabird3dstudy/.</p> <p>330 Transparent Modeling of Collision Risk for Three Federally-Listed Bird Species to Offshore Wind Development, US Fish and Wildlife Service with University of Rhode Island (Oct. 29, 2020) https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Transparentmodeling-of-collisionrisk-for-three-federally-listed-bird-species-to-offshore-wind-development_1.pdf.</p>
N-2-305	<p>335 Krijgsveld KL, Akershoek K, Schenk F, Dijk F, Dirksen S. 2009. Collision Risk of Birds with Modern Large Wind Turbines. <i>Ardea</i> 97:357–366. Netherlands Ornithologists' Union.</p> <p>336 Smallwood KS, Karas B. 2009. Avian and Bat Fatality Rates at Old-Generation and Repowered Wind Turbines in California. <i>The Journal of Wildlife Management</i> 73:1062–1071.</p> <p>337 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. <i>Journal of Applied Ecology</i> 51, 31-41.</p> <p>339 Loss SR, Will T, Marra PP. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. <i>Biological Conservation</i> 168:201–209.</p> <p>340 Choi DY, Wittig TW, Kluever BM. 2020. An evaluation of bird and bat mortality at wind turbines in the Northeastern United States. <i>PLOS ONE</i> 15:1–22. Public Library of Science.</p> <p>341 Huso MMP, Conkling TJ, Dalthrop DH, Davis M, Smith H, Fesnock A, Katzner T. 2020. Bigger not necessarily better for wind turbines: Wildlife mortality scales with energy production. In review.</p>
N-2-306	<p>349 Clocker K, Hu C, Roadman J, Albertani R, Johnston ML. 2021. Autonomous Sensor System for Wind Turbine Blade Collision Detection. <i>IEEE Sensors Journal</i>:1–1.</p> <p>350 Verhoef JP, Eecen PJ, Nijdam RJ, Korterink H, Scholtens HH. 2003. WT-Bird A Low Cost Solution for Detecting Bird Collisions:46.</p> <p>351 Dirksen S. 2017. Review of methods and techniques for field validation of collision rates and avoidance amongst birds and bats at offshore wind turbines. <i>Sjoerd Dirksen Ecology</i>.</p> <p>352 Brown-Saracino J. 2018. State of the Science: Technologies and Approaches for Monitoring Bird and Bat Collisions Offshore. <i>RENEWABLE ENERGY</i>:23. Available at https://www.briloon.org/uploads/BRI_Documents/Wildlife_and_Renewable_Energy/NYSERDA_workshop_JocelynBrown-Saracino.pdf</p>
N-2-38	<p>49 Interagency Working Group on Social Cost of Carbon, United States Government, Technical Support Document: - Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866 at 2 (July 2015 revision), available at https://www.whitehouse.gov/sites/default/files/omb/inforeg/scc-tsd-final-july2015.pdf.</p>

Comment ID	Comment Text
N-2-58	<p>85 South Fork Wind Benthic Habitat Mapping to Support Essential Fish Habitat Consultation, Inspire Environmental, at 15, June 16, 2020, available at https://www.boem.gov/sites/default/files/documents/aboutboem/AppN2_SFW_HabitatMapping_Report_2020-06-16.pdf; VWS COP Vol. III at 6-85. 87 Omnibus Essential Fish Habitat Amendment 2, Volume 2 EFH and HAPC Designation Alternatives and Environmental Impacts, NEFMC & NMFS, at 10-14 (October 25, 2017). 89 G.R. Decelles, et al, Using Fishermen's Ecological Knowledge to Map Atlantic Cod Spawning Ground on Georges Bank, 74 ICES Journal of Marine Science, 1587-1601 (April 2017).90 Douglas R. Zemeckis, Spawning Site Fidelity by Atlantic Cod in the Gulf of Maine: Implications for Population Structure and Rebuilding, 71 ICES Journal of Marine Science, 1356-1365 (September 2014); Jon Egil Skjaeraasen, et al., Extreme Spawning-Site Fidelity in Atlantic Cod, 68 ICES Journal of Marine Science, 1472-1477 (April 2011).91 Omnibus Essential Fish Habitat Amendment 2, Volume 2 EFH and HAPC Designation Alternatives and Environmental Impacts, NEFMC & NMFS, at 23, 85, 88 (October 2017); SFWF Draft EIS at 3-37. 92 Omnibus Essential Fish Habitat Amendment 2, Volume 2 EFH and HAPC Designation Alternatives and Environmental Impacts, NEFMC & NMFS, at 17 (October 25, 2017). 93 Species directory: Atlantic Wolffish, NOAA Fisheries (last visited, July 19, 2021), available at https://www.fisheries.noaa.gov/species/atlantic-wolffish. 94 Anwar A. Khan & Kevin Smith, Seafloor Disturbance and Recovery Monitoring at the Block Island Wind Farm, BOEM, at 27-28 (March 2020), available at https://epis.boem.gov/final%20reports/BOEM_2020-019.pdf.</p>

Comment ID	Comment Text
N-2-94	<p>155 Record, N., Runge, J., Pendleton, D., Balch, W., Davies, K., Pershing, A., Johnson, C., Stamieszkin, K., Ji, R., Feng, Z. and Kraus, S., "Rapid Climate-Driven Circulation Changes Threaten Conservation of Endangered North Atlantic Right Whales," <i>Oceanography</i>, vol. 32, pp. 162-169 (2019). 156 Kraus, S.D., et al., 2016, supra; Stone, K.M., et al., 2017, supra; Quintana, E., et al., 2019, supra; O'Brien, O., et al., 2021, supra. Leiter, S.M., K.M. Stone, J.L. Thompson, C.M. Accardo, B.C. Wikgren, M.A. Zani, T.V.N. Cole, R.D. Kenney, C.A. Mayo, and S.D. Kraus. 2017. North Atlantic right whale <i>Eubalaena glacialis</i> occurrence in offshore wind energy areas near Massachusetts and Rhode Island, USA. <i>Endangered Species Research</i> 34:45–59. Northeast Fisheries Science Center and Southeast Fisheries Science Center, "2018 Annual Report of a Comprehensive Assessment of Marine Mammal, Marine Turtle, and Seabird Abundance and Spatial Distribution in US waters of the Western North Atlantic Ocean – AMAPPS II." (2019). Available at: https://www.fisheries.noaa.gov/resource/publication-database/atlantic-marine-assessment-program-protectedspecies. 157 Kraus, S.D., et al., 2016, supra. Davis, G.E., Baumgartner, M.F., Bonnell, J.M., Bell, J., Berchick, C., Bort Thornton, J., Brault, S., Buchanan, G., Charif, R.A., Cholewiak, D., et al., "Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (<i>Eubalaena glacialis</i>) from 2004 to 2014," <i>Scientific Reports</i>, vol. 7, p. 13460 (2017). Davis, G.E., M.F. Baumgartner, J.M. Bonnell, J. Bell, C. Berchok, J. Bort Thornton, S. Brault, G. Buchanan, R.A. Charif, D. Cholewiak, C.W. Clark, P. Corkeron, J. Delarue, K. Dudzinski, L. Hatch, J. Hildebrand, L. Hodge, H. Klinck, S. Kraus, B. Martin, D.K. Mellinger, H. Moors-Murphy, S. Nieukirk, D.P. Nowacek, S. Parks, A.J. Read, A.N. Rice, D. Risch, A. Širovi?, M. Soldevilla, K. Stafford, J.E. Stanistreet, E. Summers, S. Todd, A. Warde, and S.M. Van Parijs. 2017. Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (<i>Eubalaena glacialis</i>) from 2004 to 2014. <i>Scientific Reports</i> 7(1):13460. Davis, G.E., M.F. Baumgartner, P.J. Corkeron, J. Bell, C. Berchok, J.M. Bonnell, J. Bort Thornton, S. Brault, G.A. Buchanan, D.M. Cholewiak, C.W. Clark, J. Delarue, L.T. Hatch, H. Klinck, S.D. Kraus, B. Martin, D.K. Mellinger, H. MoorsMurphy, S. Nieukirk, D.P. Nowacek, S.E. Parks, D. Parry, N. Pegg, A.J. Read, A.N. Rice, D. Risch, A. Scott, M.S. Soldevilla, K.M. Stafford, J.E. Stanistreet, E. Summers, S. Todd, and S.M. Van Parijs. 2020. Exploring movement patterns and changing distributions of baleen whales in the western North Atlantic using a decade of passive acoustic data. <i>Global Change Biology</i> 26(9):4812-4840. Woods Hole Oceanographic Institution, "Autonomous Real Time Marine Mammal Detections: Cox Ledge, Winter 2019-2020," Available at: http://dcs.whoi.edu/cox1219/cox1219_we16.shtml. 158 Leiter, S.M., et al., 2017, supra. Hamilton, P., "North Atlantic Right Whale Catalog Update, Recent Genetic Findings and Whale Naming Results," Presentation at the North Atlantic Right Whale Consortium Annual Meeting (Oct. 29, 2020). 159 2017–2021 North Atlantic Right Whale Unusual Mortality Event. https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2021-north-atlantic-right-whale-unusualmortality-event.</p>
N-2-98	<p>164 Quintana-Rizzo E., Leiter, S., Cole, T.V.N., Hagbloom, M.N., Knowlton, A.R., Nagelkirk, P., O'Brien, O., Khan, C.B., Henry, A.G., Duley, P.A., Crowe, L.M., Mayo, C.A., and Kraus, S.D., "Residency, demographics, and movement patterns of North Atlantic right whales <i>Eubalaena glacialis</i>, in an offshore wind energy development in Southern New England, USA," <i>Endangered Species Research</i>, vol. 45, pp. 251-268 (29 Jul. 2021).</p>
N-3-21	<p>1 The Nature Conservancy 2021 (in prep). <i>Nature-Based Designs for Augmenting Offshore Wind Structures in the United States: Technical Report</i> produced with INSPIRE Environmental, Newport RI. 2 The Nature Conservancy 2021 (in prep). <i>Catalog of Nature-Based Designs for Augmenting Offshore Wind Structures in the United States: Technical Report</i> produced with INSPIRE Environmental, Newport RI. incorporating their habitat preferences into upfront plans for scour protection des</p>

Comment ID	Comment Text
N-4-16	17UK Department of Energy and Climate Change (January 2011, revised). Decommissioning of Offshore Renewable Energy Installations under the Energy Act 2004 – Guidance Notes for Industry. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/80786/orei_guide.pdf 18 Ontario Ministry of the Environment and Climate Change (May 17, 2016). Assessment of Offshore Wind Farm Decommissioning Requirements (Document No.: 800785-CAMO-R-06 Issue: C).. Retrieved from https://files.ontario.ca/assessment_of_offshore_wind_farm_decommissioning_requirements.pdf
N-18-20	Hockin D, Ounsted M, Gormant M, Hillt D, Kellert V, Barker MA. 1992. Examination of the effects of disturbance on birds with reference to its importance in ecological assessments. <i>J. Environ. Manage.</i> :253–286
N-18-21	Kanapaux W, Kiker GA. 2013. Development and testing of an object-oriented model for adaptively managing human disturbance of least tern (<i>Sterna antillarum</i>) nesting habitat. <i>Ecological Modelling</i> 268:64–77; Kotliar NB, Burger J. 1986. Colony site selection and abandonment by least terns <i>Sterna antillarum</i> in New Jersey, USA. <i>Biological Conservation</i> 37:1–21; Stantial ML, Cohen JB, Darrah AJ, Farrell S, Maslo B. 2021. Habitat-specific behavior, growth rate, and survival of piping plover chicks in New Jersey, USA. <i>Ecosphere</i> 12:e03782
N-18-22	Althouse MA, Cohen JB, Karpanty SM, Spendelow JA, Davis KL, Parsons KC, Luttazi CF. 2019. Evaluating response distances to develop buffer zones for staging terns. <i>The Journal of Wildlife Management</i> 83:260–271; Burger J. 1991. Foraging Behavior and the Effect of Human Disturbance on the Piping Plover (<i>Charadrius melodus</i>). <i>Journal of Coastal Research</i> 7:14; Davis KL, Karpanty SM, Spendelow JA, Cohen JB, Althouse MA, Parsons KC, Luttazi CF, Catlin DH, Gibson D. 2019. Residency, recruitment, and stopover duration of hatch-year Roseate Terns (<i>Sterna dougallii</i>) during the premigratory staging period. <i>Avian Conservation and Ecology</i> 14:art11
N-18-25	Stöber, U., and Thomsen, F., How could operational underwater sound from future offshore wind turbines impact marine life?" <i>Journal of the Acoustical Society of America</i> 149(2021): 1791-1795
N-18-29	Jakob Tougaard, Oluf Damsgaard Henriksen, and Lee Miller. (2009) Underwater noise from three types of offshore wind turbines: Estimation of impact zones for harbor porpoises and harbor seal. <i>J. Acoustical Soc.</i> 125:6
N-18-30	Hawkins, A. D., and Popper, A. N. (2016). "Quo Vadimus—A sound approach to assessing the impact of underwater noise on marine fishes and invertebrates," <i>ICES J. Mar. Sci.</i> 74, 635–651
N-18-31	Solan, M., Hauton, C., Godbold, J. et al. Anthropogenic sources of underwater sound can modify how sediment-dwelling invertebrates mediate ecosystem properties. <i>Sci Rep</i> 6, 20540 (2016)
N-18-32	Davis KL, Karpanty SM, Spendelow JA, Cohen JB, Althouse MA, Parsons KC, Luttazi CF, Catlin DH, Gibson D. 2019. Residency, recruitment, and stopover duration of hatch-year Roseate Terns (<i>Sterna dougallii</i>) during the premigratory staging period. <i>Avian Conservation and Ecology</i> 14:art11; Trull P, Hecker S, Watson MJ, Nisbet ICT. 1999. Staging of Roseate Terns <i>Sterna dougallii</i> in the post-breeding period around Cape Cod, Massachusetts, USA. <i>Atlantic Seabirds</i> 1:145–158
N-18-33	García-Quismondo M, Nisbet ICT, Mostello C, Reed JM. 2018. Modeling population dynamics of roseate terns (<i>Sterna dougallii</i>) in the Northwest Atlantic Ocean. <i>Ecological Modelling</i> 368:298–311
S-7-4	See NMFS letter at 5 (https://www.regulations.gov/comment/BOEM-2021-0029-0035)
I-12-3	Attached is a short report of study made following the winter of 2017-2018 performed by the regional grid operator, ISO-New England, describing the energy production and air emissions benefits from offshore wind in this same area. The narrow period of this study, a 16-day cold snap that occurred in December and January, illustrates a period when reliance on natural gas and other fossil fuel supplies is at it greatest in Massachusetts, the Northeast and the entire U.S.

Comment ID	Comment Text
I-17-2	In 2018 and 2019 with funding from the President of Brown University, I re-hired analysts from the Stockholm Environment Institute, who had been the lead modelers for the 2016 Greenhouse Gas Reduction Plan for the state of Rhode Island, as mandated by the 2014 Resilient Rhode Island Act. In the new study I commissioned and assisted with, we sought to examine more rapid and deeper decarbonization pathways for the state, which has many similarities to its neighbors in Southern New England, Massachusetts and Connecticut. We found that in the 80% reductions by 2040 pathway, which corresponds to new laws in MA and RI, that offshore wind could supply about 60% of all our energy needs. This included substantially increased electricity needs with the rapid adoption of electric vehicles and air sourced heat pumps for heating of buildings.

REGULATORY FRAMEWORK

Comment ID	Comment Text
F-1-38	Finally, close coordination with the U.S. Army Corps of Engineers, National Marine Fisheries Service, appropriate state Coastal Zone Management offices, EPA, and others, will be essential for the portions of the proposed work that falls under each agencies' respective jurisdiction.
F-1-61	Pursuant to 40 CFR Part 55.4(a), Vineyard Wind must submit an air permit application to EPA within 18 months from the submittal date of the NOI (August 13, 2020). EPA will then issue a draft permit subject to a public comment period no less than 30 days and a public hearing. At the conclusion of the public comment period, EPA will address all public comments, make adjustments to the permit as needed, and issue a final permit. EPA will provide all relevant permit documents (application, draft permit, fact sheet, supplemental documents, public comments, response to public comments, and final permit) on our CAA permitting website (www.epa.gov/caa-permitting/epa-issued-caa-permits-region-1). The process to issue a final air permit will run in parallel with the NEPA process, and a final decision on the OCS air permit is likely to occur no later than 90 days after BOEM's issuance of a Record of Decision. EPA met with representatives from Vineyard Wind on July 8, 2021 to discuss permitting for Phase 1 and 2 of the southern lease area and will continue to work with Vineyard Wind on its OCS air permit application.
F-2-16	The following listed [ESA] species may be found in the Vineyard Wind South lease area: Endangered North Atlantic right (Eubalaena glacialis), fin (Balaenoptera physalus), sei (Balaenoptera borealis), and sperm (Physeter macrocephalus) whales; endangered Kemp's ridley (Lepidochelys kempii) and leatherback (Dermochelys coriacea) sea turtles; threatened North Atlantic distinct population segment (DPS) of green (Chelonia mydas) sea turtles and Northwest Atlantic DPS of loggerhead (Caretta caretta) sea turtles; and five DPSs of Atlantic sturgeon (Acipenser oxyrinchus oxyrinchus)...Additionally, oceanic whitetip shark (Carcharhinus longimanus) and giant manta ray (Manta birostris) may occasionally occur in the more offshore portions of the project area.
F-2-18	As a Cooperating Agency per 40 CFR 1501.8, we must determine that the Final EIS properly addresses our comments and input in order for NMFS to determine the EIS is suitable and legally defensible for adoption, per 40 CFR 1506.3 and NOAA's NEPA procedures ¹¹ , and subsequent issuance of an ITA. As such, the document body must contain the following items: the purpose and need of NMFS' action, a clear description of NMFS' roles and responsibilities as both a cooperating and adopting agency (language we previously provided to BOEM for the South Fork Draft EIS), and a range of alternatives which incorporate a description of NMFS' action, to include the No Action alternative...A summarized list of NOAA's adoption requirements is below, and more information can be found in NOAA's NEPA Companion Manual

Comment ID	Comment Text
F-2-20	<p>This EFH Assessment should include analyses of all potential impacts, including temporary and permanent and direct and indirect individual, cumulative, and synergistic impacts of the proposed project.... The EFH assessment must contain the following mandatory elements: (i) a description of the action, (ii) an analysis of the potential adverse effects of the action on EFH and the managed species, (iii) the federal agency's conclusions regarding the effects of the action on EFH, and (iv) proposed mitigation, if applicable (50 CFR 600.920(e)(3)). Due to the potential for substantial adverse effects...an expanded EFH consultation as described in 50 CFR 600.920(f) is necessary for this project...the assessment should also contain additional information, including: (i) the results of an on-site inspection to evaluate the habitat and the site specific effects of the project, (ii) the views of recognized experts on the habitat or species that may be affected, (iii) a review of pertinent literature and related information, (iv) an analysis of alternatives to the action, and (v) other relevant information.</p>
F-2-21	<p>our FWCA recommendations must be given full consideration by federal action agencies. Your consultation with us under the FWCA may occur concurrently with the EFH consultation under the MSA. Under the FWCA, our authority extends to numerous other aquatic resources in the area of the proposed project, including, but not limited to, the following species and their habitats: American lobster (<i>Homarus americanus</i>), striped bass (<i>Morone saxatilis</i>), American shad (<i>Alosa sapidissima</i>), alewife (<i>Alosa pseudoharengus</i>) and blueback herring (<i>Alosa aestivalis</i>) (collectively known as river herring), Atlantic menhaden (<i>Brevoortia tyrannus</i>), Atlantic silversides (<i>Menidia menidia</i>), oyster (<i>Crassostrea virginica</i>), blue mussel (<i>Mytilus edulis</i>), tautog (<i>Tautoga onitis</i>), weakfish (<i>Cynoscion regalis</i>) and other assorted fish and invertebrates..... We anticipate all of these species will be included in your impact assessments, both in the EFH Assessment and NEPA document. We also expect the assessment to include impacts to the recreational and commercial fishing communities that rely on these species</p>
F-2-65	<p>It is our understanding BOEM will develop a Biological Assessment (BA) to support your eventual request for ESA section 7 consultation...we anticipate and expect that the BA will be an appendix to the EIS. We are not opposed to an approach whereby the EIS would serve as the BA, provided sufficient detail and analyses are included.</p>
F-2-74	<p>We understand you permit the use of a Project Design Envelope (PDE) in the preparation of a COP, and the NEPA document will focus on analysis of the maximum impacts that would occur from the range of design parameters. However, for purposes of the EFH consultation, the EFH Assessment should be consistent with the EFH regulations under the MSA...You must assess the potential adverse impacts that would occur as a result of the range of design parameters under consideration in the PDE, rather than a maximum impact scenario. Of particular concern is the adequacy of the habitat information that will be provided in the EFH assessment. Accurate characterization and delineation of habitats within the project area is a critical component of the EFH assessment and a prerequisite for meaningful and appropriate EFH conservation recommendations to be developed for incorporation into the project.</p>
F-2-77	<p>As there is a single COP approval, this will result in one ESA section 7 consultation and one EFH consultation with our agency for both project phases. As such, we anticipate there would be a single set of EFH conservation recommendations and a single Incidental Take Statement (as appropriate within the Biological Opinion) with accompanying Reasonable and Prudent Measures and Terms and Conditions that will apply to both phases of the project.</p>
F-2-78	<p>As we have noted in the past, our ability to meet the consultation milestone dates is contingent upon us making the determination that we have received complete and adequate consultation documents (Biological Assessment (BA) and EFH assessment). We will need adequate and complete assessments for both project phases to initiate consultations. This timeline is also contingent upon receipt of an adequate and complete MMPA Letter of Authorization (LOA) application by the agreed-upon date, currently targeted for April 1, 2022. Upon receipt of a detailed timeline, we will modify this date as necessary. Our Biological Opinion under the ESA is comprehensive and must consider all proposed actions associated with the project, including the proposed issuance of LOAs. If we do not receive the necessary information to initiate our consultations by the dates outlined in the permitting timeline, it may result in delays in the overall project schedule.</p>

Comment ID	Comment Text
F-2-92	There is no [ESA] designated critical habitat that overlaps with the lease area. We do not have sufficient information on the project to determine if any vessel transit routes would overlap with any designated critical habitat. Depending on vessel traffic routes, additional ESA species may occur in the project area.
F-2-94	We understand the BA and the NEPA document are likely to evaluate effects of activities consistent with a design envelope and are likely to take a “maximum impact scenario” approach to assessing impacts to listed species that may occur. We encourage early coordination with us to determine which impact-producing factors should be analyzed based on a “worst case” or “maximum impact” scenario and which parts of the design envelope would need to be narrowed to carry out a reasonable analysis that would support your request for section 7 consultation.
S-3-12	It is RICRMC's recommendation that a state's federal consistency review process for offshore wind projects should begin with the publication of the draft environment impact statement (Draft EIS) or draft environmental assessment (DEA) once BOEM issues a Notice of Availability (NOA) for offshore wind projects pursuant to 15 C.F.R Part 930, Subpart E.
S-3-13	Under existing federal regulations, the NEPA process starts with BOEM's Notice of Intent (NOI) to prepare an Environmental Impact Statement for the COP. For renewable energy projects on the outer continental shelf (OCS) the State's Coastal Zone Management Act (CZMA) federal consistency review process begins with receipt of a consistency certification and the COP, which are filed with the State on or about the time BOEM issues an NOI. BOEM's NEPA regulations (codified in 30 C.F.R. § 585.628) state that the NOI and the initiation of the federal consistency reviews begins once the information requirements for the COP are met and BOEM forwards the consistency certification to the state agency. NOAA's federal consistency regulations at 15 C.F.R. § 930.58 specifies that "NEPA documents shall not be considered necessary data and information when a federal statute requires a federal agency to initiate the CZMA federal consistency review prior to its completion of NEPA compliance." In the RICRMC's opinion, however, the availability and review of an offshore renewable energy project's Draft EIS prior to initiation of the federal consistency review period would lead to a more informed decision-making process, and provide for a more timely CZMA decision for developers.
S-3-14	BOEM stated within the Draft EIS for the South Fork Wind project (BOEM Docket 2020-0066) that "Cooperating agencies would rely on the Draft EIS to support their decision making and to determine if the analysis is sufficient to support their decision." See Draft EIS at i. State CZM agencies are cooperating agencies under the BOEM renewable energy review process. However, as it pertains to federal consistency requirements, the CZMA review process must be completed within 6-months, unless mutually agreed upon by both the agency and the developer for a stay of the state agency's federal consistency decision to provide further time to review additional information.
S-3-15	We urge BOEM to work with other federal agencies, in particular NOAA, to properly align the CZMA federal consistency review process with the NEPA process so that the Draft EIS is available to guide and inform the state's CZMA federal consistency decision.

Comment ID	Comment Text
S-3-16	<p>In order to better align 30 C.F.R. § 585 with 15 C.F.R. § 930, the RICRMC suggests making the following revisions to NOAA's federal consistency regulations (15 C.F.R. § 930) so that the consistency certification is not filed with the state until the Draft EIS is publically available (generally lining up with BOEM's issuance of the NOA). NOAA's federal consistency regulations should require federal agencies to submit a Draft EIS or DEA as information required pursuant to the list of necessary data and information so that the state agency can review the consistency certification along with all the alternatives presented in the Draft EIS/DEA. Filing of the consistency certification with the state agency should be delayed until the Draft EIS is made public so that the state CZMA federal consistency review can commence once all the required information is available...The state agency review of the consistency certification can then begin at the time the state agency receives the certification (amendment to § 930.77 Commencement of state agency review and public notice). In addition, the RICRMC recommends modifying BOEM's NEPA regulations at 30 C.F.R. § 585.628 so that Draft EIS or DEA documents should be considered necessary data and information when BOEM forwards the COP, consistency certification, and associated data and information under the CZMA to the applicable state agency to initiate the CZMA federal consistency review.</p>
S-3-17	<p>Accordingly, BOEM should reconsider when it initiates the federal consistency review process so that state agency review is not initiated prior to BOEM issuing the Draft EIS, but rather concurrently to better inform both the CZMA and NEPA processes. This recommendation is in line with 40 C.F.R. § 1506.2 which specifies "To the fullest extent practicable unless specifically prohibited by law, agencies shall cooperate with State, Tribal, and local agencies to reduce duplication between NEPA and comparable State, Tribal, and local requirements. Such cooperation shall include, to the fullest extent practicable, joint environmental impact statements."</p>
S-6-10	<p>Under the [Massachusetts Ocean Management Plan (OMP)]... Cable projects in the planning area must avoid certain SSU [Special, Sensitive, or Unique] areas, including North Atlantic right whale core habitat, areas of hard/complex seafloor, intertidal flats, and eelgrass...For the proposed New England Wind project, potentially impacted SSU resources include areas of hard/complex seafloor, eelgrass, and North Atlantic right whale core habitat...New England Wind should consult with CZM regarding the conformance of the project with the siting and performance standards of the OMP.</p>
S-6-11	<p>Maps of hard/complex seafloor were developed for the OMP using the best available data at the time. The resulting map "...is based upon the highest resolution data available, and a specific project may obtain higher resolution data for project planning purposes." Additional data collected by a project proponent may be required to confirm the presence or absence of an SSU resource and that certain projects may acquire the higher resolution data through site specific characterization.</p>
S-7-11	<p>The CRMC has indicated on numerous occasions to BOEM, NOAA and other federal and state agencies reviewing offshore wind projects, that we believe it is imperative that BOEM and NOAA work to align the NEPA and CZMA review processes for a more timely and predictable outcome for the state and federal review agencies and the offshore renewable energy developers. Having the Draft EIS to review that includes project alternatives as agreed to by cooperating federal and state CZMA agencies is extremely valuable to the state CZMA review process.</p>
S-7-12	<p>...it would be unnecessary in most cases for the state CZMA agencies and the OSW developers to enter into stay agreements if the Draft EIS were necessary data and information (NDI) and filed at the same time with the consistency certification and all other NDI as required by 15 C.F.R 930.76. If the Draft EIS were provided concurrently with the consistency certification and all other NDI it would expedite CZMA reviews and result in more timely decisions for OSW projects. Accordingly, we request that the Draft EIS be necessary data and information required pursuant to 15 C.F.R. §§ 930.58 and 930.76 and 30 C.F.R. § 585.628 for purposes of initiating a state agency CZMA federal consistency review. We respectfully request that you consider this matter for urgent action. NOAA's regulations at 15 C.F.R. §§ 930.58 and 930.76 should be amended to include a Draft Environmental Impact Statement (Draft EIS) or Environmental Assessment (DEA) as necessary data and information to be submitted with the Consistency Certification to the state CZMA agency to initiate commencement of the CZMA 6-month federal consistency review period.</p>

Comment ID	Comment Text
S-7-7	...the "Draft Vineyard Wind South Rhode Island Coastal Zone Management Act Consistency Certification" included as Appendix III-S in the June 28, 2021 Draft COP available from the BOEM website (https://www.boem.gov/renewable-energy/state-activities/vineyard-wind-southconstruction-and-operations-plan) will need to be updated before it is submitted (along with necessary data and information, as required by 15 C.F.R. § 930.76) to the CRMC
N-2-170	[T]he DOI and the USFWS are now relying on a new rule (the January 7 rule) which codifies an illegal interpretation of the MBTA and limits its scope to the purposeful take of birds...we urge BOEM to continue to implement its MBTA responsibilities as all administrations have done, previous to the 2017 Jorjani Opinion M-37050, with explicit recognition that incidental take is prohibited...The court found that the statute's unambiguous text makes clear that killing a migratory bird "by any means or in any manner," regardless of how, is covered by the statute. As such, the district court struck down the Jorjani Opinion as unlawful.
N-2-47	We encourage BOEM to also adopt early consultation as envisioned in Secretary Haaland's recent Secretarial Order: "Bureaus/Offices will proactively begin consultation with potentially impacted Tribes, both those currently in the proposed area and those with a historic presence, as well as engage potentially impacted environmental justice communities early in the project planning process. 'Early in the project planning process' includes when a Bureau/Office has enough information on a proposed action to determine that an environmental assessment or an environmental impact statement will be prepared."...Native American and Alaska Native Tribes are sovereign governments recognized as self-governing under federal law, and the U.S. government has a "trust responsibility" to those tribes...Acting in accord with these trust responsibilities requires nation-to-nation consultation from the first opportunity.
N-2-67	Under the regulations governing the MA Ocean Plan, "activities proposed in the Ocean Management Planning Area are presumptively excluded from the [special, sensitive, or unique (SSU)] Resource areas delineated on maps contained in the Ocean Management Plan and maintained in the Ocean Management Plan." This presumption may be overcome by demonstrating that the maps delineating the SSU are inaccurate or by demonstrating as follows:[1.] No less environmentally damaging practicable alternative exists. For the purposes of this standard, an alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics with respect to the purpose of the Activity; and [2.] The Proponent has taken all practicable measures to avoid damage to [SSU] Resources, and the Activity will cause no significant alteration to [SSU] Resources. Demonstrating compliance with this standard may include the incorporation of measures to avoid resources and impacts through time of year controls such that the construction, operation, or removal of the Activity will not occur when the [SSU] Resource is present or may be adversely effected; and [3.] The public benefits associated with the proposed Activity outweigh the public detriments to the Special, Sensitive or Unique Resource.
N-2-68	While much of the proposed route of the OECC is designated as an offshore wind transmission cable area, including most of the section in Muskeget Channel, and, thus, presumptively in compliance with the MA Ocean Plan management standards for SSU resources, this presumption assumes that the seafloor in the area of the cable is predominantly soft bottom. Vineyard Wind acknowledges in the COP that although the MA Ocean Plan identifies hard bottom and complex seafloor on either side of the planned OECC route, its own surveys "show that hard bottom habitat covers a majority of the OECC through Muskeget Channel's shallow water passage" and that several locations in the Muskeget Channel area of the OECC likely meet the definition of SSUs due to containing pebble-cobble with sponge habitats. Because 301 CMR 28.04(6)(a) presumes soft-bottom seafloor, if Vineyard Wind identifies complex, hard bottom areas in the OECC route, Vineyard Wind must avoid these areas unless it meets the criteria of 301 CMR 28.04(2)(b).

Comment ID	Comment Text
N-4-1	the Connecticut Commission on Environmental Standards issued a set of broad recommendations which were developed in anticipation of Connecticut's initial RFP for offshore wind resources pursuant to Public Act 19-71. 5 These recommendations were developed as an early guide for the application of best practices for avoiding, minimizing, and mitigating impacts to wildlife, natural resources, ecosystems, and traditional or existing water-dependent uses and should be viewed as a floor for evaluating the project.
N-8-10	Because the project is sited in federal waters and may have adverse effects on EFH, BOEM should consult with the relevant Fishery Management CouncilParticular attention should be given to the effects of the project on areas that have been designated as Habitat Areas of Particular Concern (HAPC)....Oceana also encourages BOEM to conduct similar outreach and consultation with state and regional managers at the Atlantic States Marine Fisheries Commission with authority and responsibility for inshore fisheries to ensure effects on inshore habitats are minimized
N-8-6	The project must include current, robust analysis of the effects of the project on species listed under the ESA and MMPA.
N-8-8	Additionally, the project must undergo consultation and permitting under the ESA and MMPA; including a Biological Opinion for all Endangered Species Act-listed species and an Incidental Harassment Authorizations under the Marine Mammal Protection Act. Each of these must use the best scientific information available and the analysis and conclusions of these assessments must be updated as new information is published
N-9-9	Section 106 review relates only to historic properties, e.g. prehistoric or historic districts, sites, buildings, structures, or objects included in, or eligible for inclusion on, the National Register of Historic Places, including artifacts, records, and material remains related to such a property or resource. NEPA involves the consideration of impacts to a broad range of resources including historic and cultural resources among many other elements. Both statutes require continued inter-governmental and inter-agency consultation and collaboration in agency action. The EIS must take an integrated coordinated approach in information gathering under the combined statutory requirements to facilitate informed decision-making to enable BOEM to develop and implement comprehensive best management practices to avoid, minimize, and mitigate any adverse impacts to coastal and submerged/marine historic, cultural, and natural resources within the [Vineyard Wind South] area.
N-9-10	NMFS must be extremely judicious in its approvals of incidental take pursuant to the ESA and Incidental take, including incidental harassment, pursuant to the MMPA... during the OSW process, given the existential crisis that marine and coastal species are currently facing. Interagency collaboration between USFWS, NMFS, and BOEM is essential in the successful deployment of OSW projects that will not imperil any coastal and marine species and their habitats. USFWS's and NMFS's statutory obligations and BOEM's regulatory authority in OSW development must be guided by both the spirit and letter of the ESA.
N-9-11	The MMPA (16 U.S.C. § 1361 et seq.)...prohibits the "taking" and "harassment" of marine mammals in US waters and by US citizens on high seas. NMFS has set threshold criteria for two levels of harassment under the MMPA: Level A: any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wildLevel B: any act that has the potential to disturb [but not injure] a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering "For activities related to offshore energy and minerals exploration, development and production", MMPA includes exemptions for the taking of marine mammals and "under specified conditions this exemption is the form of an Incidental Take Authorization (ITA)" which "authorizes the unintentional taking of small numbers of marine mammals, provided the activity would have a negligible impact to marine mammals and would have no unmitigable adverse impact on subsistence use of marine mammals." The ITA may be issued as an Incidental Harassment Authorization (1-year, site-specific authorization for activities with no potential for serious injury or mortality).

Comment ID	Comment Text
N-9-14	The [Magnuson-Stevens Fishery Conservation and Management Act (MSA)] (16 U.S.C. § 1801 et seq.) requires federal agencies to consult with the NMFS on regulated activities that could adversely affect Essential Fish Habitat (EFH) which is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity."... The [Project] area encompasses important EFH and hosts multiple listed fish species, invertebrates, and benthic resources...
N-18-10	...BOEM may only authorize the New England Wind project if Massachusetts makes a determination that the placement of the OECC is consistent with the MA Ocean Plan, including its provisions relating to SSU resources and "complex/hard seafloor."
N-18-5	The updated COP notes that the OECC Western Muskeget Variant will traverse a number of areas in Muskeget Channel that the Massachusetts Ocean Management Plan (MA Ocean Plan) has designated as hard/complex seafloor and...considers "special, sensitive or unique (SSU) marine habitats...under the regulations governing the MA Ocean Plan, "activities proposed in the Ocean Management Planning Area are presumptively excluded from the [SSU] Resource areas delineated on maps contained in the Ocean Management Plan and maintained in the Ocean Management Plan."
N-18-6	"activities proposed in the Ocean Management Planning Area are presumptively excluded from the [SSU] Resource areas delineated on maps contained in the Ocean Management Plan..." This presumption may be overcome by demonstrating that the maps delineating the SSU are inaccurate or by demonstrating as follows: [1.] No less environmentally damaging practicable alternative exists. For the purposes of this standard, an alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics with respect to the purpose of the Activity; [2.] The Proponent has taken all practicable measures to avoid damage to [SSU] Resources, and the Activity will cause no significant alteration to [SSU] Resources. Demonstrating compliance with this standard may include the incorporation of measures to avoid resources and impacts through time of year controls such that the construction, operation, or removal of the Activity will not occur when the [SSU] Resource is present or may be adversely effected [sic]; and [3.] The public benefits associated with the proposed Activity outweigh the public detriments to the Special, Sensitive or Unique Resource.
N-18-7	While the MA Ocean plan designates areas for offshore wind transmission cables that are in presumptive compliance with the management standards for SSU resources, at least part of the OECC Western Muskeget Variant route does not appear to be in a designated offshore wind transmission cable area. Therefore, only to the extent that New England Wind demonstrates that there is no "practicable alternative" to siting the OECC in complex, hard bottom areas; that it will take "all practicable measures to avoid damage" to these resources; and that the public benefits associated with the proposed activity outweigh the public detriments to the SSU resources, may New England Wind route the OECC Western Muskeget Variant in areas designated as hard/complex areas in the MA Ocean Plan

SEA TURTLES

Comment ID	Comment Text
N-2-149	The COP refers to the sea turtle densities that are available from the Navy OPAREA [Operating Area] Density Estimate (NODE) for the Northeast OPAREAs. However, the Navy's density estimates generated via modeling are outdated (used only NMFS aerial survey data collected prior to 2005), and no turtle density modeling has been conducted using the site-specific NLPSC data.
N-2-150	Sightings per Unit Effort analyses have been conducted for leatherback and loggerhead turtles in the WEAs for some of the NLPSC campaigns. These analyses provide relative density estimates and maps which provide a visual depiction of sightings in relation to the trackline area surveyed but cannot be extrapolated to unsurveyed areas and do not take into account perception and availability biases, which are all critical variables in analyzing abundance/density of turtles (simply because turtles are typically difficult for observers to detect unless they are close to the survey trackline, and they can dive for long periods of time and not be available for detection at the water's surface).

Comment ID	Comment Text
N-2-151	There have not been enough sightings data to conduct density modeling for all species during all survey years. Due to the limited survey data for turtles obtained during some of the NLPSC campaigns, all turtle data should be combined in order to generate site-specific seasonal and/or annual density estimates for species and species groups where possible (e.g., species-specific estimates for leatherback and loggerhead turtles, group-specific estimates for hardshell turtles which would include loggerhead and Kemp's ridley turtles).
N-2-152	In addition to the sea turtle sightings data recorded during the NLPSC campaigns, more recent AMAPPS and other regional data sources, including stranding and tagging data, should also be assessed in order to determine the current occurrence of sea turtles in the Project Area.
N-2-153	Given that the ability to detect sea turtles during aerial surveys is highly variable, increased investment in tagging and tracking studies would complement data collected via aerial surveys and provide a more complete picture of sea turtle occurrence and habitat use in the region. Increased sea turtle tagging and tracking studies are needed to better understand movement, dive patterns and surface time, and habitat use which can, among other uses, help advise monitoring and avoidance, minimization, and mitigation strategies and generate more accurate estimates of sea turtle takes.
N-2-154	Considering the costs and probably limited success rate of in-water tagging work for these three species, acoustic telemetry of rehabilitated turtles may also be an effective means of gathering useful data. There is already significant investment underway for acoustic telemetry arrays in the WEAs for highly migratory fish species, presenting an opportunity for cost-effective data collection on sea turtles. Thus, a combination of satellite tags (to collect data on surface availability to parameterize density models) and acoustic telemetry will improve understanding of sea turtle habitat use.
N-2-155	To date, the injury and behavioral zones for sea turtles have not been calculated correctly for other offshore wind projects. In assessing the level of impact from the Project, BOEM must use NMFS's most recent pile driving calculator to obtain an accurate injury and behavioral radii for sea turtles during impact and vibratory pile driving.
N-2-156	BOEM should also avoid making conclusions about impact level in the absence of information as fundamental gaps remain in our knowledge of the sensory (e.g., hearing and navigation) ecology of sea turtles.
N-2-157	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 generally 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.
N-2-158	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 avoidance, minimization, and mitigation protocols can be developed to minimize impacts to sea turtles during offshore wind development and operation and other anthropogenic activities. Monitoring of sea turtle sensory ecology must be conducted as soon as possible to advise efforts, and a conservative approach should be adopted in the meantime to guard against impacts to these threatened and endangered species.
N-2-159	Mitigation measures for sea turtles should include a speed restriction of 10 knots for all vessels associated with the Project at all times, regardless of whether vessels are transiting or on site. Risk of collision with sea turtles is greatest when vessels are traveling at speeds greater than 10 knots.
N-2-160	Keeping ship speed to 10 knots improves the ability to adjust speeds. Slowing to 4 knots from June 1 to November 30 while transiting through areas of visible jellyfish aggregations or floating vegetation lines or mats will improve protection for sea turtles, but the speed should be reduced from an upper limit of 10 knots. A standard 10-knot vessel speed limit ensures protections for a wide array of ocean wildlife and should be incorporated into the Draft EIS.

Comment ID	Comment Text
N-2-161	No fewer than four PSOs should be available to monitor all exclusion zones for sea turtles – for both impact pile-driving and High Resolution Geophysical and Geotechnical Survey Plan survey activities, as well as for vibratory driving...To effectively monitor the full exclusion zone, multiple PSOs must be stationed at several vantage points at the highest level to allow each to continuously scan a section of the exclusion zone; a limited number of PSOs – even continuously moving around the vantage point – would still not be able to scan the entire exclusion zone. A minimum of four PSOs for all exclusion zone monitoring is recommended.
N-2-162	Monitoring reports [of PSOs for sea turtles] must be made publicly available.
N-2-163	Moreover, PSOs must be NOAA-certified, and solely focused on monitoring for protected species. While training vessel crew members to additionally watch is beneficial, we caution this cannot be a substitute for trained PSOs as the vessel crew's top priority is vessel operations.
N-3-12	Developers should indicate what baseline data (previously published or new) they will be using to evaluate impacts relative to avoiding, minimizing and mitigating impacts to...sea turtles. Data gaps should also be identified and addressed. i. Developers should provide an overview of field surveys they are, or will be, conducting to address data gaps, including a detailed scientific methodology, taxa examined, and research leads. ii. Developers should indicate any modeling they are conducting to evaluate anticipated impacts from noise generation and propagation, electromagnetic fields , habitat/forage resource alterations, etc.
N-3-23	During scoping, address potential impacts to federally protected species including...sea turtles
N-9-21	Data on sea turtle movements, distributions, and habitat use patterns, and interactions with OSW facilities is scarce. Hence the EIS must be conservative in its assessments of VWS project impacts so as not to further endanger the sea turtles whose populations have been declining for several decades.
N-9-22	Of the seven species of sea turtles found on the planet, six occur in U.S. waters, and all six are listed as Threatened or Endangered under the ESA. Of these, five may occur within or in the vicinity of the SWDA and/or OECC and are also listed under the Massachusetts ESA. Under federal law, Kemp's ridley (<i>Lepidochelys kempii</i>), hawksbill (<i>Eretmochelys imbricata</i>) and leatherback sea turtles (<i>Dermochelys coriacea</i>) are listed as Endangered and the green (<i>Chelonia mydas</i>) and loggerhead sea turtles (<i>Caretta caretta</i>) populations are listed as Threatened. According to the VWS COP, all except hawksbill and green sea turtles are expected to be present regularly or commonly within the SWDA. However, according to the MA Division of Fisheries & Wildlife, "juvenile Green Sea Turtles are found on the southern and eastern beaches of Cape Cod Bay in December and January as the water temperatures drop" and very likely traversing the VWS area in reaching the Bay. Also, because of the rapidly changing conditions of the marine environment due to climate crisis, and the fact that "(s)ea turtles are highly migratory and (even) utilize the waters of more than one country in their lifetimes", the EIS must include green sea turtles in all its assessments and consider it to have regular presence in the SWDA.
N-9-23	Data from visual sightings show the sea turtles to be within the VWS project area in the greatest numbers during summer and fall (June through November), with very few being present during spring and winter months. This seasonal pattern is corroborated by satellite tag data, entanglements, and strandings.
N-9-24	Collision of marine vehicles with wildlife is among the top three causes of mortality of all large marine fauna including large fish, sea turtles, as well as marine mammals. "All species of sea turtles are vulnerable to vessel strikes as they surface to breathe, bask near the surface, or forage in shallow areas or on prey near the sea surface. Adult sea turtles appear to be at increased risk during breeding and nesting season." The risk of collision with sea turtles and other marine life is greatest when vessels are traveling at speeds greater than ten knots because "even if the operator sees the animal clearly, there may be no time for either of them to avoid a collision". While vessels are required to slow down to four knots if a sea turtle is sighted within 100 m of the vessel's path, this is not a foolproof solution because detecting sea turtles from a distance is difficult even for trained observers unless the turtles surface close to the vessel, at which time it may be too late/difficult to alter course to avoid collision.

Comment ID	Comment Text
N-9-25	NOAA's current spatiotemporal vessel speed rule was designed explicitly to protect the Critically Endangered right whales: "All vessels 65 feet (19.8 meters) or longer must travel at 10 knots or less in certain locations (called Seasonal Management Areas or SMAs) along the U.S. east coast at certain times of the year to reduce the threat of vessel collisions with endangered North Atlantic right whales (NARW)"...NMFS's NARW mitigation plan requires vessels of all sizes in the SMA to operate port to port at ?10 knots from late fall through early spring between November 1 and April 30... But the habitat needs, behaviors, migratory routes, and migratory times of NARW do not coincide with those of the Endangered sea turtles - most sea turtles are present in SWDA during the times when NARW are not. As such, NMFS's seasonal vessel speed restrictions are entirely ineffective in protecting the already Endangered sea turtles from vessel collisions within the SWDA. As discussed in Section 5.5, this rule has proven to be ineffective even for NARW whose numbers continue to plummet from ship strikes and entanglements.
N-9-26	Underwater noise from different VWS activities (see Section 5.1.2) have different SPL and SEL with varying adverse impacts on sea turtles, marine mammals including: i. temporary threshold shift (TTS) in hearing, a reversible hearing impairment caused by exposure to high intensity noises for short durations or lower intensity noises for longer durations. TTS can last for minutes or days depending on the noise frequency and intensity, energy distribution, and duration of the noise exposure, among other considerations, ii. permanent threshold shift (PTS), a permanent loss of hearing resulting in an increase in the hearing threshold caused by exposure to very high peak sound pressure levels and rapid increases in intensity, or very prolonged or repeated exposures to noise strong enough to elicit TTS, and iii. auditory masking, a reduction in the detectability of a sound signal of interest due to the presence of another sound in the environment with similar frequency ranges. Auditory masking can reduce an individual's ability to effectively transmit and receive acoustic signals which are important for detecting predator and prey, conspecific signals, communication calls, and echolocation (environmental features associated with spatial orientation). However, as yet "No information exists on the impacts of masking important biological cues or deterioration of acoustic habitat for sea turtles."
N-9-27	Current scientific data on sea turtle-OSW interactions is extremely limited. Paucity of data on OSW impacts on sea turtles must not be construed as OSW activities having no impact, and as such BOEM must adopt a precautionary approach in its EIS on the VWS COP.
N-9-28	Development of avoidance and mitigation strategies must be based on accurate estimates of sea turtle populations, their precise seasonal location, and a comprehensive assessment of cumulative impacts... of all human activities in the region and of climate change. Multiple corroborating approaches are needed to acquire spatiotemporal profiles of different sea turtle species in the project area since the ability to detect sea turtles through visual sightings and aerial surveys is highly variable.
N-9-29	The EIS must include cumulative impacts analysis for all impact producing factors from VWS, other OSW and non-OSW activities offshore, nearshore, and onshore. As NOAA acknowledged, "(w)e do not understand how noise impacts [sea turtle] populations, survivorship or fecundity, nor do we understand the cumulative impacts of noise on individuals or populations when combined with other stresses (bycatch, climate change, etc.)." It is essential that the EIS thoroughly account for all impacts in developing avoidance/ mitigation measures to save the sea turtles from sliding into extinction.
N-9-30	the EIS must include the following measures to avoid and mitigate adverse impacts to [sea turtle] species and habitats affected by the VWS activities: • restrict vessel speed to ?10 knots for all vessels all year within SWDA regardless of whether vessels are transiting or on site. Slowing to 4 knots from June 1 through November 30 while transiting through areas of visible jellyfish aggregations or floating vegetation lines or mats will improve protection for sea turtles. Slowing down to well below 10 knots improves the ability of vessels to maneuver and adjust speeds to avoid collision with not only sea turtles but also other marine wildlife.

Comment ID	Comment Text
N-9-31	<p>the EIS must include the following measures to avoid and mitigate adverse impacts to [sea turtle] species and habitats affected by the VWS activities:• require a minimum of four NOAA-certified Protected Species Observers (PSOs) solely focused on monitoring for protected species to monitor all exclusion zones for sea turtles during impact pile-driving, High Resolution Geophysical (HRG) and Geotechnical surveys, and during vibratory driving.⁸⁶ To effectively monitor the full exclusion zone, multiple PSOs must be stationed at several vantage points to allow for continuous scanning of each section of the exclusion zone. Monitoring reports must be made publicly available in real time. Training vessel crew members to watch along with the PSOs is beneficial but they must not be substituted for PSOs. Prior to the commencement of construction activities, PSOs must scan and monitor the area for the presence of sea turtles. If turtles are detected prior to or during construction activities, activities must be paused and recommence only after the observers confirm that the turtles have cleared the area. These strategies are similar to those employed to protect marine mammals (see Section 5.5).</p>
N-9-32	<p>the EIS must include the following measures to avoid and mitigate adverse impacts to [sea turtle] species and habitats affected by the VWS activities: use NMFS's most recent pile driving calculator to obtain an accurate injury and behavioral radii for sea turtles during impact and vibratory pile driving.</p>
N-9-33	<p>the EIS must include the following measures to avoid and mitigate adverse impacts to [sea turtle] species and habitats affected by the VWS activities: • invest in and support: satellite tagging and tracking, and real-time monitoring studies to complement aerial survey data and provide a precise and accurate spatiotemporal estimates of sea turtle populations, their movements, dive patterns, surface times, and habitat use in the SWDA. Most satellite tagging of sea turtles in the Northeast US, except for leatherback sea turtles, has been initiated in the Mid-Atlantic and does not capture New England habitat use or surface behaviors. These baseline data are essential in accurately estimating sea turtle takes in VWS project activities and in developing avoidance, minimization, and mitigation strategies. acoustic telemetry arrays (which are already in use in wind energy areas to track highly migratory fish species) and take advantage of the opportunity for cost-effective data collection on sea turtles. A combination of satellite tags (to collect data on surface availability to parameterize density models) and acoustic telemetry will improve understanding of sea turtle habitat. Limited satellite telemetry data available from rehabilitated and released Ridley, and green turtles⁸⁸ suggests that rehabilitated turtles are a good proxy for wild-caught turtles. Acoustic telemetry of rehabilitated turtles would be an effective means of gathering useful data given the high cost and limited success of in-water tagging of the turtles.research to cover the fundamental gaps in our knowledge of the sensory (hearing and navigation) ecology of sea turtles. Current BOEM standard for operating conditions of activities such as pile driving is 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 and not sea turtles. Research is needed to determine the temporary and permanent acoustic threshold shifts so that accurate limits for cumulative anthropogenic sound sources can be identified. Experiments are also needed to: a. spatially separate acoustic pressure and intensity to determine which of these sound component sea turtles detect and whether hearing sensitivity changes under pressure, and b. conduct underwater audiograms of sea turtle species of all age classes since hearing sensitivity is known to change with age.</p>
N-9-108	<p>The presence in/relative use of nearshore areas by sea turtle species must be accounted for in models of species density to inform impact analysis since some of the VWS activities would take place in coastal waters.</p>
N-19-3	<p>Similarly, data from the New England Aquarium's sea turtle rescue and rehabilitation operations shows that where the proposed cable variants will come onshore in both Buzzards Bay and Nantucket Sound are likely important feeding and developmental habitats for cheloniid species (loggerhead, Kemp's ridley, and green sea turtles)...additional research is necessary to ensure the cable variants do not disrupt these vital habitats.</p>

SOCIOECONOMICS

Comment ID	Comment Text
F-1-25	the local government of Barnstable, MA was invited to help direct the appropriation of funds from the Host Community Agreement/Host Community Payment (HCA/HCP) from Vineyard Wind but it is not clear from the discussion whether the same opportunity will be available to Bridgeport for the Vineyard Wind South project. The Draft EIS analysis should address this issue.
F-1-52	EPA's COBRA model (www.epa.gov/cobra) has been previously used to estimate and monetize the changes in health outcomes due to changes in certain criteria air pollutant emissions of offshore wind development, e.g. for the South Fork Wind Draft EIS. We recommend BOEM use COBRA to estimate the economic benefit of avoided health impacts due to offshore wind development displacing onshore fossil fuel generation. Note that the COBRA analysis requires county-level emissions changes, which can be derived from AVERT. BOEM should also consider evaluating the health impacts of non-power sector-related onshore emissions of PM2.5, NOX, SO2, and VOCs in COBRA as well. While COBRA is intended to be a straightforward tool to use, we request that BOEM contact EPA to ensure accurate reporting of health impacts.
F-2-30	Information that can help characterize communities engaged in fishing activity can be found on our website describing social indicators for coastal communities (available at: https://www.fisheries.noaa.gov/national/socioeconomics/social-indicators-coastal-communities) and should be integrated into the EIS.
F-2-88	[A]ssumptions and methods used to extrapolate data from incomplete data sources should be clearly articulated, although extrapolations should be minimized to avoid reaching inaccurate conclusions from limited data. For example, the COP recognized that the areas used to develop our socioeconomic impact summaries referenced above were outdated and inconsistent with the areas proposed for this project. Instead of using updated data, the COP inappropriately attempts to apply a landing/revenue ratio for the entire area to the difference between the areas analyzed and proposed. The socioeconomic impact analysis in the EIS for this project should request and use updated data reflecting the correct areas identified for this project.
F-2-89	[W]e have provided a checklist outlining the elements we expect to be included in an analysis of the socioeconomic impacts of this project...socioeconomic impact summaries... can be used as the foundation of such an analysis...also address potential costs associated with reduced fishing revenues as a result of short or long-term effort displacement, impacts on catch rates, changes to species composition, potential impacts of construction activity on spawning success and future recruitment, and permanent or short-term changes to EFH during construction, operation, and decommissioning the project. Vessels may experience increased operational costs from increased insurance rates to fish within wind farms or additional fuel required to transit around wind farms or search for new fishing locations. Opportunity costs such as revenue lost by fishing effort that is displaced into less productive areas, including vessels displaced out of the project area and those already fishing in an area into which displaced vessels move, should be assessed. This is a critical analysis, as even marginal changes in costs could be impactful for some fisheries.
F-2-100	analysis of the affiliated non-market social impacts of [Project-related] activities should be included in the EIS, including impacts to cultural norms, fishermen or fishing community social relationships, and health and well-being (see Fisheries Social Impact Assessment Guidance Document https://media.fisheries.noaa.gov/dam-migration/01-111-02.pdf and Practitioner's Handbook https://spo.nmfs.noaa.gov/sites/default/files/TM212_0.pdf).
F-4-2	[Vineyard Wind South] could help transform Bridgeport into a hub for green-collar jobs.
S-4-1	the project is not just going to be a benefit economically to our region, but will provide hundreds of good paying jobs to the communities in which it will be in all phases of the project, including the initial construction phase, the ongoing developmental phase, and the maintenance and upkeep phase as the project nears ultimate completion. The jobs will be in some cases union protected... meaning not only will these workers have -- will be given good wages, but they will also have a safety net and a strong network of other workers looking out for them.
S-4-2	These new taxes and the new such businesses and people will be paying them will include personal, property, and other business taxes, meaning that this would be a huge economic impact...

Comment ID	Comment Text
S-4-3	[T]he economic impact of the project also ushering in a new generation of prosperity for the region and is -- the economic impact of that will be produced will create a hundred -- lot of different economic input and everything of that nature, including the immediate jobs that will obviously be created, but also all the families and all the workers that will move to the region, which will also include new revenues and taxes.
B-2-1	I believe the opportunities for positive economic impact through this and other sited projects off the coast of Long Island are "once in a generation" in scope...We have also, due to the high cost of living, been in a population decline in recent years, in part due to a lack of job opportunities in well paid, sustainable industries. The Vineyard Wind project, and all pending projects, represent unprecedented job growth opportunities for all economic and educational strata.
B-2-3	The opportunity for our innovation economy is tremendous. We are already seeing Long Island, NY-based startup companies doing amazing research and product commercialization in critical related fields such as hydrogen and clean-battery storage. A truly green energy network will require these related technologies working within the power grids being generated by offshore wind.
B-3-3	A recent analysis concluded that the rapidly developing economic opportunity presented by the U.S. offshore wind industry is on track to exceed \$100 billion for capital expenditures alone, without even accounting for long term operational expenditures. [Reference is not provided.]
B-3-4	Meeting state and federal offshore wind goals will also drive achievement of important public needs, like job creation; immediate and long-term economic development; and securing reliable sources of clean electricity. Steadily advancing projects towards construction and operations will enable the realization of the significant benefits that offshore wind projects like Vineyard Wind South can bring to the United States, especially the creation of a domestic offshore wind supply chain.
B-3-8	Park City Wind will generate approximately \$890 million in direct economic benefits and thousands of jobs over the life of the project. Vineyard Wind is pairing with McAllister Towing and Transportation Co. to redevelop the underutilized and undeveloped Barnum Landing site in Bridgeport, Connecticut. The site will host a foundation transition piece steel fabrication facility and be used for final outfitting. Park City Wind will also make Bridgeport its operations and maintenance (O&M) hub for the 25+ years of the project.
B-5-1	In undertaking an EIS for the Vineyard project, BOEM should... ensure beneficial impacts are fulfilled by taking efforts to increase job opportunities by creating a high-road offshore wind industry that: Maximizes the creation of quality, family-sustaining, union jobs; Expands domestic manufacturing along a robust domestic supply chain; [and] Delivers community benefits with attention to improving access to displaced energy workers
B-5-3	In undertaking an EIS for the Vineyard project, BOEM should... ensure beneficial impacts are fulfilled by taking efforts to increase job opportunities by creating a high-road offshore wind industry that... Protects marine ecosystems by avoiding, minimizing, mitigating and monitoring environmental impacts
B-5-5	BOEM's analysis of socioeconomic impacts should include consideration of Vineyard's commitments around use of domestic content; Project Labor Agreements (PLAs), Labor Peace Agreements (LPA's), Community Benefits Agreement (CBAs); utilization of registered apprentices and other labor-management training programs, protection against worker misclassification and wage theft, neutrality agreements, local hire, and prevailing wage.
B-5-6	Plans to support utilization and growth of a domestic supply chain should be analyzed and evaluated to maximize U.S. employment for the projected life cycle of the [Vineyard Wind South] project. A recent study by researchers at Princeton University found that increasing domestic content in renewable energy projects can create tens of thousands of American jobs without significantly increasing capital costs.
B-5-8	The EIS should also evaluate the programs necessary for training and expanding the domestic workforce with an emphasis on ensuring opportunities for displaced energy workers, as well as fostering equitable access to career pathways in the industry. Particular attention should be paid to creating jobs in construction as well as operations and maintenance for residents of the impacted region.

Comment ID	Comment Text
B-5-9	We appreciate your work to prepare an EIS, informed by early-stakeholder input, and to conduct a diligent socioeconomic review of this project so that we may realize the thousands of jobs and millions of dollars in economic benefits that will be provided by offshore wind.
B-8-16	There is little peer-reviewed information regarding the economic costs and benefits of OSW. Most of the information in the public domain is generated by OSW developers or trade associations and based upon information deemed confidential so that it cannot be verified. Rather than provide unbiased evaluations of project costs, the EIS includes no details whatsoever of project price or overall economic considerations, in violation of 40 C.F.R. § 1502.16(a)(10). The true ecological cost of OSW is site specific, as well as cumulative...OSW appears to have widely different costs and benefits as compared to other renewable power sources...BOEM regularly conducts economic cost-benefit analyses for oil and gas activities, and it is unclear why it does not follow the same approach for OSW.
B-8-18	Current infrastructure in the U.S. does not support the manufacturing or installation of offshore wind turbine components and thus energy development companies are poised to purchase them from foreign countries... Construction and transportation of turbines, and their custom components, contribute to carbon emissions which must be taken into account when evaluating net carbon benefits...Whether production is conducted domestically or abroad, BOEM must consider and include environmental impacts from the offshore wind supply chain.
B-8-19	the level of U.S. job creation often quoted for offshore wind projects appears inflated and misleading. The COP emphasizes that Vineyard Wind is a New Bedford-based company but is less forthright that it is fully owned by foreign companies based in Denmark and Spain...Long-term jobs, such as those for the O&M phase of the project, are particularly important for the local workforce and should be fully analyzed by BOEM...A cumulative impacts approach is thus the only effective way to analyze job creation so that positions are not counted multiple times across projects. There is also no indication whatsoever in public records of how many of these jobs would be sourced from local communities, or on what timeline. Not only are there simply not that many long-term jobs available, there is no guarantee that the local workforce will be hired. The lack of turbine manufacturing capacity within the U.S., combined with the rapid buildout schedule, adds to the concern that OSW will generate fewer jobs in the U.S. than promised.
B-8-32	Finally, the EIS must evaluate whether the local tourism industry and associated jobs would be impacted by OSW...BOEM should consider changes to the working waterfront that may occur with the loss of these activities, whether or not these areas would lose their draw to tourists, and any associated or cascading economic losses to the town(s) impacted by OSW vessels replacing fishing boats.
B-8-33	U.S. commercial fishermen must adhere to federal maritime employment regulations, including the Jones Act. As all operations in the EEZ must abide by the Jones Act, this should apply equally to OSW development and operations. To date there are few to no installation or support vessels for OSW construction and maintenance available in the U.S., which creates a double standard for other on the water operators. In fact, the largest OSW trade association, the American Clean Power Association recently stated “[w]hile the Jones Act applies to the transportation of materials to offshore renewable energy, it does not apply to construction.” Estimates in the Vineyard Wind South EIS must account for recent developments in the interpretation of the Jones Act and its application to offshore development and provide explicit criteria for estimating domestic versus international jobs. Succinctly put, until OSW jobs and materials are required to be sourced in the U.S., the promised economic benefits and jobs will not materialize (and by the time that occurs, many will likely be automated).
B-8-38	BOEM analyses do not account for gross employment impacts, including the displacement of other industries. The EIS must evaluate 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, displacement, induced management changes, insurance cost and availability, increased operational costs from factors such as transit time, market impacts, fuel and so on... The information in the COP regarding where the turbine components could be constructed is redacted, begging the conclusion that this would not be a domestic location.

Comment ID	Comment Text
B-10-4	The Biden Administration's commitment to deploy 30 gigawatts (GW) of offshore wind by 2030 could create 77,000 jobs and deliver \$12 billion in annual economic input by that same year. Since state and independent analyses show that New England will need anywhere from 30-45 GW of offshore wind to reach net zero emissions by 2050, job creation would continue to increase in the decades ahead.
B-10-6	Furthermore, with the signature of a Project Labor Agreement (PLA) for the Vineyard Wind 1 project on July 16, 2021, Vineyard Wind has demonstrated a commitment to creating high-quality, union jobs. This project presents a tremendous opportunity for the highly skilled, unionized New England workforce.
B-11-1	With the emerging offshore wind sector poised to create job opportunities with many types of career paths across a wide range of industries, Bristol urges BOEM to conduct a thorough detailed analysis on the possible economic impacts from the project, as well as a comprehensive employment and career data project. This type of information can inform educational and training organizations, such as The National Offshore Wind Institute, as well as Bristol's offshore wind and associate's degree program to ensure that there's alignment between the industry and the educational training programs so that they can properly support offshore wind, the developers, supply chain, and other organizations.
B-12-1	We have, through the support of the Massachusetts Clean Energy Center and with Vineyard Wind, we [Connect Consortium of Southeastern Massachusetts Public Higher Education Institutions] have worked to expand our courses, our certification program in the sustainable energy area. And we've also worked with the Cape Cod Regional STEM Committee to expand our outreach to the teachers, elementary and secondary education across the region to really raise the expectations and the awareness around this project what's going on. And we've had tremendous enrollment connected with this, as I'm sure you've heard from our folks on the vineyard, as well as Bristol Community College.
B-13-1	A lot of what was just stated before me was the investments that Vineyard is making in the local universities and colleges, really in an effort to educate the students on the new emerging industry. It's not often that a new industry becomes available, and that it becomes available with a time horizon that allows you to prepare the kids that are in middle school, high school, maybe looking at going into something postsecondary that isn't necessarily the traditional college route.
B-13-2	Eventually a dedicated workforce and a dedicated industry will develop for offshore wind. Vineyard committed many years ago to educating students in the various degrees and certificates to be eligible to work on any and all of the projects that Vineyard is pursuing. And they've committed to partnering with local colleges and local educational institutions, such as Survival Systems to make sure that the training is accessible. Part of their support is scholarships. Particularly part of it toward low income individuals that are interested in working in the offshore wind industry, and really trying to meet the needs of the workforce, a workforce that is really necessary to build this project.
B-13-3	With the underutilized and underdeveloped ports and areas, the Bridgeport facility and the Bridgeport Pier, that development is going to revitalize the area. That's an area that has long suffered from neglect and no ability to grow itself organically. So Vineyard's influx and Vineyard's investment into the area is going to significantly affect the local people. It's going to affect housing, the retail markets, the service corridors, and it's going to influx much needed cash into the economy in Connecticut.
B-13-4	Part of the discussion (with Vineyard Wind) was specifically targeting the workforce and the ability to be able to have a resource available for them to gain the skills necessary to enter the workforce. And that allows for the workforce to grow rapidly, develop rapidly to a more mature industry, as opposed to having a lot of European workers come in and do the offshore wind development. ...And in the area that we happen to be in, the biggest employers are the Navy and Electric Boat. ...We have a platform to be able to showcase that to the kids as they're coming through, to the communities as they ask questions or they want to come and observe the training.

Comment ID	Comment Text
B-14-2	We continue working with the State of Connecticut and Vineyard Wind, Park City Wind, and stakeholders to develop a supply chain database with intent to improve and better understand the supply chain for construction and operation of the facility. This searchable database will be combined with an existing database on energy storage, with intent to increase and improve the connectivity between this project and our energy storage industry in Connecticut and the region.
B-15-1	[Vineyard Wind has] done a lot to help promote local content and help build the local economy in the New Bedford region. They were instrumental in assisting the New Bedford Ocean Cluster in developing a streamlined matchmaking program which will help the offshore wind supply chain in the Greater New Bedford region. The overall goal of that program is to assist many local, small, medium enterprises to enter the offshore wind industry, increasing local jobs and accelerating the overall momentum of development of the supply chain in that region. So the program means to take large scale entities and break them down into smaller more easily digestible work scopes so that local companies can easily self identify and see where their products and services fit into the offshore wind industry... If it is successful in its pilot for Vineyard Wind 1, we're anticipating being able to use that matchmaking service to grow local content and develop the regional economy for future offshore wind projects in the region. And they're also organizing through -- in partnership with the New Bedford Ocean Cluster and with us, Exodus, a NEPA environment in October, which will help participants in the program to be face to face, and will hopefully lead to some meaningful contracts being awarded.
B-16-1	Environmentalism is an important part of the construction process, just as economics are an important part of construction too...Both of these goals would be served by building Vineyard Wind South as a green energy union built project, because just as the reusable energy benefits the environment, the jobs created would benefit our state's economy by expanding the job opportunities for families who reside in and around Bridgeport.
B-16-2	The Vineyard Wind project has committed to a...project labor agreement with the union, and would expand the number of long-term union jobs and, ultimately, would lay the foundation for lifetime careers for construction workers who would benefit from new green economy. Wages that are paid to union construction workers create economic stability in homes. That translates to economic stability in communities. And strong economic communities create everything from better public schools to safer streets and, yes, even more knowledgeable citizens who recognize that global warming is real and that we must take immediate actions to address climate changes for ourselves and for generations to come.
B-16-3	Furthermore, with creating quality construction jobs that pay for (indiscernible) wages to highly skilled workers is the best way for us to invest taxpayers' dollars in private funds. The commitment to building better by building union is able to trace creating a diverse workforce that can deliver projects on time and within budget. Building union means that employers are more easily able to access skilled workers when they need them.
B-18-3	And I would also like to see the economic effects of the community to the fishing industry be analyzed. We're hearing a lot of all these jobs that are going to be coming to the area with wind development, but I'm not hearing anyone talk about the potential loss to jobs and resources, healthy and driving resources that we potentially see,
B-19-1	We are the operators of the American Job Center where the Workforce Innovation Opportunity Act grants are available to folks looking to get into any sort of training in the region...we have our nationally recognized Strive program which teaches soft skills to those looking to get into the workforce...We also offer Platform to Employment, which is a program funded by the Workforce Investment Board here in the region...we actually have a staffing agency where we engage returning citizens, to place them in a variety of fields...and we look forward to engaging Vineyard Wind and Park City with that endeavor as well.
B-20-1	Park City Wind plan for the Vineyard Wind's South area will generate approximately \$890 million in direct economic benefits and thousands of jobs over the life of the project. The network strongly encourages BOEM to consider all these economic benefits, jobs, and investments as part of the EIS analysis for the Vineyard Wind South.

Comment ID	Comment Text
B-20-6	Offshore wind is a once-in-a-generation opportunity for Americans, and the industry is truly surging globally. By some estimates, the rapidly developing economic opportunity in U.S. offshore wind will well exceed \$100 billion for wind farm development and construction alone, Cap X (ph). This does not even account for the 30 years of operations and maintenance local economic benefits.
B-21-1	We believe in a clean energy future and a just transition to that future that includes family-sustaining jobs for the workers who build and operate the new clean energy facilities and generators. We believe in an industry that prioritizes meaningful vocational and educational opportunities to those who seek entry into and career advancement in this exciting new field. This proposal is a great example of a just transition for workers, frontline communities, and rate payors alike to be incorporated into a plan, even in the initial planning and approval phases, and we would be remiss to pass up this opportunity
B-22-1	In undertaking the EIS of the Vineyard Wind South project we encourage BOEM to fulfill its obligations under NEPA by taking efforts to assess the creation of a high road offshore wind industry that maximizes the creation of quality family-sustaining jobs, expands domestic manufacturing, along with a robust domestic supply chain...
B-22-4	In particular, the BlueGreen Alliance would like BOEM to ensure it is carrying out a robust assessment of socioeconomic factors related to the Vineyard Wind South project. This must include considerations and commitments around the use of domestic contact, project labor agreements, community benefits agreements, utilization of registered apprentices and other labor management training programs, protection against worker misclassification, neutrality agreements, local hiring for minimum wage. Plans to support the utilization and growth of the domestic supply chain should be analyzed and evaluated...
B-22-5	We appreciate your work to prepare this EIS and to conduct a diligent socioeconomic review of this project so that we may realize the thousands of jobs and millions of dollars in economic impact that can --that would be provided by this project
B-22-6	A recent study by researchers at Princeton University found that increasing domestic content in the renewable energy projects can create tens of thousands of new jobs without significantly increasing capital cost. The EIS should evaluate the program as necessary for training and expanding domestic workforce, with emphasis on ensuring opportunities for dislocated workers as well as (inaudible) career pathway. If done right, offshore wind power could create thousands of high quality family support -- family-sustaining jobs in manufacturing, construction, and operations and maintenance in the development of important facilities transmission and other associated structures.
B-23-1	BOEM should analyze the economic benefits of the U.S. offshore wind industry on a regional or national level, and not merely with respect to the counties surrounding the project being reviewed (as it did in its Final EIS for Vineyard Wind 12). While GE strives to source and hire labor locally to the extent practicable, it is impossible to do more than a fraction of the work for each project within the narrow geographic scope established in BOEM's prior economic analysis. We best create value for our customers, ratepayers, and the public when we use the same manufacturing facilities and trusted suppliers for multiple projects. Because our current and future U.S. projects are sited in diverse geographical areas, our domestic supply chain—and that of other original equipment manufacturers (OEMs)— is by necessity going to be regional or national. By limiting its analysis of economic benefits to just the areas adjacent to a project, BOEM misses a huge part of the economic picture.
N-1-4	Vineyard Wind has made significant efforts in its first project to grow the region's offshore wind workforce in a responsible, conscious, equitable manner. This has included a project labor agreement ("PLA") with unions that includes significant targets for unions to reduce racial and gender gaps. Vineyard Wind has committed to negotiating a PLA for construction of Park City Wind and has engaged local workforce development partners to advance access to well-paying offshore wind construction jobs.
N-1-8	As BOEM conducts its environmental and socioeconomic impact analysis, NECEC respectfully requests that BOEM include analysis of... (d) the economic benefits to state GSPs brought by this project and the other projects that will follow.

Comment ID	Comment Text
N-5-4	[with the Project] We can prioritize training a local workforce and people that have been the hardest hit by the COVID-19 pandemic, and revitalize U.S. manufacturing to maximize economic benefits from this industry.
N-7-2	[The Vineyard Wind South] project also will create more than 3000 good paying, union jobs (thanks to the agreement to utilize a union workforce on the Vineyard Wind 1 Project) and new career opportunities and to generate hundreds of millions of dollars in annual economic input are both additional important benefits. So too is the opportunity for local educational institutions to develop the training programs that will be needed during the planning, construction and operation of this project.
N-7-3	[W]e urge you to conduct a comprehensive and thorough analysis of not only the obvious environmental and climate impacts of the proposed project, but also the economic and workforce benefits that are so important to our region.
N-10-2	Although the green electricity associated with Vineyard Wind South's Park City Wind project will be going to benefit Connecticut, which is not part of our focus area, we recognize that this project will have benefits throughout the region, including economic development, reliable feed electricity coming onto our regional grid, and the growth of the offshore wind workforce supply chain and experienced states, which will lower costs of energy to consumers for many years to come.
N-11-3	Vineyard Wind recognizes that quality and accessibility of jobs are just as important as the number of jobs created. Vineyard Wind is making investments in local universities and colleges to educate students on this emerging industry. For the commercial offshore wind industry to be successful it will require a skilled and educated workforce. Vineyard wind is committed to educating students in the various degrees and certificates needed to be eligible for jobs in offshore wind, and has discussed with the Roundtable its extensive commitments to partner with local community colleges and universities to provide education for this new workforce
N-11-5	We see that Vineyard Wind has a genuine interest in listening to, collaborating with, educating, and hiring local residents to expand our skilled and state technology workforce.
N-12-1	Lots of people are interested in becoming technicians on the turbines that are going to be built by Vineyard Wind. It's a very positive thing for our community. People are interested in the education, they're interested in the jobs, they're interested in the positive environmental impact.
N-13-2	Beyond the clear emissions reductions and climate mitigation benefits that have been cited by other speakers, this project will also create more than 3000 good paying union jobs, thanks to the agreement to utilize a union workforce on the Vineyard Wind project that we expect to carry forward here, new career opportunities, and to generate millions of dollars in annual economic input.
N-13-4	Those are all important benefits. And so, too, is the opportunity for local educational institutions to develop training programs that will be needed during the planning, construction, and operation of this project.
N-15-3	The cost of offshore wind has declined dramatically in the last decade and will protect rate payers from winter price hikes. The expansion of this industry over the next decade could create tens of thousands of jobs through the establishment of a domestic workforce and supply chain. With the right policy and comprehensive planning, offshore wind also has the potential to drive economic inclusion, and build wealth in communities that have been historically overburdened by energy production in our region. Furthermore, Vineyard Wind's recent project labor agreement for the Vineyard Wind 1 project demonstrates a commitment to creating high quality American jobs, which presents a tremendous opportunity for the highly skilled unionized New England workforce.
N-2-301	BOEM must accurately estimate the economic impacts associated with the Project. A March 2020 study by the American Wind Energy Association, which analyzed the economic impacts from offshore wind, 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 based on a high estimate of a 30 GW offshore wind build out. We urge BOEM to closely examine the cumulative impact on demographics, employment, and economics to ensure that it properly reflects the vast potential of offshore wind to create jobs and economic opportunity while generating clean, renewable energy.

Comment ID	Comment Text
I-3-3	Like Vineyard Wind 1, the Vineyard Wind South project also brings additional benefits to the state and the region: an increase in the diversity and reliability of New England's energy supply, especially critical during the winter and in light of nuclear plant closings; increases in tax revenues to local governments; and thousands of local jobs.
I-3-4	Vineyard Wind is engaged in a continued effort to train and develop a southern New England-based labor force to support aspects of construction, operation, and maintenance for offshore wind projects. These efforts will continue in collaboration with area universities, community colleges, and vocational programs.
I-5-1	Vineyard Wind is committed to investing nearly \$1 billion dollars in Connecticut for infrastructure improvements, workforce training and development and overall economic development. These investments will expand the region's capacity to support offshore wind projects, as well as a diverse range of marine transportation and shipping. Vineyard Wind has demonstrated its willingness to invest in workforce training and to create hundreds of employment opportunities for Connecticut residents. Vineyard Wind is also committed to investing in workforce training programs in Connecticut to create a sustainable workforce needed to support the emerging offshore wind sector. It is clear to me that the Park City project will create several thousand jobs during the construction, installation and operation/maintenance phases of this project. These jobs clearly can be filled by Connecticut residents and will generate more than \$1 billion dollars in annual economic impact in the greater Bridgeport region, as well as throughout the state of Connecticut.
I-6-1	The Vineyard Wind South project will have a positive economic impact on the city of Bridgeport residents by creating good paying union jobs.
I-7-1	The economic stimulus to the region, particularly during the construction phase, will have a wide-ranging ripple effect where good paying jobs will result in consumer confidence and local spending.
I-11-1	As more offshore wind farms are entering the permitting process the potential for economic development and job creation is huge...New Bedford Marine Commerce Terminal is going to be used for staging offshore wind components for Vineyard Wind and other projects in the Mass. Resource Area. Ports up and down the East coast could be reused for offshore wind projects. Foundations, blades, nacelles and towers can all be manufactured here in the US and there is a possibility of 70,000 jobs being created in the supply chain for offshore wind here. Billions of dollars of investment will come with these jobs and development.
I-13-2	The ocean wind turbine cables will travel through Cape Cod under residential streets at over 800 megawatts. This is around the same amount of power as the Pilgrim nuclear power plant in Plymouth, Massachusetts --How will you insulate the cables to prevent Leukemia (cancer) from the EMF --EMF and Childhood Leukemia.
I-19-1	the University of Bridgeport now being acquired by Goodwin University, we look to expand a lot of our programs that we have here, and get back to the days where the university was a hub for workforce development through higher education in the state of Connecticut, especially when it comes to our engineering program...As soon as this project was brought to our attention, we immediately got to work with some of the folks that are over at Park City Wind [Vineyard Wind South], Marcus Brown and his team, really speaking about how we can use our engineering program to push this forward and really help us create a pipeline for our students' workforce opportunities, but also contribute to the rest of the community...We want the offshore wind industry to be successful, but it will need to have a skilled educated workforce. Vineyard Wind is committed to educating students in various degrees and certificates to be eligible to work on their projects, and we are committed to partner with them...And they have offered scholarship programs that universities like ours need direly...Park City Wind is committed to enhancing our existing engineering program to include offshore wind
I-19-2	[Vineyard Wind South] committed over \$10 million to redevelop Barnum Landing in Bridgeport, which has been underutilized and underdeveloped for about a decade. This will allow these ports to see new tenants and pave the way for new opportunities for this industry in the future.

Comment ID	Comment Text
I-19-3	Bridgeport being a hub for clean energy. We've had many fuel cells in the area. We are looking to do a thermal loop, microgrid technology is being developed, and we have our Singer substation. We are looking to create a new identity. One of the presenters earlier had talked about the identity of Bridgeport during the industrial revolution when we had Remington Arms and Carpenter Steel. But now we're looking to have a new identity that will be utilized by both the trade unions, but universities like ours that create these engineers in these highly skilled positions
I-20-2	First, the importance of unified standards, for the economic and environmental impacts analyses. There are too many firms... that is able to support the size and scope of the current human population by willing to artificially inflate job gains for a price. This is intolerable. In the current state solicitation processes are paid to play a game where nobody wins. What we need is a unified framework for considering such impacts based on verifiable spending receipts that extends down the value chain...offshore wind is, by its very construction oriented nature and its an amazingly massive scale, is guaranteed to produce more domestic economic benefits than is the case for the majority for oil industries.
I-21-2	the EIS should include a component of the stability of energy prices that occurs because of wind. If we look at the cost of natural gas and oil, we don't know what it's going to be in five years...But if you chart the cost of wind power, it's a reliable known cost over the next 20 years. And it would be I think of public benefit to have that contained in the scoping document so we understand the projection of this cost is a known. The projection of the cost of fossil fuel is a great unknown.
I-22-1	there are clearly significant economic benefits that will accrue from this..., there is absolutely an opportunity for significant investment that will result in thousands of direct and indirect jobs...
I-22-2	underutilized ports, underdeveloped areas must have new investment, and whereas Vineyard Wind has committed significant dollars in that regard, I'd like to make sure that those dollars are used effectively. [Projects like Vineyard Wind and Vineyard Wind South] are I think particularly important to the -- to the growth, to the -- of the -- of the region, of the nation
I-22-3	I particularly want to see that there is an investment made in training workers and that that workforce is diverse
I-23-1	I would also like to urge BOEM to perform a thorough analysis...[of] the economic development and workforce impacts by advancing the Vineyard Wind South permitting....The Park City project adds to the growing number of jobs in offshore wind, generating potentially thousands of additional offerings during the construction, development, and operation phases of the projects...Projects developed by Vineyard Wind will provide local residents the prospect of training and employment to build and maintain the wind farms....Vineyard Wind is also dedicated to fair wages and union labor...Park City Wind is providing funding to ensure the necessary safety and technical trainings, such as global wind organization, basic safety, and basic technical training will be available locally through workforce development partners...In addition to the direct -- to the thousands of direct jobs the offshore wind industry is creating, companies who assist with the permitting, design, and construction will be able to increase capacity, hire more workers, and gain firsthand experience in the offshore wind industry.
I-23-2	The Park City Wind project has committed nearly a billion dollars in expenditures over the 25-year life of the project, and the state of Connecticut will benefit from this investment by an increase of revenue from property tax, personal income tax, and induced taxes for local businesses.
I-27-1	I would like to speak to the economic impact that Vineyard Wind South will have specifically to the city of Bridgeport and its neighboring towns....Vineyard Wind South, which includes Park City Wind, can help reverse that [declining] trend. Park City Wind will be done under a project labor agreement which will guarantee good paying construction jobs, as well as a workforce development plan to help create career opportunities for local residents and the surrounding area for generations to come. Over time the supply chain that will be needed in the future can be manufactured locally throughout the area, creating a greater chance for economic stability in the region.
I-28-1	I am interested in the jobs creation initiatives provided by the project. As we know, technology and offshoring have reduced the number of manufacturing jobs for all people, but particularly in New Bedford. I am particularly interested in the types of jobs and the track needed for these jobs...The community workforce developments outlined in Appendix 3 sound very appealing; however, the extent to which the actual community members partake can be questionable.

Comment ID	Comment Text
I-28-3	BOEM should consider, if not already required, oversight to report on actual impacts of the grant allocations...If the metrics are not improving, BOEM should make adjustments in the process or the grants themselves for a more positive outcome...Please consider more accountability in the COP, as this is one of the most important facets of creating and sustaining workforce diversity.
I-29-1	[With] nearly billion dollars of spend[ing], roughly 2800 to 3000 direct full-time employment years that are estimated....We're hoping that the project will have a really strong impact on our supply chain, on our workforce, and a positive impact on our ports as well throughout the state....So we strongly support the project... we're looking forward to all the benefits that Connecticut and the entire region will receive
I-30-1	The creation of an offshore wind industry in New England is an incredible opportunity to bring stable, year-round jobs to an area whose economy today is seasonal, and has been greatly disrupted the last two years by the pandemic
I-31-4	But two weeks ago the offshore fishing tournament based in Oakleaf Harbor is so big that now it has to secondly staged and filled in at Falmouth Harbor, also with boats at Hyannis Harbor. All of them, all of them fishing in the offshore wind area. Over a million dollars was generated to the local economy, multiple charities on Martha's Vineyard benefitted, and all of those boats enjoyed our world-class offshore fishing that happen out here. That was one tournament in one weekend
I-32-2	with respect to union jobs..., last week Vineyard Wind and the Southeastern Massachusetts Building Trades Council signed a project labor agreement for the Vineyard Wind 1 project that will see some 650 union jobs established for the project. That sets the stage for many more union jobs for the Vineyard Wind South project.
I-33-2	In addition to that, this type of project will provide a lot of jobs in the region. Those jobs tend to be local, providing fair wages and union jobs. So a project like this, the Vineyard Wind South project, is a catalyst for job growth within the region. So I'm certainly in favor of the project because of that....Everything from wind turbines right down to the ancillary services that are needed such as food, foul weather gear, so on and so forth. Again, those are all great things for our area because they provide jobs here in the local industry.

VISUAL IMPACTS

Comment ID	Comment Text
F-3-4	The seascape and landscape impact assessment analyzes and evaluates impacts on both the physical elements and features that make up a landscape or seascape as well as the aesthetic, perceptual, and experiential aspects of the seascape or landscape that make it distinctive as viewed from the KOPs. We further recommend the VIA assess the turbines under different lighting and atmospheric conditions, their movement, and include other related project equipment such as electric transmission substations that may be located near or along the shore. Based on our initial review, it appears the visual simulations included in the VIA may not represent the full spectrum of visibility under certain lighting conditions, and therefore the wind turbine generators (WTGs) may be more visible at certain times of day than presented. The NPS recommends that primary simulations should always represent the worst-case scenario as far as visibility. We advise that additional simulations are provided to show the range of visibility under a variety of conditions. It is recognized that atmospheric conditions over the ocean may reduce visibility in under some conditions. However, since visual simulations underrepresent the actual visibility of proposed changes, artificially adding atmospheric haze further reduces the effectiveness of the simulations and should be avoided.
F-3-5	We noted above that Appendix III.H.b. – Historic Properties Visual Impact Assessment is not yet available. In particular, Gay Head Lighthouse is generally open for public visitation through the Martha's Vineyard Museum and many area visitors view the surrounding seascapes and landscapes from that point. As such, views from this area will be important to providing an accurate and complete VIA.

Comment ID	Comment Text
F-3-6	In general, NPS recommends the following measures protective of night skies. We are of the professional opinion that they would be beneficial for this project. Security lighting should be directed downward and shielded. Some lights should have motion sensors added. Control -- lights should be off when not needed. This applies to both the construction phase and operation phase. Brightness – the minimum lumen output needed should be used. Warm color-temperature light -- use amber lights, when possible, instead of white light. For the offshore component, we request visual simulations for both static images and light flashing animation at night from multiple KOPs, including from Nantucket Island.
F-3-11	NPS protects natural darkness and other components of natural lightscapes in parks by minimizing light from park facilities, and by educating and working cooperatively with neighboring communities, local governments, and the public to minimize the use of outdoor lighting wherever possible considering public safety and other management objectives. In addition, night skies are an important resource for NHLs such as lighthouses, affecting aspects such as cultural properties, the historic setting, and the visitor experience and enjoyment. NPS encourages BOEM to assess the potential effects of the undertaking on NHLs and resolve any adverse effects when possible through avoidance and mitigation measures.
F-3-13	NPS notes that several offshore wind projects are currently proposed in the vicinity of the Vineyard Wind South project, and likely to result in cumulative impacts to the same resources and values. In order for the public and other stakeholders to have an accurate understanding of the proposed project and its impacts, NPS recommends BOEM address the other current and likely potential future proposals through its NEPA review. We note that views of the Vineyard Wind South Project from the NHLs will be visible in the background of other offshore projects, including Vineyard Wind I

WATER QUALITY

Comment ID	Comment Text
F-1-37	We also recommend that the discussion in the Draft EIS include the range of design/construction measures provided in the COP that can be implemented to avoid and minimize impacts of transmission cables as they transition to shore from the marine environment.
F-2-28	Potential effects of offshore wind energy development on listed species that should be considered by BOEM when making any determinations about construction and operation in the Vineyard Wind South project area include: ? Impacts to water quality through sediment disturbance or pollutant discharge; project lighting as a potential attractant; ? Effects from electromagnetic fields and heat from inter-array and export cable to listed species and their prey (i.e. ability to forage, attraction, etc.); and ? Potential changes to pelagic habitat resulting from the presence of wind turbines.
F-2-34	The document should also evaluate the potential impacts of chemical emission, including the release of chemical residues from wind farm operating materials and corrosion protection systems.
B-25-5	we are unaware yet if New England Wind will have a cooling water intake system (CWIS) discharging millions of gallons daily of heated effluent. That’s a practice that as a former environmental official in New York’s Department of Environmental Conservation, you are well aware that open CWIS’s are no longer allowed to be built on land in New York- they must use closed cooling water systems instead.
N-6-10	APCC looks forward to reviewing additional information on specific project details for Phase 1 of Vineyard Wind South relevant to Cape Cod that are yet to be finalized (and for Phase 2, when those project plans are made available in more detail), and which are subject to federal, state and/or regional regulatory jurisdiction, such as: • A stormwater pollution prevention plan for construction activity along the onshore cable route

Comment ID	Comment Text
N-6-6	APCC looks forward to reviewing additional information on specific project details for Phase 1 of Vineyard Wind South relevant to Cape Cod that are yet to be finalized (and for Phase 2, when those project plans are made available in more detail), and which are subject to federal, state and/or regional regulatory jurisdiction, such as: • The specific details of an Oil Spill Response Plan for offshore refueling of construction vessels.
N-6-9	APCC looks forward to reviewing additional information on specific project details for Phase 1 of Vineyard Wind South relevant to Cape Cod that are yet to be finalized (and for Phase 2, when those project plans are made available in more detail), and which are subject to federal, state and/or regional regulatory jurisdiction, such as: • A finalized Spill Prevention, Control and Countermeasures Plan for the substation site. APCC's expectation is that the spill prevention plan will be similar to, and as effective as, the plan developed for the Vineyard Wind 1 substation. Since the proposed substation site is located in a Zone II, it is critically important that groundwater be protected from potential contamination.

WETLANDS

Comment ID	Comment Text
F-1-31	The Draft EIS should include a discussion of existing wetlands, streams and other waters of the United States that could potentially be affected by various project components. The Draft EIS should explain how project activity on and offshore will comply with EPA's Clean Water Act regulations issued under Section 404 (b)(1), referred to as "EPA's 404 (b)(1) Guidelines."
F-1-32	Draft EIS should also include an evaluation of ways each alternative considered can be designed to avoid, or where unavoidable, minimize direct and indirect impacts to wetlands and other waters. The evaluation of direct and indirect impacts should fully consider both temporary and permanent impacts.
F-1-33	The evaluation of indirect impacts should include any clearing impacts for the proposed terrestrial construction activities resulting in a change (either permanent or temporary) of cover type within a wetland (e.g., converting a forested wetland to an emergent or scrub/shrub wetland). In addition, construction related indirect impacts, including water quality impacts and erosion or sedimentation impacts to wetlands or waterbodies should be analyzed.
F-1-34	All construction practices which will be utilized to avoid and minimize impacts to wetlands and waters should be documented in the Draft EIS. Conditions proposed to protect wetlands and waters should also be documented.
F-1-35	If impacts to wetlands are unavoidable, the Draft EIS should also include a conceptual discussion of anticipated compensatory mitigation for unavoidable direct and indirect impacts to wetlands and other waters, including cover type conversions from construction and operation of the project.
F-1-36	The [wetland compensatory] mitigation analysis should also identify measures to address potential impacts to state and federally listed endangered and threatened species.
N-6-5	APCC supports the applicant's stated preferred route for the onshore cables, but does not support the identified variants that would impact Article 97 lands, wetlands or rare species habitat. (APCC acknowledges the unavoidable project work proposed for wetlands, rare species habitat and Article 97 lands at the proposed Craigville Public Beach onshore landing site or the alternative Covell's Beach site, which is not likely to adversely affect natural resources at either location.)
N-6-7	APCC looks forward to reviewing additional information on specific project details for Phase 1 of Vineyard Wind South relevant to Cape Cod that are yet to be finalized (and for Phase 2, when those project plans are made available in more detail), and which are subject to federal, state and/or regional regulatory jurisdiction, such as: • The final choice of a method for crossing the Centerville River with the onshore cable, with the primary objective being protection of wetland resources.