Gulf of Maine Lease Sale (ATLW-11)

Final Sale Notice

Response to Proposed Sale Notice Comments

October 2024

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Contents

List of Abbreviations

AAQS..... Ambient Air Quality Standards
ACP..... Agency Communication Plan
ADLS ..... Aircraft Detection Lighting Systems
AIS ..... Automatic Identification System
ATLW-11..... Atlantic Wind Lease Sale 11
BMP ..... Best Management Practice
BOEM..... Bureau of Ocean Energy Management
BSEE..... Bureau of Safety and Environmental Enforcement
CBA ..... community benefit agreement
CFR..... Code of Federal Regulations
COP..... Construction and Operations Plan
DOD..... Department of Defense
DOE ..... Department of Energy
EA ..... environmental assessment
eDNA ..... environmental DNA
EMAX..... Energy Modeling and Analysis eXercise
EMF ..... electromagnetic field(s)
EPA..... Environmental Protection Agency
ESA..... Endangered Species Act
FAA..... Federal Aviation Administration
FCMF..... Fisheries Compensatory Mitigation Fund
FCP ..... Fisheries Communication Plan
FLM ..... Federal Land Manager
FSN ..... final sale notice
HDD..... horizontal directional drilling
HF ..... high-frequency
HVDC ..... high-voltage direct current
IOOS ..... Integrated Ocean Observing System
IPF..... impact producing factors
ISO ..... Independent System Operator
MARACOOS..... Mid-Atlantic Regional Association of Coastal Ocean Observing Systems
MMP ..... Marine Minerals Program
MNMPARS..... Approaches to Maine, New Hampshire, and Massachusetts Port Access Route Study
MVR ..... Mechanical Vapor Recompression
MW ..... megawatt
NAAQS..... National Ambient Air Quality Standard
NARW ..... North Atlantic Right Whale
NCCOS ..... National Centers for Coastal Ocean Science
NEPA..... National Environmental Policy Act
NERACOOS..... Northeastern Regional Association of Coastal Ocean Observing Systems
NHPA..... National Historic Preservation Act
nm ..... nautical miles
NMFS..... National Marine Fisheries Service
NOAA ..... National Oceanic and Atmospheric Administration
NOI ..... Notice of Intent
NORAD ..... North American Aerospace Defense Command
NPS ..... National Park Service
NSRA..... Navigation Safety Risk Assessments

OCS..... Outer Continental Shelf
OCSLA ..... Outer Continental Shelf Lands Act
ONMS ..... Office of National Marine Sanctuaries
OREI ..... Offshore Renewable Energy Installations
OSW..... offshore wind
PAM..... Passive Acoustic Monitoring
PDE..... Project Design Envelope
PEIS ..... Programmatic Environmental Impact Statement
PLA..... Project Labor Agreement(s)
PSD ..... Prevention of Significant Deterioration
PSN ..... proposed sale notice
RAM ..... radar adverse impact management techniques
ROW ..... right-of-way
RUE..... right-of-use and easement
TSS..... traffic separation scheme
USACE ..... U.S. Army Corps of Engineers
USCG..... U.S. Coast Guard
USFWS ..... U.S. Fish and Wildlife Service
VMS..... vessel monitoring system
VTR..... vessel trip reporting
WEA ..... wind energy area
WTRIM..... Wind Turbine Radar Interference Mitigation

Introduction

On May 1, 2024, the Bureau of Ocean Energy Management (BOEM) issued a notice inviting public comment on the Proposed Sale Notice (PSN) for Atlantic Wind Lease Sale 11 (ATLW-11) by which BOEM planned to offer multiple lease areas (Lease Areas) for commercial wind power development on the U.S. Outer Continental Shelf (OCS) in the Gulf of Maine. Comments were accepted by BOEM via regulations.gov in Docket BOEM-2024-0026 and via U.S. mail through July 1, 2024.

BOEM asked ICF, Inc. to analyze and summarize the public comment submissions received to Docket No. BOEM-2024-0026 in response to the PSN. In total, the docket received 269 submissions.[1] ICF analyzed all 269 submissions, including 246 unique entries (80 substantive submissions and 169 other unique submissions), one form letter campaign with 12 form letter copies, and 8 duplicate or out of scope submissions.[2] This summary represents the substantive submissions, including form letter campaigns and plus text submissions.

ICF's process for analyzing public comments builds upon its commercial web based CommentWorks® software product. As a first step, ICF obtained electronic copies of the comments from the Federal Docket Management System (FDMS), so that the comments could be imported into CommentWorks for analysis. BOEM and ICF staff developed a hierarchical coding structure to include key issues identified in the PSN and addressed by the commenters. ICF staff then analyzed all unique comment letters, identifying whether each submission contained substantive excerpts ("bracketing"), and using the coding structure to associate each excerpt to the issue(s) to which it applies ("coding"). ICF staff then distilled the content from the verbatim excerpt quotes into the comment summaries that are included in this document. The comment summaries that follow are organized into issue topic areas, as indicated in the table of contents.

Comment counts provided at the beginning of most sections reflect all submissions (i.e., both unique comments and the form letter campaigns received on the PSN.) This summary report, however, is not intended to be an exhaustive discussion of all unique comments received. Rather, it attempts to identify content that reasonably contributes to the development or improvement of alternatives or analyses detailed in the more substantive of comments.

1 Includes comments received through the docket, email and comments from public hearings.
2 Comments deemed "out of scope" were analyzed but not summarized in this report.

Issue 1. General support for, opposition to, and/or mixed feedback regarding the PSN.

Approximately 195 commenters expressed general support for, opposition to, or mixed feedback regarding the PSN.

1.1 Support

A commenter expressed general support for the PSN.[3] A few commenters said that the project is an opportunity to develop a renewable energy source for the clean energy transition for New England, and will help the various states meet their decarbonization goals.[4] Other commenters said that offshore wind energy is an important tool to mitigate the threat of climate change.[5] A commenter expressed appreciation for BOEM's previous responsiveness to the commenter's concerns to protect important fishing and habitat areas.[6]

1.2 Opposition

Several commenters, including a form letter campaign, expressed opposition to the contents of the PSN,[7] raising general concerns about multiple topics. These included:

- Impacts to the ecosystem, marine life, and environment; [8]
- Impacts to fisheries;[9]
- Impacts to viewsheds and dark skies;[10]
- The balance between local control and state oversight on land;[11] and
- The large scale and scope of the project.[12] *See Issue 27 for additional comments discussing the scale of the offshore wind project.*

Some commenters added that wind turbines would have a limited impact on climate change emissions.[13] Another commenter expressed a preference for the no-action alternative.[14]

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3 Oceantic Network (BOEM-2024-0026-0243).

4 Avangrid Renewables (BOEM-2024-0026-0147); American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245); New England for Offshore Wind (BOEM-2024-0026-0250).

5 National Marine Fisheries Service (BOEM-2024-0026-0151); Conservation Law Foundation (BOEM-2024-0026-0242); R. Curley (BOEM-2024-0026-0251).

6 Maine Governor's Energy Office (BOEM-2024-0026-0236).

7 J. Green (BOEM-2024-0026-0125); K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154); T. Fagin (BOEM-2024-0026-0170); Passamaquoddy Tribe (BOEM-2024-0026-0263).

8 A. Hunt (BOEM-2024-0026-0038); Maine Coast Fishermen's Association (BOEM-2024-0026-0076); A. Morris (BOEM-2024-0026-0077) [Form Letter Master]; G. Parham (BOEM-2024-0026-0152); M. Gilreath (BOEM-2024-0026-0211); Meridian Construction Corp (BOEM-2024-0026-0222); Severino Trucking Co., Inc (BOEM-2024-0026-0229); Massachusetts Seafood Collaborative (BOEM-2024-0026-0240); Maine Lobstermen's Association (BOEM-2024-0026-0241); Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) (BOEM-2024-0026-0247).

9 A. Hunt (BOEM-2024-0026-0038); XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069); Maine Coast Fishermen's Association (BOEM-2024-0026-0076); Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238); Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239); Massachusetts Seafood Collaborative (BOEM-2024-0026-0240); Maine Lobstermen's Association (BOEM-2024-0026-0241).

10 R. Regan (BOEM-2024-0026-0070); L. Green (BOEM-2024-0026-0246).

11 D. Dow (BOEM-2024-0026-0046).

12 A. Morris (BOEM-2024-0026-0077) [Form Letter Master]; Cape Cod Regional Government Assembly of Delegates (BOEM-2024-0026-0145); J. Wolf (BOEM-2024-0026-0157); L. Green (BOEM-2024-0026-0246).

13 R. Regan (BOEM-2024-0026-0070); Reel Deal Fishing Charters (BOEM-2024-0026-0079); Reel Deal Fishing Charters (BOEM-2024-0026-0096).

14 Passamaquoddy Tribe (BOEM-2024-0026-0263).

1.3 Mixed Feedback

A commenter expressed general support for offshore wind (OSW) development due to its ability to mitigate the effects of climate change but added that floating offshore wind is a new technology that would have unknown cumulative impacts on marine habitats and species.[15]

BOEM Response:

BOEM appreciates the public's participation in this process and that individual stakeholders took the time to express their opinions regarding decisions about OSW development. BOEM recognizes the important role that OSW can play in the effort to decrease greenhouse gas emissions and understands the need for efficient yet thorough vetting of these projects. Wind energy leases that may be awarded as a result of this sale grant to the lessees only the exclusive right to submit plans for BOEM's approval. In accordance with BOEM's renewable energy regulations, the submission (and BOEM's potential subsequent approval) of a Construction and Operations Plan (COP), which is a detailed plan for construction and operation of a wind energy facility on a lease, allows the lessee to construct and operate wind turbine generators and associated facilities for a specified term. If a COP is submitted, BOEM will conduct an environmental and technical review of the COP, and prepare an appropriate National Environmental Policy Act (NEPA) analysis and conduct consultations on that site-specific plan. This review, analysis, and consultation process will address many of the commenter concerns raised.

Issue 2. Purpose and need, legal authority, regulatory framework, and other comments related to background.

Approximately eight commenters discussed this issue.

2.1 Achieving Biden-Harris Administration energy goals and other comments related to wind energy

Many commenters expressed general support for the development of offshore wind within the areas described in the PSN, reasoning that it would further the Biden Administration's goal of achieving 30 gigawatts of offshore wind energy by 2030 and 15 gigawatts of floating offshore wind energy by 2035.[16] Here, one such commenter reasoned that the winds in the Gulf of Maine are some of the strongest currents in the country, which makes the designated areas suitable for wind energy development.[17] Additionally, a few commenters discussed how the Biden Administration's goal of ensuring that development of wind energy improves supply chains, bolsters American manufacturing, and provides good-paying jobs for workers involved in the construction and development of wind energy infrastructure.[18]

Echoing comments that expressed support for the PSN because of its compatibility with federal wind energy goals, a few commenters stated that the designated areas would further New England States' wind

[15] Friends of Casco Bay (BOEM-2024-0026-0072).
[16] National Wildlife Federation et al. (BOEM-2024-0026-0256); American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245); BlueGreen Alliance (BOEM-2024-0026-0244); Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233); Maine Governor's Energy Office (BOEM-2024-0026-0236); Conservation Law Foundation (BOEM-2024-0026-0242); Oceantic Network (BOEM-2024-0026-0243).
[17] American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).
[18] BlueGreen Alliance (BOEM-2024-0026-0244); Oceantic Network (BOEM-2024-0026-0243).

energy goals.[19] One of these commenters argued that development should generally account for the cultural, environmental, and recreational significance the Gulf of Maine holds to many who live near the designated lease areas.[20] Similarly, another commenter stated that adverse impacts to wildlife should be avoided throughout the development of the PSN areas.[21]

2.2 Comments Discussing Outer Continental Shelf Lands Act (OCSLA)

Acknowledging that the OCSLA confers broad discretion on BOEM to develop and oversee wind energy, a commenter qualified that the statutory framework nonetheless requires the agency to ensure such development considers a number of factors, including protection of the environment; safety; national security; and the general importance of responsible wind development.[22]

BOEM Response:

BOEM appreciates the public's participation in this process and that individual stakeholders took the time to express their opinions regarding decisions about OSW development. BOEM recognizes the important role that OSW can play in the effort to decrease greenhouse gas emissions and understands the need for thorough vetting of these projects.

Issue 3. Number, size, orientation, and location of proposed lease areas/boundaries comments that discuss the area identification process, NCCOS report, and spatial modeling.

Approximately 30 commenters discussed the number, size, orientation, and location of the proposed lease areas, as well as the area identification process, the National Centers for Coastal Ocean Science (NCCOS) report, and spatial modeling.

3.1 General Comments on the Proposed Lease Areas

Numerous commenters expressed concern about the overlap between, or impacts to, the proposed lease areas and fisheries and fishing activity,[23] the North Atlantic right whale (NARW),[24] avian species,[25] viewsheds,[26] vessel transit and traffic activity,[27] benthic resources and hard bottom habitats,[28] protected

[19] Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233); Maine Governor's Energy Office (BOEM-2024-0026-0236); Conservation Law Foundation (BOEM-2024-0026-0242); Oceantic Network (BOEM-2024-0026-0243).
[20] Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
[21] National Wildlife Federation et al. (BOEM-2024-0026-0256).
[22] BlueGreen Alliance (BOEM-2024-0026-0244).
[23] XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069); Maine Coast Fishermen's Association (BOEM-2024-0026-0076); National Marine Fisheries Service (BOEM-2024-0026-0151); T. Alexander (BOEM-2024-0026-0215); New England Fishery Management Council (BOEM-2024-0026-0223); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); Northeast Seafood Coalition (BOEM-2024-0026-0235).
[24] Association to Preserve Cape Cod (BOEM-2024-0026-0126); National Marine Fisheries Service (BOEM-2024-0026-0151); Maine Lobstermen's Association (BOEM-2024-0026-0241); Conservation Law Foundation (BOEM-2024-0026-0242); National Wildlife Federation et al. (BOEM-2024-0026-0256).
[25] Association to Preserve Cape Cod (BOEM-2024-0026-0126).
[26] National Park Service (BOEM-2024-0026-0149).
[27] National Marine Fisheries Service (BOEM-2024-0026-0151); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); New England Fishery Management Council (BOEM-2024-0026-0223).
[28] National Marine Fisheries Service (BOEM-2024-0026-0151); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).

species habitats,[29] existing submarine cables,[30] and unexploded ordnances.[31] Because of these concerns, commenters recommended that BOEM reduce, revise, or exclude the following lease areas or their associated lease blocks or aliquots:

- OCS-A 0562;[32]
- OCS-A 0563;[33]
- OCS-A 0564;[34]
- OCS-A 0565;[35]
- OCS-A 0566;[36]
- OCS-A 0567;[37]
- OCS-A 0568;[38] and
- OCS-A 0569.[39]

Several commenters encouraged BOEM to consider, or minimize, potential impacts to marine resources and communities.[40] Another commenter recommended including lease areas with the least environmental impact and excluding lease areas with the greatest detrimental impact.[41]

3.2 Number, size, orientation, and location of proposed lease areas

A commenter stated that the number of proposed lease areas is appropriate and recommended including all eight areas in the upcoming auction.[42] A couple of commenters urged BOEM to consider the modifications to the proposed lease areas as set forth in the attachments or appendices provided by the commenters,[43] including the compilation of lease blocks and aliquots for removal or tradeoff.[44] One of these commenters stated that because the proposed lease areas overlap with critical habitat for NARW and

29 National Marine Fisheries Service (BOEM-2024-0026-0151).
30 North American Submarine Cable Association (BOEM-2024-0026-0249).
31 R. Regan (BOEM-2024-0026-0070).
32 National Marine Fisheries Service (BOEM-2024-0026-0151); New England Fishery Management Council (BOEM-2024-0026-0223); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
33 National Marine Fisheries Service (BOEM-2024-0026-0151); New England Fishery Management Council (BOEM-2024-0026-0223); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
34 National Marine Fisheries Service (BOEM-2024-0026-0151); National Park Service (BOEM-2024-0026-0149); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); L. Green (BOEM-2024-0026-0246); North American Submarine Cable Association (BOEM-2024-0026-0249); R. Curley (BOEM-2024-0026-0251); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
35 National Marine Fisheries Service (BOEM-2024-0026-0151); L. Green (BOEM-2024-0026-0246); North American Submarine Cable Association (BOEM-2024-0026-0249); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); Northeast Seafood Coalition (BOEM-2024-0026-0235).
36 National Marine Fisheries Service (BOEM-2024-0026-0151); L. Green (BOEM-2024-0026-0246); North American Submarine Cable Association (BOEM-2024-0026-0249); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
37 National Park Service (BOEM-2024-0026-0149); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); L. Green (BOEM-2024-0026-0246); R. Curley (BOEM-2024-0026-0251); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
38 National Park Service (BOEM-2024-0026-0149); L. Green (BOEM-2024-0026-0246); R. Curley (BOEM-2024-0026-0251); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
39 New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); L. Green (BOEM-2024-0026-0246).
40 Association to Preserve Cape Cod (BOEM-2024-0026-0126); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); National Marine Fisheries Service (BOEM-2024-0026-0151); E. Anderson (BOEM-2024-0026-0258).
41 Cape Cod Commission (BOEM-2024-0026-0237).
42 Avangrid Renewables (BOEM-2024-0026-0147).
43 National Marine Fisheries Service (BOEM-2024-0026-0151); Northeast Seafood Coalition (BOEM-2024-0026-0235).
44 Northeast Seafood Coalition (BOEM-2024-0026-0235).

other protected species, implementation of the lease conditions could mitigate adverse impacts.[45] The other commenter said that implementing the proposed modifications to the lease areas could bolster the economic viability of the groundfish industry. The commenter addressed OCS-A 065 and requested "the removal of 96 aliquots" that would be replaced with "122 aliquots as a tradeoff for those specific 96 aliquots and as a general tradeoff for an additional 26 aliquots we have requested to be removed from other lease areas."[46]

A few commenters cautioned BOEM against basing comparisons on other offshore wind projects.[47] A couple of commenters recommended utilizing the same orientation across all lease areas to facilitate navigation and transit.[48] A couple of commenters encouraged BOEM to evaluate the use of common lines of orientation across the leases and whether this would bolster navigation and transit.[49]

Prior to finalizing the size and location of the proposed lease areas, a commenter urged BOEM to consider the potential unknowns of deploying the offshore wind turbines to mitigate adverse impacts.[50] Another commenter suggested that BOEM employ acoustic mapping data to inform the delineations of lease areas prior to finalization.[51]

According to a commenter, lease areas should be at least 100,000 acres to sufficiently support an offshore wind project.[52] Another commenter said that the wind turbines should be spaced 4 miles apart.[53] A commenter said that achieving the stated wind energy goal would require a significant preemption of areas. The commenter expressed concern that this would adversely impact food sourcing and economic value.[54]

3.3 Data and the Collection of Additional Information

Some commenters discussed or encouraged monitoring, surveys, data collection, or mapping to better understand the usage or characterization of the lease areas,[55] determine which areas may not be suitable for development,[56] and minimize impacts or conflicts.[57] Specifically, a commenter stated that the proposed lease areas still include data gaps and are critical to threatened or endangered species in the Gulf of Maine.[58] Another commenter stated that issued leases should include a stipulation of BOEM's intent to conduct surveys.[59]A commenter recommended that BOEM gather new information to support lease area identification and avoid impacts for any deferred leasing activity. The commenter further suggested that

45 National Marine Fisheries Service (BOEM-2024-0026-0151).
46 Northeast Seafood Coalition (BOEM-2024-0026-0235).
47 New England Fishery Management Council (BOEM-2024-0026-0223); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
48 New England Fishery Management Council (BOEM-2024-0026-0223); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
49 New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); New England Fishery Management Council (BOEM-2024-0026-0223).
50 Friends of Casco Bay (BOEM-2024-0026-0072).
51 National Marine Fisheries Service (BOEM-2024-0026-0151).
52 The Nature Conservancy (BOEM-2024-0026-0234).
53 T. Alexander (BOEM-2024-0026-0215).
54 XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069).
55 Conservation Law Foundation (BOEM-2024-0026-0242); National Wildlife Federation et al. (BOEM-2024-0026-0256); Environmental Protection Agency (BOEM-2024-0026-0231).
56 National Marine Fisheries Service (BOEM-2024-0026-0151).
57 National Marine Fisheries Service (BOEM-2024-0026-0151); New England Fishermen's Stewardship Association (BOEM-2024-0026-0232); New England Fishery Management Council (BOEM-2024-0026-0223); Massachusetts Seafood Collaborative (BOEM-2024-0026-0240); Conservation Law Foundation (BOEM-2024-0026-0242).
58 Environmental Protection Agency (BOEM-2024-0026-0231).
59 National Wildlife Federation et al. (BOEM-2024-0026-0256).

BOEM should state whether the additional information would be restricted to the recent versions of data employed in the siting model, or whether new forms of data could be considered.[60]

A commenter stated that BOEM's reliance on VMS and vessel trip reporting (VTR) data to analyze suitability at the proposed lease areas is not adequate.[61]

A commenter said that BOEM is attempting to define lease areas before gathering information on the sites that would be developed or the technology that would be used. The commenter concluded that there is not sufficient information to provide responses to the questions associated with leasing.[62]

BOEM Response:

BOEM is tasked with orderly and expeditious development of renewable energy on the OCS while also ensuring that any potential future such activities are carried out in a manner that provides for prevention with other reasonable uses. This effort is fueled by the best available information obtained through the planning and leasing process. Commenters bring up numerous important factors that BOEM considered as part of the identification process of the final lease areas. Many of the items addressed, such as major fisheries and benthic conflicts, are avoided as part of the planning process. If identified conflicts cannot be avoided, BOEM works with our federal partners and stakeholders to avoid, minimize, and potentially identify compensatory mitigation to address issues encountered throughout the development process. If new data are acquired during the development process, they will be assessed by BOEM in the appropriate environmental and technical review process, including any subsequent analysis conducted by BOEM pursuant to NEPA.

In this case, for example, BOEM is aware of the unique characteristics of the Gulf of Maine and its importance to the NARW. BOEM has sought out the best available data on NARW habitat and sightings and built that into our comprehensive spatial modeling process. However, through the process of balancing several priorities, portions of our lease areas overlap with the Gulf of Maine NARW Critical Habitat. As a result, BOEM solicited comments in the PSN regarding a potential lease stipulation that would require Passive Acoustic Monitoring (PAM) within a lease area. Comments received on the subject were generally supportive.

As a result, BOEM developed a new lease stipulation for leases offered in this sale that requires baseline monitoring for large whales in the Gulf of Maine NARW Critical Habitat. This requires the lessees to provide a minimum of 3 years of PAM data to support the submission and review of their proposed COP (see Section 5.2.4 of Addendum C of the leases).

Other concerns raised cannot be fully addressed until BOEM is presented with project specific information in the COP, such as risks associated with unexploded ordnance. Information on the level of detail needed to evaluate those risks is found in BOEM's white paper, "Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development Related to Munitions and Explosives of Concern and Unexploded Ordinances." (https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/MEC-UXO%20White%20Paper.pdf)

The PSN lease areas have been reduced by approximately 12 percent to address ocean user conflicts in response to comments and input from ocean users and stakeholders. BOEM decided to remove portions of

60 New England Fishery Management Council (BOEM-2024-0026-0223).
61 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
62 Maine Lobstermen's Association (BOEM-2024-0026-0241).

the PSN lease areas from current leasing consideration after analyzing a combination of factors including offshore fishing activity, vessel transit, seafloor features identified by NMFS as potentially sensitive to impacts from offshore wind facility construction, and areas of relatively higher densities of NARW sightings and detections. For a full discussion of these removals, see Section IV of the Final Sale Notice: "Areas Offered for Leasing."

3.4 Phased Leasing

A commenter expressed support for the planned phased leasing approach because BOEM would be able to prioritize areas of suitability under the NCCOS model, address data gaps or deficiencies, and conduct additional research and monitoring for potential areas of conflict.[63] Although another commenter expressed general support for phased leasing, the commenter encouraged BOEM to include greater acreage in the initial auction rather than to reserve areas for future leasing.[64]

Another commenter expressed support for a phased leasing approach on the grounds that BOEM and other entities could attain a more comprehensive understanding of the various impacts associated with floating wind projects and greater insight into the transferability of the spatial model.[65]

Citing the NCCOS report, a commenter recommended that the final sale notice (FSN) should describe the process for a phased approach to leasing as well as the related environmental analysis.[66] Another commenter stated that new bathymetry and backscatter data would be available to support a second phase of leasing.[67]

BOEM Response:

On April 24, 2024, Secretary Haaland announced a new 5-year offshore wind leasing schedule. This schedule includes two anticipated Gulf of Maine sales: the first in October 2024; and the second in 2028.

In the Gulf of Maine, BOEM began asking about a potential "phased leasing" approach when it published the Draft Wind Energy Area (WEA) in October 2023. The concept of phased leasing has received broad support; however, commentor recommendations for the scale and timing of those phases vary widely across individuals and stakeholder groups.

The Secretary's announcement is a further development in BOEM's approach to "phased leasing," and represents a potential second phase for the Gulf of Maine in 2028. The timing and scope of a second Gulf of Maine sale would be directly informed by the results of the 2024 sale, as well as future input from potentially affected Tribes, Gulf of Maine states, stakeholder engagements, relevant market conditions, and regional energy goals.

3.5 NCCOS Report and Model

A commenter stated that the methodology employed as part of the NCCOS suitability model underestimates the fisheries value of lease areas OCS-A 0564, OCS-A 0567, and OCS-A 0568.[68] A

[63] Conservation Law Foundation (BOEM-2024-0026-0242).
[64] Oceantic Network (BOEM-2024-0026-0243).
[65] Environmental Protection Agency (BOEM-2024-0026-0231).
[66] New England Fishery Management Council (BOEM-2024-0026-0223).
[67] New England Fishery Management Council (BOEM-2024-0026-0223).
[68] XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069).

commenter urged BOEM to consider a narrower analysis of NCCOS's Vessel Monitoring System (VMS) data when reviewing the final lease area boundaries, and to include data more recent than 2021.[69]

A couple of commenters stated that acoustic detections and opportunistic sightings of NARW were not included as part of the density data in the NCCOS model.[70] One of the commenters stated that the modeled density does not provide a comprehensive snapshot of current right whale use, adding that proposed lease areas OCS-A 0562 and OCS-A 0563 are between two areas of the greatest modeled density.[71] Another commenter said that the NCCOS model's use of the best available fishing data informed the determination of areas that would pose the least conflict.[72] *See Issue 22 for additional comments discussing marine mammals.*

BOEM Response:

The suitability model NCCOS produced in collaboration with BOEM relied upon the best available data at the time of those analyses to inform both the Draft WEA and Final WEA boundaries (see "Finding space: Siting the Gulf of Maine's Wind Energy Area" here). As discussed in Section IV of the Final Sale Notice, "Areas Offered for Leasing," BOEM relied on subsequent engagement and PSN comments to inform additional removals from lease areas 0562, 0563, 0564, 0565, 0566, 0567, and 0568.

Issue 4. Considerations for delineation of proposed lease areas (Section IV(b)).

Approximately 10 commenters discussed considerations for the delineation of proposed lease areas.

4.1 Support for current delineation

A commenter said that the orientation and spacing of the proposed lease areas are generally consistent with the prevailing wind direction and the reduction of wake losses between lease areas and are reasonable in terms of sailing distances and directions from the ports under development or being explored. The commenter encouraged BOEM to maintain or reduce the range of depths within each area to avoid reduction to the developable area.[73] Another commenter urged BOEM to continue to engage stakeholders to determine optimal delineations and orientations for maximizing energy production given the prevailing winds, meteorological conditions, and ocean depths in the Gulf of Maine.[74]

4.2 Suggestions for changes to delineations

A commenter asked BOEM to delineate proposed lease areas that avoid existing infrastructure and urged revision of lease areas 0564, 0565, and 0566 to have categorical exclusion zones around existing submarine cables.[75]

A few commenters urged BOEM to evaluate different buildout configurations, such as clustered turbines vs. turbines with more spacing to allow for transit or fishing.[76] One of the commenters added that floating

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69 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
70 National Marine Fisheries Service (BOEM-2024-0026-0151); Conservation Law Foundation (BOEM-2024-0026-0242).
71 Conservation Law Foundation (BOEM-2024-0026-0242).
72 Maine Coast Fishermen's Association (BOEM-2024-0026-0076).
73 Avangrid Renewables (BOEM-2024-0026-0147).
74 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
75 North American Submarine Cable Association (BOEM-2024-0026-0249).
76 New England Fishery Management Council (BOEM-2024-0026-0223); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).

wind infrastructure technology is largely unknown, making it difficult to recommend specific layouts.[77] Another commenter said that the complex nature of floating offshore wind infrastructure combined with the water depths and distance to shore in the Gulf of Maine will create new technical challenges not encountered by other offshore wind projects.[78]

4.3 Other comments on delineation

A commenter remarked that the only two sites in the State of Maine that could be used to interconnect transmission cables are not suited for this purpose due to the environmental conditions in those locations.[79]

Another commenter asked who will monitor the chains and anchoring systems and replace them if they break, commenting that storms and hurricanes will only get worse due to climate change.[80]

A commenter said that they could not meaningfully consider the delineation of the proposed lease areas until data from baseline studies are available.[81]

BOEM Response:

BOEM has carefully considered the comments above regarding the delineation of the lease areas. The final lease areas represent a balance between all the competing factors analyzed, including developability and conflicts with existing uses.

BOEM's Reporting requirements, in Section 3 of Addendum C of the final leases, specifically include submarine cable operators as parties that the lessee must engage with and provide a report of that engagement. The FSN (Section VI "Potential Future Restrictions") informs potential bidders about existing infrastructure that may exist within lease areas and advises that terms and conditions of a potential COP approval may be implemented to mitigate any conflicts between these interests and the proposed project.

Should a commercial wind lease be issued, and a COP submitted to BOEM for review, it will detail the Lessee's specific commercial wind development proposal (to include potential facility design and transmission routes) along with site-specific site characterization information. This informs potential impacts to existing infrastructure such as active, in-service submarine cables, in addition to potential mitigation measures such as cable crossing agreements and cable burial requirements. Additionally, should a commercial wind lease be issued, there will be future stakeholder engagement and coordination opportunities as part of the review and appropriate analysis under NEPA and associated consultations that will be conducted by BOEM upon submittal of individual COPs. As part of BOEM's review pursuant to 30 Code of Federal Regulations (CFR) 585.628, BOEM can specify terms and conditions to be incorporated into the COP as a result of its review.

Issue 5. BOEM-Designated Corridors between leases.

Approximately 15 commenters discussed BOEM-designated corridors between leases.

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77 New England Fishery Management Council (BOEM-2024-0026-0223).
78 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
79 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
80 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
81 Maine Lobstermen's Association (BOEM-2024-0026-0241).

5.1 Support for current BOEM-designated corridors between leases

A commenter expressed support for the spacing and orientation of BOEM-designated corridors between leases on the southern edges of lease areas 0564, 0565, and 0566 and the northwesterly/southeasterly lanes separating lease areas 0567, 0568, and 0569, saying that they increase safe passage to the ports of Boston, Gloucester, Portsmouth, and Portland. The commenter also encouraged BOEM to maintain the same spacing to provide uniformity for all future lease areas in the Gulf of Maine.[82] Another commenter said that the width of the proposed BOEM-designated corridors between leases is the minimum that is essential to the safe and financially viable operation of the groundfish fishery.[83]

5.2 Suggestions for changes to BOEM-designated corridors between leases

A commenter said that to minimize safety risks and operational costs to fishing vessels, BOEM-designated corridors between leases should reflect historic fishery operations and minimize deviations from straight line courses as much as possible.[84] Commenters suggested the following changes to the proposed lease areas and BOEM-designated corridors between leases:

- Remove the northern portions of lease areas 0562, 0563, and 0564 to accommodate historic transit patterns;[85]
- Remove aliquots from lease areas 0565 and 0566 to create a BOEM-designated corridor between these two lease areas;[86]
- Remove the BOEM-designated corridor to the east of lease areas 0564 and 0568, as it may not be necessary;[87]
- Further describe the purpose of the BOEM-designated corridor between lease areas 0568 and 0569 as it does not appear to be necessary;[88]
- Add a BOEM-designated corridor in the middle portion of lease areas 0565 and 0566 based on historical transit data;[89]
- Add a new BOEM-designated corridor between lease areas 0562 and 0563;[90]
- Add a new BOEM-designated corridor running northwest to southeast in lease area 0566;[91]
- Widen BOEM-designated corridor between leases to 5 nautical miles (nm) to reduce disruption to radar and compass accuracy;[92] and
- Make no changes at this time, but work with lessees and relevant stakeholders during the project development and COP review process to determine whether additional buffers or BOEM-designated corridors between leases are necessary.[93]

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82 Avangrid Renewables (BOEM-2024-0026-0147).
83 Northeast Seafood Coalition (BOEM-2024-0026-0235).
84 National Marine Fisheries Service (BOEM-2024-0026-0151).
85 National Marine Fisheries Service (BOEM-2024-0026-0151).
86 Northeast Seafood Coalition (BOEM-2024-0026-0235).
87 National Marine Fisheries Service (BOEM-2024-0026-0151).
88 New England Fishery Management Council (BOEM-2024-0026-0223); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
89 New England Fishery Management Council (BOEM-2024-0026-0223); Northeast Seafood Coalition (BOEM-2024-0026-0235); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
90 Northeast Seafood Coalition (BOEM-2024-0026-0235).
91 National Marine Fisheries Service (BOEM-2024-0026-0151); New England Fishery Management Council (BOEM-2024-0026-0223).
92 E. Anderson (BOEM-2024-0026-0258).
93 American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).

5.3 Other comments on BOEM-designated corridors between leases

A few commenters stated that the 2.5 nm BOEM-designated corridor between leases was used for the New York Bight leases, but may not account for radar interference, other impacts specific to the Gulf of Maine, or the need for vessels to get back to port safely in bad weather. The commenters also remarked that BOEM should not assume that a straight line is the best way to transit from offshore to ports.[94] Another commenter added that additional data gathered during development planning may inform the final array spacing and BOEM-designated corridor widths between leases The commenter also said that BOEM should require that developers install automatic identification system (AIS) transponders and cell phone towers on peripheral turbines or buoys that demarcate lease boundaries.[95]

A few commenters said that consistency in layouts and BOEM-designated corridors between adjacent leases will increase safety and opportunities for professional maritime users.[96] One of the commenters added that if developers choose to cluster floating turbines as close together as possible to minimize an array's footprint, that could change how a lease should be oriented and how much space may be available within a lease for fishing or transit; this change would require further consultation between leaseholders to determine the most appropriate layout of adjacent leases and BOEM-designated corridor widths between leases. The commenter also said that if leaseholders choose to use a minimum setback instead of a shared orientation, this could result in only a 2 nm BOEM-designated corridor between leases for transit and fishing which should be required to be free from surface and seabed gear.[97] Another commenter said that it is implied that a grid orientation would be required by the good neighbor provision, but it should be explicitly stated.[98]

A commenter asserted that navigational safety and layout and orientation of BOEM-designated corridors between leases is a "critical data gap" in the PSN.[99] A commenter said that they could not meaningfully consider BOEM-designated corridors between the proposed lease areas until data from baseline studies are available.[100] Another commenter said it had no comment on the BOEM-designated corridors between leases.[101]

Another commenter remarked that although BOEM-designated corridors have been established between leases, the BOEM-designated corridors are intended for fishing boats. The commenter added that the PSN does not address marine mammal or fish navigation through a lease area.[102] *See Issue 22 for additional comments discussing marine mammals.*

5.4 Other Comments on Specific Lease Areas

A commenter requested that BOEM consider incorporating an additional BOEM-designated corridor running northwest to southeast through OCS-A 0566 to minimize impacts to benthic habitats.[103] Another

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94 New England Fishery Management Council (BOEM-2024-0026-0223); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
95 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
96 Avangrid Renewables (BOEM-2024-0026-0147); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); Maine Governor's Energy Office (BOEM-2024-0026-0236).
97 Maine Governor's Energy Office (BOEM-2024-0026-0236).
98 New England Fishery Management Council (BOEM-2024-0026-0223).
99 Massachusetts Seafood Collaborative (BOEM-2024-0026-0240).
100 Maine Lobstermen's Association (BOEM-2024-0026-0241).
101 National Park Service (BOEM-2024-0026-0149).
102 Passamaquoddy Tribe (BOEM-2024-0026-0263).
103 National Marine Fisheries Service (BOEM-2024-0026-0151).

commenter identified specific sections of the OCS-A 0565 and OCS-A 0566 and suggested removing the sections to create a BOEM-designated corridor between the two lease areas.[104]

BOEM Response:

BOEM appreciates the comments regarding placement of BOEM-designated corridors between leases. BOEM acknowledges that there are many users of the ocean. As such, BOEM coordinates closely with the NCCOS to deconflict proposed lease areas as much as possible. Additional site-specific data collected by the Lessee will inform the Lessee's design of its proposed facility and BOEM's review of the COP, which may result in further avoidance and minimization of potential impacts. From a navigation safety perspective, Navigation Safety Risk Assessments (NSRAs) are developed as part of the COP to assess any hazards or impacts to navigation for the lease area.

The Lessee can provide a range of options in their Project Design Envelope. BOEM will analyze the impacts from the maximum case scenario and may identify alternatives that require less turbines or reduced project size for consideration as part of the NEPA and consultation process on individual Lessee submitted COPs. For the Gulf of Maine, BOEM has maintained the size of the lease areas to preserve flexibility for lessees to design layouts at the COP stage.

Issue 6. Navigational safety, vessel traffic, and USCG fairways.

Approximately 20 commenters discussed navigational safety, vessel traffic, and U.S. Coast Guard (USCG) fairways.

6.1 General Concerns

A commenter said that the USCG might sustain pressure to reduce the fairway areas should there be overlap with wind development areas and would put vessels at risk and impact supply chains.[105] A couple of commenters further stated that establishing safe routes for navigation and avoiding conflicts with lease areas before the areas are sold would be most prudent.[106]

A couple of commenters expressed concern regarding impacts to vessel navigation resulting from radar interference[107] or ocean debris created from wind turbine parts.[108] A couple of commenters questioned what safety concerns had been raised by industry experts and the USCG.[109] Finally, a commenter stated that the size of lease areas would present conflicts with rescue operations for fishing vessels and require them to circumnavigate large areas of wind farms in time sensitive situations.[110]

Another commenter referenced studies that indicate that conducting fishing activities in lease areas that use floating turbines could be unsafe because of the risk of gear snagging on moorings and cables. The commenter said that it is unaware of the USCG's "formal position" regarding this topic but stated that traffic within the lease areas could be restricted. The commenter added that BOEM does not have the authority to restrict vessel traffic "in and around OSW facilities" and that restrictions would be implemented by the USCG.[111]

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104 Northeast Seafood Coalition (BOEM-2024-0026-0235).
105 American Waterways Operators (BOEM-2024-0026-0055).
106 American Waterways Operators (BOEM-2024-0026-0055); United States Coast Guard (BOEM-2024-0026-0127).
107 R. Regan (BOEM-2024-0026-0070).
108 Reel Deal Fishing Charters (BOEM-2024-0026-0079); Reel Deal Fishing Charters (BOEM-2024-0026-0096).
109 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); G. Parker (BOEM-2024-0026-0253).
110 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
111 Passamaquoddy Tribe (BOEM-2024-0026-0263).

A commenter said that lease areas 0562 and 0563 conflict with the USCG proposed fairways and no temporary or permanent construction can be installed in those areas if the fairways are finalized. They said that a 2 nm buffer must be included between the lease areas and the proposed fairways. The commenter added that a 5 nm buffer zone around the entry/exit termination of a traffic separation scheme (TSS) is the minimum distance necessary for large vessels to maneuver during an emergency.[112] A commenter said that vessel traffic associated with site assessment and characterization activities should use existing traffic separation schemes or proposed fairways to minimize the risk of ship strikes and additional underwater noise near the Stellwagen Bank National Marine Sanctuary.[113]

6.2 Lease Language or Stipulation Recommendations

A commenter recommended that BOEM clarify the definition of common orientation and layout in "Surface Structure Layout and Orientation" in Addendum "C," and suggested the setback be modified from 1 nm to 1.25 nm if the same orientation among neighboring lease areas is not adopted to keep spacing consistent with other BOEM-designated corridors between leases.[114]

A commenter stated that it is within the USCG's jurisdiction to designate fairways, separate from BOEM's process of identifying WEAs, and added that careful coordination with the USCG is critical to maintain fairways and TSSs. The commenter recommended that BOEM align leasing decisions with the language of Article 60.7 of the United Nations Convention on the Law of the Sea, which the commenter said is a widely accepted international agreement that outlines mutual avoidance of navigational conflicts.[115]

A few commenters suggested that a 2-nm buffer should be included between the boundary of a fairway and the nearest fixed or permanent structure.[116] A commenter further stated that a 5-nm buffer from an entry and exit of a TSS would accommodate large containerships and other vessel movement.[117]

A commenter recommended that BOEM require safety training programs and advanced navigational technologies for fishing vessels operating near wind development areas.[118]

Another commenter recommended specific lease stipulations that could help reduce navigational conflicts for fishing vessels, including that BOEM clarify that watch circles required in the siting and design conditions cover subsurface and surface structures, and include universal spacing and orientation in lease language.[119] A few commenters expressed support for prohibiting surface and subsurface structures[120] from sections of lease areas that are adjacent to corridors to facilitate vessel transit.[121] Another commenter recommended prohibiting surface and subsurface structures in the Gulf of Maine.[122]

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112 World Shipping Council (BOEM-2024-0026-0230).
113 National Marine Fisheries Service (BOEM-2024-0026-0151).
114 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
115 United States Coast Guard (BOEM-2024-0026-0127).
116 Northeast Seafood Coalition (BOEM-2024-0026-0235); World Shipping Council (BOEM-2024-0026-0230); Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239).
117 World Shipping Council (BOEM-2024-0026-0230).
118 Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239).
119 National Marine Fisheries Service (BOEM-2024-0026-0151).
120 New England Fishery Management Council (BOEM-2024-0026-0223); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); Northeast Seafood Coalition (BOEM-2024-0026-0235).
121 New England Fishery Management Council (BOEM-2024-0026-0223); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
122 Maine Lobstermen's Association (BOEM-2024-0026-0241).

A commenter requested that BOEM provide further clarification on the potential future restrictions to lease areas and mitigation measures required to ensure navigational safety and how adjacent leases should coordinate on the 1 nm setback from the boundary of the other lease.[123]

Another commenter recommended that BOEM should rely on the results of the USCG Port Access Route study to inform what areas should be removed from leasing and should consult with fishery industry members to design structure layouts, orientation, and areas of no occupancy as a condition of the lease at the time of auction, instead of after a power purchase agreement is in place.[124]

6.3 Gulf of Maine Fairway

Many commenters expressed concerns with portions of lease area OCS-A 0562 and OCS-A0563 that overlap with the Gulf of Maine Fairway[125] and requested that these overlapping areas be removed from the sale.[126] A commenter stated that development on these areas would cause bottlenecks from reduced space in the Gulf of Maine Fairway and around the Portland Eastern Approach Fairway.[127] A couple of commenters, referencing the USCG's 2023 Port Access Route Study: Approaches to Maine, New Hampshire, and Massachusetts, suggested that if these overlapping areas were not removed from lease sales, then BOEM should include terms that would prohibit any infrastructure related to wind energy in the fairways, in accordance with Title 33 CFR Part 166.[128]

BOEM Response:

BOEM acknowledges the concern regarding the proposed fairways in USCG's Approaches to Maine, New Hampshire, and Massachusetts Port Access Route Study (MNMPARS); and the Gulf of Maine proposed leases. BOEM will continue to coordinate with the USCG during their rulemaking process to designate possible safety fairways. Regarding the impact of wind turbines on safety of navigation and Search and Rescue Operations, BOEM understands the concerns that wind turbines present. BOEM will consider navigation related requirements in the NSRA submitted with the COP. The USCG concluded in the MNMPARS that mariners consider the mitigation methods described within the 2022 National Academies Report – Wind Turbine Generator Impacts to Marine Vessel Radar, such as implementing supplemental watch-standers, greater utilization of non-radar navigation tools, and leveraging additional onboard technologies such as AIS or adopting solid-state Mechanical Vapor Recompression (MVR) equipment that are better capable of filtering out unwanted radar returns. The USCG also recommended that updating training, to enhance radar operator proficiency in distinguishing targets and reducing display clutter, could be beneficial. Additionally, the USCG recently published NVIC 03-23 Guidance on Navigational Safety in and around Offshore Renewable Energy Installations (OREI) to assist mariners navigating within or in the vicinity of an OREI. USCG recommends that mariners consider the information, provided in the NVIC, together with guidance on voyage planning and safe navigation found in other references (such as Convention on the International Regulations for Preventing Collisions at Sea). All structures will be required to be appropriately lit and charted, in accordance with established federal law, under the oversight of the USCG.

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123 American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).
124 RODA (BOEM-2024-0026-0252).
125 American Waterways Operators (BOEM-2024-0026-0055); United States Coast Guard (BOEM-2024-0026-0127); National Marine Fisheries Service (BOEM-2024-0026-0151); New England Fishery Management Council (BOEM-2024-0026-0223); World Shipping Council (BOEM-2024-0026-0230); Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); Massachusetts Seafood Collaborative (BOEM-2024-0026-0240).
126 American Waterways Operators (BOEM-2024-0026-0055); United States Coast Guard (BOEM-2024-0026-0127); New England Fishery Management Council (BOEM-2024-0026-0223).
127 American Waterways Operators (BOEM-2024-0026-0055).
128 United States Coast Guard (BOEM-2024-0026-0127); World Shipping Council (BOEM-2024-0026-0230).

We appreciate comments related to the potential conflict between the USCG proposed traffic measures and proposed lease areas. In the case of lease areas OCS-A 0562 and OCS-A 0563, BOEM has identified a series of conflicts that led to the removal of the overlap between the proposed fairway and the lease areas. See Section IV of the FSN ("Areas Offered for Leasing") for further details.

In the lease documents, BOEM has refined the definition of No Surface or Subsurface Occupancy to clarify that the intent of these areas is to facilitate traditional vessel transit routes. In addition, BOEM has adjusted the setback distance from 1 nm to 1.25 nm in the "Surface Structure Layout and Orientation" stipulation in Addendum "C". Should this setback be implemented, the total distance between the neighboring lease areas would be 2.5 nm, consistent with BOEM-designated corridors between other leases offered in this sale. See the FSN Section V "New and Modified Lease Stipulations" for additional discussion of this change.

Issue 7. Environmental and geophysical reviews, NEPA, and evaluations under the Endangered Species Act and the Coastal Zone Management Act.

Approximately 20 commenters discussed environmental and geophysical reviews, the NEPA, and evaluations under the Endangered Species Act and the Coastal Zone Management Act.

A commenter reasoned that as a "seasonally stratified water body," the PSN must include environmental reviews that consider the wake effects of offshore turbines.[129] Another commenter stated that there are data gaps within the PSN, along with concerns over air permitting obligations under federal law.[130] According to a commenter, a programmatic approach to minimization, mitigation, and monitoring, complemented by more public comments, would be effective in ensuring that environmental considerations are accounted for.[131] A commenter discussed concerns that the PSN's environmental review process was inadequate, reasoning that the determination that site characterization activities do not pose significant harm was made while studies of industrial facilities will not be made for another 3 years.[132] Similarly, another commenter argued that future lease offerings should be contingent on the commission of environmental assessments (EAs) on construction activities.[133]

Another commenter argued that comprehensive review of all stages of lease development is required to ensure environmental protection. The commenter argued that regional planning, similar to oil and gas leases, ought to be adopted as part of EAs. Additionally, the commenter argued that leases should not be issued prior to the completion of a programmatic environmental impact statement, which should be regional in scope. Moreover, the commenter argued that an environmental impact statement, as opposed to an EA, is required for the proposed lease areas, reasoning that BOEM made an erroneous determination regarding the significance of the impact.[134]

A commenter argued that per its obligations under NEPA and the OCSLA, BOEM should engage stakeholders and draw upon relevant science when conducting environmental reviews of the constituent areas of the PSN.[135] Another commenter suggested that BOEM deploy metocean buoys and make model predictions based on the results during the site assessment and characterization phase. The commenter

129 Town of Wellfleet (BOEM-2024-0026-0163).
130 Environmental Protection Agency (BOEM-2024-0026-0231).
131 The Nature Conservancy (BOEM-2024-0026-0234).
132 Maine Lobstermen's Association (BOEM-2024-0026-0241).
133 R. Curley (BOEM-2024-0026-0251).
134 RODA (BOEM-2024-0026-0252).
135 BlueGreen Alliance (BOEM-2024-0026-0244).

reasoned that forecasts drawn from these observations are reliable, particularly given that the National Weather Service and the USCG use them.[136]

Another commenter argued that the EA conducted by BOEM was inadequate, reasoning that offshore areas east of Cape Cod are important BOEM-designated corridors through which right whales and avian species travel. Additionally, the commenter stated that these areas are host to a few important protected areas.[137] Another commenter generally advocated for more stringent environmental protections as conditions of lease issuances.[138]

A commenter discussed a joint effort between Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) and Mid-Atlantic Regional Association of Coastal Ocean Observing Systems (MARACOOS) to streamline the integration and distribution of metocean data and stated that data delivery through this effort would help achieve Wind Turbine Radar Interference Mitigation (WTRIM) requirements. The commenter recommended that BOEM should ensure that each developer's Agency Communication Plan (ACP) includes details for communicating with the National Oceanic and Atmospheric Administration (NOAA) Integrated Ocean Observing System (IOOS) Surface Currents Manager about WTRIM.[139]

BOEM Response:

BOEM evaluates impacts from a potential project once it receives adequate detail regarding the project specifics from a COP. BOEM will use the best available scientific information to inform its decisions. BOEM has included in the lease conditions that require lessees to develop survey plans and ensure those plans are consistent with the Fisheries and Agency Communication Plans to help ensure the lessees are engaging important agencies and ocean users in the development of these plan. Additionally, BOEM's decisions will be informed through recent work with the National Academies of Science and Medicine[140,141] that are laying the groundwork for effective modelling and monitoring that can be done by lessees and state and federal partners. BOEM has added a stipulation requiring the avoidance of sensitive biological resources and habitats from bottom-disturbing activities and a requirement to collect additional PAM data for detecting vocalizing large whales to inform any future COP submitted under the lease. BOEM included the novel baseline monitoring PAM requirement in recognition that this is the first time BOEM is holding a commercial wind energy lease sale in NARW critical habitat.

Discussion on the timing and content of EA vs PEIS vs EIS

BOEM is best equipped to undertake an Environmental Impact Statement (EIS) analysis when we have adequate information to inform how leases in the area are likely to be developed based on a final lease area size, location, and site-specific conditions. BOEM decided to prepare an EA analyzing the Proposed Action of offering for lease all or a portion of the WEA in the Gulf of Maine for commercial wind energy development and to grant rights-of-way (ROWs) and right-of-use and easements (RUEs) in support of wind energy development. BOEM takes this approach based on several factors including:

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136 Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) (BOEM-2024-0026-0247).
137 G. Parker (BOEM-2024-0026-0253).
138 National Wildlife Federation et al. (BOEM-2024-0026-0256).
139 Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) (BOEM-2024-0026-0247).
140 National Academies of Sciences, Engineering, and Medicine. 2024. Potential Hydrodynamic Impacts of Offshore Wind Energy on Nantucket Shoals Regional Ecology: An Evaluation from Wind to Whales. Washington, DC: The National Academies Press. https://doi.org/10.17226/27154.
141 See "Field Monitoring Program to Evaluate Hydrodynamic Impacts of Offshore Wind Energy on Nantucket Shoals Regional Ecology: A Workshop (https://www.nationalacademies.org/event/43217_07-2024_field-monitoring-program-to-evaluate-hydrodynamic-impacts-of-offshore-wind-energy-on-nantucket-shoals-regional-ecology-a-workshop).

- *The issuance of a wind energy lease does not constitute an irreversible and irretrievable commitment of agency resources to the construction and operation of a wind energy facility.*
- *The issuance of a lease grants the lessee only the exclusive right to submit to BOEM for approval one or more plans proposing development of the leasehold; the lease does not by itself convey rights to proceed with development of a wind energy facility.*
- *After lease issuance, a lessee would conduct surveys and, if authorized to do so, install meteorological measurement devices (e.g., met buoys) to characterize the site's environmental and socioeconomic resources and conditions and to assess the wind resources in the proposed lease area. A lessee would collect this information to determine whether the site is suitable for commercial development and, if it is found to be suitable, submit a COP with its project-specific design parameters for BOEM's review.*
- *At this point, BOEM is not able to consider the potential impacts resulting from the development of a commercial wind power facility within the WEA. A number of design parameters would need to be identified in a project proposal including turbine size, foundation type, project layout, installation methods, and associated onshore facilities. However, the development of these parameters would be determined by information collected by the lessee during site characterization and site assessment activities and by potential advances in technology during the extensive time period between lease issuance and COP review. Each design parameter, or combination of parameters, would have varying potential environmental effects. Therefore, additional analyses under NEPA would be required before any future decision is made regarding construction of wind energy facilities on the OCS.*

The preparation of a Programmatic Environmental Impact Statement (PEIS) depends on the type of action at issue. Due to the number and proximity of the individual leases and the relative uniformity of seafloor bottom type, benthic habitat, and species distribution, the NY Bight is an ideal location to analyze the environmental effects of development of multiple lease areas within a regional context such as with a PEIS. Another factor we considered was how quickly COPs were anticipated to be submitted. If lessees would take 5-6 years to submit COPs, then a PEIS could be outdated due to how rapidly offshore wind technology advances. BOEM plans on learning from its experience with the NY Bight programmatic analysis, and are also evaluating other forms of regional environmental analyses outside of the NEPA process.

BOEM requires lessees coordinate with NOAA IOOS in determining radar impacts and mitigations in accordance with the guidance in BOEM's "Information Needed for Issuance of a Notice of Intent (NOI) Under the National Environmental Policy Act (NEPA) for a Construction and Operations Plan (COP)." Lessees are required to consult with owners, users, and operators of land-based radar systems during the site assessment phase of projects. BOEM has previously implemented Terms and Conditions of COP approval, which require Lessee's provide metocean data as mitigation for IOOS radar system impacts (see https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/BOEM%20NOI%20Checklist.pdf).

BOEM is involved with several studies addressing the impact of offshore wind development on meteorological and oceanographic processes, including stratification and wake effects (See NASEM

(2024)[142] and Johnson, et. al (2021)[143]). In addition, BOEM is overseeing a study that addresses offshore wind impacts on the oceanographic process from North Carolina to New York. We anticipate the completion of this study this year, which tackles the hydrodynamic impacts on seasonally stratified water bodies and the wakes' effects on habitats. These studies will be used by BOEM, in combination with studies from other researchers, to review the COP and assess potential impacts in the EIS at the COP stage.

Issue 8. Baseline Monitoring.

Approximately 20 commenters discussed baseline monitoring.

8.1 Marine Life

Several commenters stated that there should be baseline monitoring measures implemented to protect marine life, especially marine mammals such as whales, remarking that:

- Continuous archival PAM and acoustic telemetry monitoring should be conducted in the proposed lease areas to collect baseline information on the presence, distribution, or seasonality of NARW and other marine mammals;[144]
- BOEM, in coordination with lessees, should collect sufficient data from broadband soundscape recordings through all seasons to analyze noise levels prior to project development to assess the extent to which development would increase underwater noise and subsequent risks to marine life;[145]
- BOEM should require baseline data collection for protected species or habitats such as endangered and threatened birds, marine mammals, NARW, highly migratory species, sturgeon, sea turtles, benthic habitats, or national marine sanctuaries (e.g., Stellwagen Bank National Marine Sanctuary);[146]
- To decrease the risk of secondary entanglement, BOEM should require subsea camera monitoring beneath floating wind turbine foundations and routine video monitoring along the mooring lines as a lease stipulation or as a condition of COP approval;[147]
- BOEM should require robust data collection take place for NARW presence in the lease areas (especially in OCS-A 0562 and OCS-A 0563) or presence of other protected species and implement appropriate avoidance measure prior to development of a COP;[148]

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142 National Academies of Sciences, Engineering, and Medicine. 2024. Potential Hydrodynamic Impacts of Offshore Wind Energy on Nantucket Shoals Regional Ecology: An Evaluation from Wind to Whales. Washington, DC: The National Academies Press. https://doi.org/10.17226/27154.

143 Johnson TL, van Berkel JJ, Mortensen LO, Bell MA, Tiong I, Hernandez B, Snyder DB, Thomsen F, Svenstrup Petersen O. 2021. Hydrodynamic modeling, particle tracking and agent-based modeling of larvae in the U.S. mid-Atlantic bight. Lakewood (CO): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2021-049. 232 p. https://espis.boem.gov/final%20reports/BOEM_2021-049.pdf

144 National Marine Fisheries Service (BOEM-2024-0026-0151); Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233); The Nature Conservancy (BOEM-2024-0026-0234).

145 National Wildlife Federation et al. (BOEM-2024-0026-0256).

146 National Marine Fisheries Service (BOEM-2024-0026-0151); Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); Northeast Seafood Coalition (BOEM-2024-0026-0235); National Wildlife Federation et al. (BOEM-2024-0026-0256); New England Fishery Management Council (BOEM-2024-0026-0223); Passamaquoddy Tribe (BOEM-2024-0026-0263).

147 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).

148 Maine Governor's Energy Office (BOEM-2024-0026-0236); Conservation Law Foundation (BOEM-2024-0026-0242); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); Northeast Seafood Coalition (BOEM-2024-0026-0235).

- Environmental DNA (eDNA) monitoring should be used to detect presence of species in the marine environment as it is a non-invasive sampling technique that can be used at fine temporal and spatial scales;[149]
- eDNA collection and assessment (using eDNA metabarcoding) should be established as best practice as part of BOEM guidance to lessees on biological surveys and site assessment;[150] and
- Electromagnetic fields and their impacts on marine life should be monitored.[151]

A commenter said that, given the high concentration of NARW in lease areas OCS-A 562 and OCS-A 563, neither lease area should be awarded until both the data presented in the NCCOS report and the acoustic data have been fully analyzed and BOEM has concluded that development would pose no negative impact to whales. The commenter stated that if development proceeds, Section IV of the PSN should be implemented, where BOEM includes the lease stipulation requiring baseline data collection before proceeding with construction.[152]

Several commenters remarked that baseline monitoring data collected, especially data on marine life, should be shared with the public.[153] A commenter said that this shared data should be subject to peer review.[154] Another commenter said that BOEM should update EAs in the Gulf of Maine on a periodic basis (at a minimum of every five years) to account for new and emerging technologies that may have new or different environmental impacts that would be important to understand.[155]

A commenter suggested that BOEM not implement a new lease stipulation to collect baseline data for endangered and threatened marine mammals. The commenter said that developers are already required to collect baseline data regarding endangered and threatened marine mammals during the permitting and consultation processes.[156]

A commenter urged BOEM to adopt additional lease stipulations to avoid, minimize, and mitigate impacts to marine habitats and wildlife, specifically: "(1) rigorous monitoring and mitigation to reduce entanglement risks from floating offshore wind infrastructure; (2) a suite of right whale mitigation measures, including a 10-knot vessel speed restriction that applies to all project vessels at all times; (3) developer funding of baseline monitoring efforts in the Gulf of Maine; and (4) measures to avoid and minimize impacts to sensitive benthic habitats in the Gulf of Maine, including complex and coral habitats."[157] Another commenter stated that BOEM should add lease stipulations to require adequate vessel strike measures, adequate noise mitigation measures, and measures appropriate for deep water characteristics.[158]

149 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
150 Passamaquoddy Tribe (BOEM-2024-0026-0263).
151 Northeast Seafood Coalition (BOEM-2024-0026-0235); Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239); Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
152 Passamaquoddy Tribe (BOEM-2024-0026-0263).
153 The Nature Conservancy (BOEM-2024-0026-0234); Northeast Seafood Coalition (BOEM-2024-0026-0235); Maine Governor's Energy Office (BOEM-2024-0026-0236); National Wildlife Federation et al. (BOEM-2024-0026-0256).
154 Northeast Seafood Coalition (BOEM-2024-0026-0235).
155 New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
156 Avangrid Renewables (BOEM-2024-0026-0147).
157 Conservation Law Foundation (BOEM-2024-0026-0242).
158 National Wildlife Federation et al. (BOEM-2024-0026-0256).

8.2 Baseline Monitoring Coordination

A few commenters said that BOEM should coordinate with NOAA on its baseline monitoring (e.g., marine species data collection) efforts.[159] A commenter stated that this baseline monitoring should not be conducted by lessees as they have a financial interest in the outcome.[160] A couple of commenters urged BOEM and developers to push NOAA to allow industry-based surveys, in which commercial fishermen and federally recognized Tribes with knowledge of the lease areas would be compensated for partnering with NOAA's Collaborative Research Center and developers for designing and conducting stock surveys within lease areas.[161]

A commenter said that instead of developers conducting baseline monitoring, federal and state agencies (or third parties under contract with government agencies) should conduct this monitoring, reasoning that they have the expertise and experience to establish robust baseline monitoring activities that not only collect data in lease areas, but non-leased areas of the Gulf of Maine as well.[162]

A commenter remarked that BOEM should work with other federal agencies, state partners, and environmental non-governmental organizations to fund the data collection necessary to provide baseline data within the lease areas.[163] A couple of commenters recommended that BOEM work with the Responsible Offshore Science Alliance as their priorities include research, monitoring, data handling, and sharing plans.[164]

A commenter encouraged BOEM to stipulate that baseline characterization efforts follow the advice of the National Marine Fisheries Service (NMFS) with respect to appropriate scope, methods, data management, and sharing requirements.[165] Another commenter stated that BOEM should require or incentivize, through lease stipulations, that developers participate in regionally coordinated baseline data collection and long-term monitoring programs instead of doing so leaseholder by leaseholder.[166]

A commenter cited Dorrell et al., 2022 to state that "impacts of the new generation of developments in deeper seasonally stratified regimes will likely require a more fundamental assessment." The commenter further added that baseline surveys should be inclusive of the natural cycle of water column stratification, biogeochemical fluxes, and primary production and stated that accurate forecasting of the interplay between flow, infrastructure, and stratification would warrant "site array and design specific observations and model scenarios."[167]

BOEM Response:

Gulf of Maine habitats are relatively well understood through years of research partnerships (the-gulf-of-maine-in-context.pdf (gulfofmaine.org)), however, there is always the opportunity to collect additional information to inform decision-making. BOEM will use the best available scientific information to inform its decisions. BOEM has included in the lease a condition that requires lessees to develop survey plans and ensure those plans are consistent with the Fisheries and Agency Communication Plans to help ensure

159 Northeast Seafood Coalition (BOEM-2024-0026-0235); Maine Governor's Energy Office (BOEM-2024-0026-0236); Maine Lobstermen's Association (BOEM-2024-0026-0241).
160 Maine Lobstermen's Association (BOEM-2024-0026-0241).
161 Maine Labor Climate Council (BOEM-2024-0026-0228); Passamaquoddy Tribe (BOEM-2024-0026-0263).
162 Conservation Law Foundation (BOEM-2024-0026-0242).
163 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
164 New England Fishery Management Council (BOEM-2024-0026-0223); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).
165 Environmental Protection Agency (BOEM-2024-0026-0231).
166 Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) (BOEM-2024-0026-0247).
167 R. Curley (BOEM-2024-0026-0251).

the lessees are engaging important agencies and ocean users. Secondly, BOEM has added a stipulation requiring the avoidance of sensitive biological resources and habitats from bottom-disturbing activities and a requirement to collect additional PAM data for detecting vocalizing large whales to inform any future COP submitted under the lease. The novel baseline monitoring PAM requirement is only for activities in NARW designated critical habitat. This is the first time BOEM has proposed leasing in critical habitat.

In response to comments regarding meteorological and oceanographic data, BOEM and other government agencies review data collected from buoys, gliders, and other instruments deployed to characterize baseline metocean conditions. BOEM will continue to meet with stakeholders such as NOAA, and academic universities researching climate change and atmospheric and oceanographic processes.

Issue 9. Public involvement (includes comments related to 60-day comment period and public auction seminar).

Approximately 50 commenters discussed public involvement.

9.1 General Comments About Public Involvement

Several commenters expressed concern about the lack of public awareness of BOEM's plans. A couple of commenters stated that the local news media should have been alerted about the public meetings to allow more people to know about them and attend.[168] Many commenters said that there has not been enough of an effort to notify the public and engage them in this process, particularly on Cape Cod and in local fishing communities, and urged BOEM to increase their engagement with these communities.[169] A couple commenters urged BOEM to engage with the fishing community by establishing local fisheries advisory boards.[170] A commenter said that BOEM could have had access to better data and avoided the need to re-run analyses if they had consulted with representatives of the New England commercial fishing industry from the start.[171] Another commenter said that residents of outer Cape Cod towns were surprised to learn at the BOEM Gulf of Maine Wind Farm Task Force meeting in Plymouth, MA, that one of the wind energy zones would pass through the Stellwagen Bank National Marine Sanctuary and land in Provincetown or Boston for transmission to the regional electric grid.[172] Another commenter remarked that there is a lot of information that is lacking from the documents posted online for the public to review and understand the implications, and said that if the PSN had been better publicized there would have been more comments and feedback on the proposal.[173] A commenter asked what role, involvement, comments, or concerns the Cape Cod National Seashore or the Advisory Commission have provided in developing the PSN.[174]

A commenter stated that residents of Cape Cod were the last to be engaged by BOEM and added that the Massachusetts General Court's fast-tracked legislation to remove local control of the location of onshore

168 L. Hunt (BOEM-2024-0026-0030); J. Green (BOEM-2024-0026-0146).
169 J. Green (BOEM-2024-0026-0146); K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154); Town of Wellfleet (BOEM-2024-0026-0163); C. Savoy (BOEM-2024-0026-0160); J. Green (BOEM-2024-0026-0162); T. Fagin (BOEM-2024-0026-0170); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); Massachusetts Seafood Collaborative (BOEM-2024-0026-0240); J. Lisy (BOEM-2024-0026-0248).
170 Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238); Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239).
171 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
172 D. Dow (BOEM-2024-0026-0046).
173 J. Green (BOEM-2024-0026-0125).
174 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124).

facilities "smacks heavily" of a lack of transparency.[175] A different commenter said that representatives at the Gulf of Maine Intergovernmental Renewable Energy Task Force meeting held in Plymouth, MA, on May 31, 2024 provided new information about BOEM's plans for laying transmission lines connected to the proposed offshore wind turbines. The commenter added that this information was not disclosed at either the May 28 or May 29 public comment sessions and asked why the information about the transmission lines was not shared at the earlier public comment sessions and whether BOEM intended to hold additional public comment sessions so that the public could comment on the new information.[176]

Several commenters remarked that the elected officials in Barnstable County, and specifically the Barnstable County Assembly of Delegates, have been unaware of the BOEM Task Force meetings and unable to participate, provide advice, and inform the public, in contradiction of BOEM's protocol that should have required their engagement going back to 2019.[177]

A commenter said that BOEM has been open and transparent in their public process and remarked that this has resulted in changes through the development of most aspects of offshore wind.[178]

9.2 Public Meetings

A few commenters asked that BOEM conduct additional public meetings. A couple of commenters said that BOEM should hold public meetings on Cape Cod before the comment period closes without specifying a location.[179]

A commenter said that the North Atlantic Regional Ocean Council meeting they attended did not include a question-and-answer session after the presentation, limiting the commenter's ability to understand the big picture and details of the project. The commenter said they hoped the May 31 Gulf of Maine Offshore Wind Task Force meeting would allow questions and answers.[180] In a separate comment letter, the same commenter wrote that BOEM had no response to the concerns of online participants at either of the meetings they attended.[181]

A commenter described the public meeting held in Portsmouth, NH, as "a waste of time," commenting that many people were hearing about the project for the first time and did not know what was being proposed or what to ask at the poster stations. The commenter said that BOEM should have done a better job explaining the project and selling the message to the attendees.[182]

9.3 Tribal Outreach

A commenter said that indigenous communities located in or adjacent to Cape Cod National Seashore were not adequately aware or engaged in the process up to this point.[183] Another commenter remarked that BOEM ought to consult with local Native American Tribes, particularly Maine's Wabanaki nations: the Maliseet, Mi'kmaq, Passamaquoddy, and Penobscot nations.[184]

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175 J. Wolf (BOEM-2024-0026-0157).
176 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
177 T. Duquette (BOEM-2024-0026-0114); Cape Cod Regional Government Assembly of Delegates (BOEM-2024-0026-0145); L. Green (BOEM-2024-0026-0246); J. Lisy (BOEM-2024-0026-0248).
178 E. Anderson (BOEM-2024-0026-0258).
179 D. Dow (BOEM-2024-0026-0046); G. Parker (BOEM-2024-0026-0253).
180 D. Dow (BOEM-2024-0026-0024).
181 D. Dow (BOEM-2024-0026-0046).
182 No One (BOEM-2024-0026-0034).
183 National Parks Conservation Association (BOEM-2024-0026-0158).
184 Maine Labor Climate Council (BOEM-2024-0026-0228).

A commenter urged BOEM to fill the Tribal liaison position for the Atlantic Region.[185] Other commenters urged BOEM to require lessees to have Tribal liaisons going forward.[186] One of the commenters added that BOEM should fulfill the Department of the Interior's trust responsibility to federally recognized Tribes by providing long-term funding mechanisms to enable full Tribal participation in the post-auction offshore wind development process.[187]

A commenter expressed concern about its ability to help individual lessees meet Tribal engagement requirements. The commenter said that adopting a model that bolsters internal capacity would be preferable and provided several recommendations, including:

- Require each lessee to employ Tribal and fisheries liaisons;
- Require lessees to include a Tribal fisheries representative for correspondence associated with a draft Fisheries Communication Plan (FCP);
- Require lessees to coordinate with Tribal fisheries;
- Extend the 15-day notice for Tribal pre-survey meetings to a minimum of 30 days;
- Require lessees to ensure these meetings are accessible to Tribal representatives;
- Provide short- and long-term funding mechanisms to enable full Tribal participation in communications required of individual lessees and as part of the multi-year, post-auction offshore wind process; and
- Ensure that the FSN accounts for the provision of financial and technical support to Tribes.[188]

9.4 Comment Period Extension Requests

Several commenters requested an extension to the comment period.[189] Commenters requested that the comment period be extended to July 22, 2024, to coincide with the close of the comment period for the draft EA,[190] for 2 weeks,[191] until September 1,[192] for 90 days,[193] or for 180 days.[194] Some commenters asked that the extension of the comment period also include an outreach plan for Cape Cod residents.[195]

9.5 Other Comments

A commenter expressed concern that submitting public comments is useless because no one in the government reads them or allows them to impact their decisions.[196]

BOEM Response:

185 Environmental Protection Agency (BOEM-2024-0026-0231).
186 New England for Offshore Wind (BOEM-2024-0026-0250); Maine Labor Climate Council (BOEM-2024-0026-0228).
187 Maine Labor Climate Council (BOEM-2024-0026-0228).
188 Passamaquoddy Tribe (BOEM-2024-0026-0263).
189 L. Hunt (BOEM-2024-0026-0030); A. Hunt (BOEM-2024-0026-0038); D. Hunt (BOEM-2024-0026-0039); J. Green (BOEM-2024-0026-0125); G. Parham (BOEM-2024-0026-0152); J. Green (BOEM-2024-0026-0146); R. March (BOEM-2024-0026-0154); J. Wolf (BOEM-2024-0026-0157); C. Savoy (BOEM-2024-0026-0160).
190 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Orleans, Ma (BOEM-2024-0026-0139); Town of Wellfleet (BOEM-2024-0026-0163).
191 New Hampshire Commercial Fishermen's Association (BOEM-2024-0026-0159).
192 Cape Cod Regional Government Assembly of Delegates (BOEM-2024-0026-0145); National Parks Conservation Association (BOEM-2024-0026-0158); G. Parker (BOEM-2024-0026-0253).
193 Town of Truro (BOEM-2024-0026-0224).
194 T. Duquette (BOEM-2024-0026-0114); J. Lisy (BOEM-2024-0026-0248).
195 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124).
196 Reel Deal Fishing Charters (BOEM-2024-0026-0079).

BOEM recognizes the need for and importance of early, consistent, transparent, and meaningful engagement between lessees and Tribes, ocean users, underserved communities, and other stakeholders ("Tribes and parties") potentially affected by lessees' project activities on the OCS. BOEM public meetings provide a service and opportunity for our stakeholders to interact and engage with the process; ensuring these meetings are planned and executed effectively is essential to providing an experience that encourages trust in government. While BOEM participated in over 100 meetings related to the Gulf of Maine leases with various stakeholder groups, we are committed to continually improving our engagement efforts throughout the process and are actively pursuing additional engagement opportunities, particularly in the outer portions of Cape Cod.

BOEM takes our Tribal trust responsibilities seriously and is committed to ensuring that Tribes in the Gulf of Maine region are properly engaged and consulted. These Tribes have deep cultural and historical connections to their lands and waters, and knowledge and practices are integral to understanding the environmental and cultural impacts of offshore wind projects. Engaging and consulting with Tribes helps ensure that these perspectives are respected and incorporated. In partnership with the Tribes, BOEM is actively pursuing Tribal capacity building avenues to provide resources to Tribes to be able to adequately participate in the development process.

In response to comments received from a Tribe, BOEM has edited the stipulations of Addendum "C" of the leases to clarify how contributions as a result of the workforce training and/or domestic supply chain bidding credit can apply to Tribes. We have also included Tribal subsistence fishing to be part of the requirements of the FCP and clarified how Tribal subsistence fishing may qualify for funds made available by the Fisheries Compensatory Mitigation Fund bidding credit. Additionally, BOEM has revised the requirement for notification of a pre-survey meeting from 15 days to 30 days as requested.

Lastly, BOEM acknowledges that there were multiple requests for additional time to review and comment on the PSN materials through a comment period extension. While BOEM did not extend the PSN comment period, it is important to note that we are early in the planning process for offshore wind and there will be many formal and informal opportunities to provide input into the process in the years to come. These engagement opportunities, which we are committed to promoting through various avenues, will ensure that stakeholders are properly informed and involved in the process.

Issue 10. Lease terms and conditions – Addendum A through Addendum D (not including comments related to financial terms and conditions).

Approximately 10 commenters discussed lease terms and conditions, including Addendum A through Addendum D.

A couple of commenters requested BOEM clarify requirements concerning decommissioning, asking if there would be a decommissioning fund and, if so, how such a fund would be managed.[197] Another commenter recommended that BOEM include lease terms related to disposal of industrial waste and liabilities for accidents or damage.[198]

A commenter stated that lessees should be required to disclose the percentage of their employees who are local residents as opposed to outside contractors.[199] Another commenter expressed concern with the

[197] Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).
[198] A. Gabriele (BOEM-2024-0026-0227).
[199] J. Taylor (BOEM-2024-0026-0036).

request for comment on the PSN, stating that the questions related to leasing conditions are premature given the current lack of information on sites to be developed and technology to be used.[200]

A commenter recommended stipulations be developed to protect economically and ecologically important resources, in addition to specific stipulations related to benthic habitat and fisheries. The commenter also recommended that actions identified in the NOAA Fisheries and BOEM Survey Mitigation Strategy (Hare et al. 2022) be implemented as lease conditions, including the implementation of survey mitigation plans. The commenter added that the survey plan should include geotechnical and geophysical surveys along cable routes, and cable siting and construction should be coordinated to minimize impacts.[201]

Another commenter urged BOEM to adjust contract language to clarify agency responsibilities to provide proof for suspensions and provide compensation, clarify "good cause" provisions for lease term extensions, and set timelines for agency action on construction plan submissions in order to foster a competitive industry market.[202] Another commenter suggested that BOEM align lease language with the BOEM/Bureau of Safety and Environmental Enforcement (BSEE) Final Modernization Rule and take other steps to increase transparency and certainty for stakeholders.[203]

BOEM Response:

BOEM appreciates the comments regarding lease stipulations. Several of the suggestions above have merit but are not appropriate for this stage of the leasing process for the Gulf of Maine. If BOEM receives a COP for areas offered as part of this sale, an extensive review of the proposal would be conducted, and specific terms and conditions of a potential COP approval may be issued. It is at that point that project-specific items related to several of the comments (i.e., decommissioning, NOAA survey mitigation, and process improvements) will be assessed. Specifically, BOEM may include a condition of COP approval requiring the lessee develop a federal fisheries survey mitigation plan as a result of the coordination efforts between BOEM and NMFS (Hare et al. 2022).

Additionally, BOEM believes the lease language is consistent with the BOEM/BSEE Final Modernization Rule. BOEM has not elected to make suggested changes from previous lease language regarding suspensions and timing provisions at this stage, but may be open to considering future amendments on those points.

Issue 11. Auction Procedures.

Comments associated with this issue are included in the subsections below.

11.1 Number of Leases Bidders can Win and Bidder Participation

Approximately seven commenters discussed the number of leases bidders can win and bidder participation.

A few commenters stated that they had no comment on the subject of limits on the number of lease areas per bidder.[204]

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200 Maine Lobstermen's Association (BOEM-2024-0026-0241).
201 National Marine Fisheries Service (BOEM-2024-0026-0151).
202 Oceantic Network (BOEM-2024-0026-0243).
203 American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).
204 National Park Service (BOEM-2024-0026-0149); New England Fishery Management Council (BOEM-2024-0026-0223); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).

A commenter expressed support for limiting each qualified entity to bid for and ultimately be rewarded with one lease each, reasoning that this would increase competition and benefit ratepayers. If BOEM maintains the proposed limit of two lease areas per bidder, the commenter urged BOEM to eliminate the regionalization of leases and the restriction that one bidder cannot win two lease areas from any region. The commenter stated that geographic proximity is not essential in interconnection in the region and that holding adjacent lease areas may lead to productive synergies.[205]

Another commenter expressed support for BOEM's proposed limit of two lease areas per bidder and the original lease scheme with the "North" and "South" regions, agreeing that this plan would benefit the public by fostering competition in state renewable energy procurements.[206] Another commenter stated support for BOEM's proposal to limit lease areas per bidder to one lease area in the North region, as this would incentivize bidders to be as protective as possible of the ecosystem and cultural heritage in the Gulf of Maine.[207]

BOEM Response:

BOEM has elected to maintain its original proposal of two regions, comprised of the North Region (leases 0562 and 0563) and the South Region (the remainder of the leases). This will help to ensure a diversity of procurement proposals in each region. BOEM has also maintained the proposed number of leases that can be won by an individual bidder to increase competition for future procurements, as suggested by the State of Maine.

11.2 Bidder Qualifications and Affiliated Entities

A commenter recommended that BOEM refine its definition of "affiliated" by removing the language "have entered into an agreement prior to the auction regarding the shared ownership, operation, or day-to-day management of such lease," as such entities may not always be affiliated under the control test BOEM generally uses. The commenter urged BOEM to instead require disclosure of such agreements by a date specified in the FSN and exclude from the auction any participant who would be affiliated with the initial owner(s) of more than the specified number of leases offered for sale. The commenter reasoned that this approach would ensure competition while also acknowledging the need for joint ventures in a rapidly evolving industry.[208]

BOEM Response:

BOEM appreciates the recommendation to refine the definition of 'affiliated' and require disclosure of agreements by a specified date. However, BOEM is electing to retain the PSN definition as written for the FSN.

11.3 General, including bid deposit and minimum bid, appeals, etc.

Approximately two commenters provided general comments discussing the bid deposit, minimum bid, and appeals.

[205] Avangrid Renewables (BOEM-2024-0026-0147).
[206] Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
[207] New England for Offshore Wind (BOEM-2024-0026-0250).
[208] American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).

A commenter stated that $50/acre was undervalued, reasoning that the same area's food revenue potential over the same amount of time is worth far more. The commenter recommended that BOEM explain the justification for the $50/acre price point and raise the minimum bid price.[209]

BOEM Response:

Given the current state of the floating offshore wind industry, BOEM will retain the $50 per acre minimum bid. The ultimate bid price will be determined through a competitive auction and reflect the fair value of the lease areas.

Issue 12. Bidding Credits.

Comments associated with this issue are included in the subsections below.

12.1 Workforce Training and Supply Chain Bidding Credits

Approximately 10 commenters discussed this issue.

A few commenters expressed general support for the training and supply chain credits.[210] Another commenter argued that BOEM should include a stipulation under the bid credits provision that would require bidders to take steps to ensure an equitable, union-based workforce, while reinforcing OCSLA policy goals like worker safety.[211]

A commenter stated that lessees should be required to contribute "for employment in corporate operations for the general workforce," as it pertains to workforce training credit.[212] Another commenter stated that where lessees invest in workforce development, such funds should be put towards trade schools that specialize in mentoring and instructing future fishermen.[213] Another commenter expressed support for the provision of the PSN that would provide for Native American Tribal workforce development, adding that BOEM should further engage and include Tribes throughout the development of the PSN areas.[214]Another commenter requested that the workforce/supply chain credit percentage amount to a split between a new credit for research of wind energy impacts, should the non-monetary 25 percent remain. Here, the commenter said that the workforce/supply chain credit should also support training opportunities for scout vessels and commercial fishing near floating arrays.[215] A commenter argued that these bid credits should complement the ability for workers involved in the development of wind turbines to join unions.[216]

Another commenter argued that workforce bid credits should be an extension of Maine's Offshore Wind Roadmap, which would include bid credits that not only incentivize workforce development, but also bolster port infrastructure.[217] To ensure the equitable distribution of bidding credits, a commenter recommended modifying the language regarding the workforce development bidding credits in the FSN to include Tribes and Tribal members as recipients of funding and to address disproportionate impacts of

209 E. Anderson (BOEM-2024-0026-0258).
210 The Nature Conservancy (BOEM-2024-0026-0234); Conservation Law Foundation (BOEM-2024-0026-0242); Oceantic Network (BOEM-2024-0026-0243); American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245); New England Offshore Wind (BOEM-2024-0026-0250).
211 BlueGreen Alliance (BOEM-2024-0026-0244)
212 J. Taylor (BOEM-2024-0026-0037).
213 Maine Coast Fishermen's Association (BOEM-2024-0026-0076).
214 Environmental Protection Agency (BOEM-2024-0026-0231).
215 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
216 BlueGreen Alliance (BOEM-2024-0026-0244).
217 Maine Governor's Energy Office (BOEM-2024-0026-0236).

offshore wind on Tribes through funding mechanisms. The commenter added that this recommendation should not prevent the Tribe from accessing future mitigation funds.[218]

BOEM Response:

BOEM appreciates the feedback on this bidding credit. The workforce training and supply chain development bidding credit is designed to support investments that would not otherwise occur. OCSLA does not authorize BOEM to prescribe labor provisions, domestic content, manufacturing, or assembly for offshore wind" components used to construct OCS offshore wind projects. BOEM encourages union apprenticeships and labor management training partnerships but cannot require specific programs.

BOEM is not adding an environmental research bidding credit. Surveys and research for potential wind energy impacts are performed by federal and state agencies and lessees. BOEM has not added corporate workforce to the covered training under the workforce training bidding credit. The greatest need to increase the offshore wind workforce lies in skilled trades.[219] BOEM has clarified that Tribal enterprises and members are eligible for workforce training or supply chain bidding credit funds. As proposed, the supply chain bidding credit can be used to support select floating offshore wind port equipment or construction costs.

12.2 Fisheries Compensatory Mitigation Bidding Credits

Approximately 20 commenters discussed this issue.

A couple of commenters expressed concern that the Fisheries Compensatory Mitigation Fund (FCMF) credits generally lacked adequate assessment, particularly with the way in which BOEM informed the bid credit's development by public comment.[220]

A commenter expressed general support for the bid credit.[221] Another commenter expressed support for compensatory bid credits that extend beyond the definition of compensatory, in that the bid credit should be committed to investments that bolster the fishing industry as a whole, rather than stipends for fishermen losses.[222] A few other commenters qualified their support for the bid credit, with suggestions that BOEM ensure the fund covers and accounts for broader impacts to fisheries, including vessel and shoreside support service impacts, covers the cost of gear damage to vessels and associated revenue losses, covers compensation for harvesters, and that the fund be subject to revision throughout the development of lease areas, so as to ensure other impacts that are otherwise not listed are included when such losses occur. These commenters shared a common concern that compensation instruments should be holistic, and account for industry-wide impacts that may not necessarily be economic or financial.[223] Echoing support for holistic compensation and mitigation efforts, a couple of other commenters argued

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218 Passamaquoddy Tribe (BOEM-2024-0026-0263).

219 https://www.nrel.gov/wind/offshore-workforce.html

220 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).

221 American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).

222 Maine Coast Fishermen's Association (BOEM-2024-0026-0076).

223 National Marine Fisheries Service (BOEM-2024-0026-0151); New England Fishery Management Council (BOEM-2024-0026-0223); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); Maine Labor Climate Council (BOEM-2024-0026-0228); Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233); The Nature Conservancy (BOEM-2024-0026-0234); New England for Offshore Wind (BOEM-2024-0026-0250); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259).

that the fund should be a trust fund, managed by representatives and stakeholders within the fishing industry.[224]

While supportive of the 12.5 percent rate, another commenter suggested that BOEM consider orienting the bid credit so as to make it additive to a NEPA analysis, rather than make it solely compensatory. Here, the commenter echoed concerns of those who requested that a holistic approach to mitigation and compensation be used for the bid credit, in that a NEPA analysis would ensure impacts beyond financial losses would be subject to compensation and mitigation across the entire fishing industry.[225]

Another commenter stated that compensation should be available to fishermen who are able to relocate to another fishing ground, even though said relocation would make up for any losses such fishermen experience as a result of being displaced by the lease areas.[226]

Another commenter raised concerns that limiting fishery mitigation strategies to economic compensation fails to account for the ecological and navigational impacts that the fishing industry may face as the lease areas develop.[227] Another commenter argued that the 12.5 percent amount is arbitrary, based on the $50 bid-per-acre estimate, reasoning that that the fisheries compensation from the bidding of one million acres, even at double the initial asking price, is insufficient. The commenters asserted that the annual compensation, whether distributed over 30 years or a faster 5-year schedule, falls significantly short of the trawling fleet's annual revenue.[228]

Another commenter argued that BOEM must adhere to a stepwise approach to compensatory and mitigatory efforts for fisheries, as required by NEPA, adding that bid credits should be additional to compensation assessments determined under a NEPA analysis. Here, the commenter reiterated concerns that other commenters had related to a more holistic mitigation approach, reasoning that compensation and mitigation are not synonymous.[229]

A commenter said that it is not appropriate to assess impacts to Tribal fisheries and commercial fisheries in the same way because Tribal members fish for purposes that are not accounted for in the fisheries mitigation bidding credit. To ensure the equitable distribution of bidding credits, the commenter recommended modifying the language regarding the fisheries mitigation bidding credits in the FSN to include Tribes and Tribal members as recipients of funding and to address disproportionate impacts of offshore wind on Tribes through funding mechanisms. The commenter added that this recommendation should not prevent the Tribe from accessing future mitigation funds.[230]

BOEM Response:

BOEM appreciates the comments received on the FCMF Bidding Credit. The Fisheries Compensatory Mitigation Fund Bidding Credit amount is not intended to be related to estimates of potential fishing impacts from offshore wind projects in the Gulf of Maine, which BOEM would identify at the COP stage. The credit is simply a percentage of the bid price. BOEM has not changed the bidding credit lease language other than adding Tribal subsistence fishing as a covered activity. Estimates of potential fishing

224 Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238); Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239).
225 Maine Governor's Energy Office (BOEM-2024-0026-0236).
226 New England Fishery Management Council (BOEM-2024-0026-0223).
227 M. Gilreath (BOEM-2024-0026-0211).
228 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232); Northeast Seafood Coalition (BOEM-2024-0026-0235).
229 RODA (BOEM-2024-0026-0252).
230 Passamaquoddy Tribe (BOEM-2024-0026-0263).

impacts from lease development including potential impacts to shoreside services or navigation will be part of BOEM's NEPA review and COP approval process.

Issue 13. Other bidding credit and multiple factor comments.

Approximately 10 commenters discussed this issue.

A few commenters advocated for a conservation bidding credit.[231] Similarly, another commenter advocated for bidding credits that would cover financial contributions to research on environmental impacts of the PSN.[232] Here, another commenter argued that a regional approach to conservation and environmental mitigation credits should be adopted. The commenter suggested that qualified projects should demonstrate ecological benefits, contribute to data transparency, or voluntarily contribute to a regional mitigation program.[233] Another commenter argued that BOEM should have included a community benefit agreement (CBA) bid credit, while also advocating for a conservation bid credit. The commenter also stated that the OCSLA's statutory framework confers on BOEM discretion to leverage bid credits as a means of achieving broader wind energy development goals.[234]

Another commenter said that there is a need for Tribes to be involved in the direction and allocation of funding for bidding credits. The commenter recommended that the FSN include a bidding credit to establish a CBA "similar to that outlined in Lease No. OCS-P-0561" so long as this would not prevent Tribes from negotiating agreements with individual developers, and asked for a consultation with BOEM.[235]

By contrast, another commenter opposed inclusion of CBA bid credits during the bidding process, reasoning that such provisions would negatively impact community negotiations. The commenter suggested that BOEM consider incentivizing developers to state "their minimum level of CBA funding in their bids," reasoning that it would place communities on more equal footing when they negotiate with developers.[236]

Another commenter argued that bid credits should be included that incentivize and support economic activity.[237] Another commenter argued that a bid credit for transmission development should also be included in the PSN development process. The commenter reasoned that a transmission credit would ensure creation of a shared offshore transmission grid, which would have the potential to reduce long-term costs and to minimize the impacts such transmission would have on ecosystems.[238]

A commenter expressed general support for the multiple-factor bid process, adding that this format should further national security, safety, and a fair return to the United States, as the policy goals of the OCSLA provide. The commenter argued that BOEM should include eligibility criteria like an agreement to consult with various stakeholders, namely labor unions. The commenter also urged BOEM to adopt the requirement, as the agency did in previous auctions, that bidders submit a "conceptual strategy with a Bid Financial Form at the time of their bid deposit."[239]

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231 National Marine Fisheries Service (BOEM-2024-0026-0151); New England for Offshore Wind (BOEM-2024-0026-0250); BlueGreen Alliance (BOEM-2024-0026-0244).
232 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
233 The Nature Conservancy (BOEM-2024-0026-0234).
234 National Wildlife Federation et al. (BOEM-2024-0026-0256).
235 Passamaquoddy Tribe (BOEM-2024-0026-0263).
236 New England for Offshore Wind (BOEM-2024-0026-0250).
237 Maine Governor's Energy Office (BOEM-2024-0026-0236).
238 Conservation Law Foundation (BOEM-2024-0026-0242).
239 BlueGreen Alliance (BOEM-2024-0026-0244).

BOEM Response:

BOEM thanks you for your comments. BOEM will continue to limit the multiple-factor component of the bid to 25 percent of the asking price and will not be altering its bidding credits beyond what is discussed in the previous responses. This 25 percent limit has applied to previous BOEM offshore wind lease sales. BOEM is not offering a conservation bidding credit or similar environmental research bidding credit at this time. BOEM is continuing to analyze the potential need for such credits in future lease sales. BOEM will not include a bidding credit for agreeing to enter into a CBA for the Gulf of Maine Lease sale. BOEM has determined that the greatest regional Gulf of Maine funding need is for Workforce Training and Supply Chain Development and Fisheries Compensatory Mitigation. The United States is just beginning to stand up its floating offshore wind supply chain and workforce and the bidding credit is designed to assist with this need.[240] Further, fisheries are an integral use of the Gulf of Maine.[241] As such, BOEM prioritized assuring fisheries stakeholders that compensation will be available for potential impacts beginning with offshore wind geophysical and geotechnical surveys.

Issue 14. General & Other Multiple Factor Comments: Land, coastal, and marine infrastructure, supply chain, economy, related to cable transmission lines, and other comments related to energy efficiency (can include comments related to consumer rates for energy access).

Approximately 40 commenters discussed topics associated with general and other multiple factor comments, inclusive of land, coastal, and marine infrastructure, supply chain, economy, cable transmission lines, and energy efficiency.

14.1 General Comments About Transmission Lines

A commenter expressed concern that waves and currents could displace the cables and anchors that keep floating wind turbines in place, thus creating traffic hazards.[242]

Another commenter urged BOEM to identify transmission ROWs that developers require for consideration in PSNs.[243] A commenter urged BOEM to develop a new lease stipulation for developers to utilize available regional and interregional offshore transmission solutions.[244]

A couple of commenters asked, "Is there an integrated permitting scheme of federal, state and local permitting authorities proposed for the significant transmission lines that will be necessary to come onshore?"[245] A couple of commenters asked several questions, including whether any local transmission and distribution system upgrades will be borne by the developers instead of ratepayers, and whether there are more details about the offshore power substations that may need to be built.[246] A couple of commenters also asked if lease sale conditions would require that multiple developers work together to design, permit, construct, and operate joint transmission facilities to minimize negative impacts.[247]

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240 https://www.nrel.gov/docs/fy23osti/81798.pdf, https://www.nrel.gov/docs/fy23osti/86550.pdf
241 See https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development for lease area by lease area fisheries landing data.
242 D. Dow (BOEM-2024-0026-0046).
243 R. Curley (BOEM-2024-0026-0251).
244 New England for Offshore Wind (BOEM-2024-0026-0250).
245 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).
246 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).
247 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).

A commenter asked BOEM to explain its assumption that the impacts associated with transmission lines would be short lived.[248] Similarly, another commenter questioned the assertion that most development impacts from offshore wind would occur within the lease areas. The commenter stated that the transmission cables would have a greater impact on Sector 12 vessels as compared to within the developed areas.[249]

Another commenter expressed support for the use of centralized transmission corridors on the basis that they could mitigate impacts to fisheries, marine wildlife, and cultural resources and reduce burden to Tribes. The commenter added that the cable corridors should share a common route as feasible. Thus, the commenter recommended that the FSN should include language similar to that of the New York Bight FSN.[250]

A commenter supported efforts by state authorities to facilitate points of interconnection and regionalized offshore transmission facilities and said BOEM should encourage lessees to design their projects to enable use of shared transmission if it becomes available, including by ensuring transmission is a part of COP development.[251]

14.2 Location of Transmission Lines

Several commenters asked about the intended location of transmission lines and cooling stations.[252] Similarly, another commenter urged BOEM to address how developers would lease or compensate the physical property needed to run transmission lines ashore on the basis that the position of the transmission lines is unclear. The commenter further asked BOEM to clarify whether there would be any conflicts with simultaneously routing transmission lines through BOEM-designated corridors between leases where fishing is permitted.[253]

A commenter urged BOEM to work alongside the U.S. Department of Energy (DOE) and other entities to identify potential offshore cable routes.[254] Should there be a need to install transmission cable landings on Cape Cod, a commenter encouraged BOEM to incorporate provisions within the lease documents or through other pathways to identify cable landfall sites, cable routes, and associated substation development.[255]

A couple of commenters stated that burying transmission cables within the Gulf of Maine would be challenging, adding that this action would impact mobile and fixed gear fisheries. The commenters recommended conducting a comprehensive analysis prior to issuing the leases.[256] A commenter asked BOEM to take fishing considerations into account when conducting cable burial risk assessments.[257] *See Issue 17 for additional comments discussing fisheries.*

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248 E. Anderson (BOEM-2024-0026-0258).
249 XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069).
250 Passamaquoddy Tribe (BOEM-2024-0026-0263).
251 The Nature Conservancy (BOEM-2024-0026-0234).
252 J. Green (BOEM-2024-0026-0146); T. Fagin (BOEM-2024-0026-0170); K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154).
253 E. Anderson (BOEM-2024-0026-0258).
254 New England for Offshore Wind (BOEM-2024-0026-0250).
255 Cape Cod Commission (BOEM-2024-0026-0237).
256 XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
257 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).

14.3 Transmission and Stellwagen Bank National Marine Sanctuary

A commenter said that BOEM should understand how routing cables through Stellwagen Bank National Marine Sanctuary would affect the area as a whole.[258] A commenter expressed support for Stellwagen Bank National Marine Sanctuary's work to identify lower-conflict transmission paths.[259] Another commenter encouraged BOEM to consider the ongoing planning efforts to identify potential cable route easements through the Stellwagen Bank National Marine Sanctuary. Specifically, the commenter urged BOEM to "evaluate the information on impacts to Sanctuary resources gathered for a different green energy project."[260]

A few commenters recommended coordinating or collaborating with the Stellwagen Bank National Marine Sanctuary,[261] NOAA,[262] NCCOS,[263] and other entities[264] to inform transmission cabling, routing, or permitting. Specifically, a commenter said that authorizations should be the primary mechanism through which to install offshore wind transmission cables through Stellwagen Bank National Marine Sanctuary. The commenter reasoned that coordination with the Office of National Marine Sanctuaries (ONMS), the U.S. Army Corps of Engineers (USACE), and a relevant state agency could ensure that the permit governing an authorization for transmission cables is viable for the full lifetime of the offshore wind projects, includes protection for the marine environment, and allows the requisite cable inspection, maintenance, and repair activities.[265]

A couple of commenters referenced the prohibition on dredging or altering seabeds in the Stellwagen Bank National Marine Sanctuary regulations at 15 CFR 922.142(a)(3). The commenters expressed concern that NOAA would consider "using the exceptions to such prohibition set forth at 15 C.F.R. 922.142(d) and (e) as a means to permit such destructive activities within the Sanctuary boundaries." According to the commenters, including such an exemption would advance a political agenda that promotes offshore wind energy development at the cost of an ecologically important area.[266]

BOEM Response:

Specific export cable routes are not defined prior to lease sale, as they are dependent on a number of outside issues including who is buying the power, and which points of interconnection are utilized for the project(s). This is necessarily a collaborative process among federal agencies, Tribal governments, state and local authorities as BOEM only has jurisdiction over the OCS portion of the cable route. BOEM has taken and continues to promote measures to coordinate transmission routes in a way that avoids and minimizes impacts to the environment, cultural resources, and other ocean users. BOEM requires lessees to consult with Tribal governments and other ocean users prior to proposing a transmission easement to shore, and added a lease stipulation to the final leases to support these requirements (Section 5.5 – Transmission Planning of Addendum "C").

In addition, multiple routes may be proposed by a lessee in its COP, which would be analyzed by BOEM through the NEPA process. BOEM also requires lessees to investigate the potential for shared transmission infrastructure and may condition COP approval on its use where appropriate. In addition,

258 Association to Preserve Cape Cod (BOEM-2024-0026-0126).
259 The Nature Conservancy (BOEM-2024-0026-0234).
260 New England Fishery Management Council (BOEM-2024-0026-0223).
261 New England Fishery Management Council (BOEM-2024-0026-0223); Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
262 Conservation Law Foundation (BOEM-2024-0026-0242).
263 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
264 National Wildlife Federation et al. (BOEM-2024-0026-0256).
265 National Wildlife Federation et al. (BOEM-2024-0026-0256).
266 Northeast Seafood Coalition (BOEM-2024-0026-0235); RODA (BOEM-2024-0026-0252).

states may dictate use of specific points of interconnection or technologies for transmission, potentially including a shared transmission system, through their offtake agreement. Lessees are required to provide submarine cable risk assessments with their COP. Recommended information to be included in submarine cable risk assessments are provided under BOEM's "Information Needed for Issuance of a Notice of Intent (NOI) Under the National Environmental Policy Act (NEPA) for a Construction and Operations Plan (COP)."

BOEM continues to work with our partners at DOE and NOAA's NCCOS to identify suitable areas for transmission. The Independent System Operator (ISO) for New England also conducts both long-term planning, as well as project-specific grid connection studies, to identify what is needed to interconnect offshore wind.

With currently available technology, projects utilizing high-voltage direct current (HVDC) export cables require the use of cooling on the offshore substation/converter station. To date, such systems typically use once through cooling where seawater is used, in part, and is discharged at a warmer temperature. This is similar to how most boat/ship engines utilize seawater for cooling. For example, a single container ship or tanker may use 10-50 times the amount of seawater for this purpose. While exact designs for such systems are site specific, and have not yet been designed for floating substations, fixed bottom HVDC systems typically discharge water at 86-92 degrees and effects are quickly dissipated from the source. Any such discharge is also monitored and likely held to specific parameters under a NPDES permit issued by the U.S. Environmental Protection Agency (EPA). Closed loop cooling, where liquid is not discharged, is not currently commercially available but could potentially become available in the near future. Use of any of these systems would be proposed in the COP and analyzed by BOEM in the associated environmental and technical review.

BOEM does not have authority to issue leases, RUE grants, or row grants within the boundaries of a National Marine Sanctuary (30 CFR § 585.204). As noted in the FSN (Section VI: Potential Future Restrictions), under the authority of the National Marine Sanctuaries Act, NOAA may consider authorizing installation of energy transmission cables within sanctuary boundaries through one or more of the following mechanisms: General Permits, Authorizations, Certifications, and Special Use Permits.

14.4 Environmental Impacts

Some commenters expressed concern about the impact of transmission cables, anchor systems, or associated infrastructure on benthic resources,[267] nearshore habitats,[268] marine ecosystems and fish,[269] local fisheries,[270] and other resources of concern.[271] A commenter urged BOEM to release information about cabling routes and commercial development so that the general public and industry stakeholders could assess potential environmental impacts.[272] Another commenter expressed support for identifying cable routes that would mitigate adverse impacts to existing resources and uses.[273]

A commenter urged BOEM to establish a process to identify shore side interconnection points and transmission corridor routes that could be used during initial development phases, which according to the commenter could engage stakeholders and partners, inform future proposals, and inform "the

267 J. Green (BOEM-2024-0026-0146-0002); J. Green (BOEM-2024-0026-0162).
268 Environmental Protection Agency (BOEM-2024-0026-0231).
269 Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238).
270 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
271 Environmental Protection Agency (BOEM-2024-0026-0231).
272 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
273 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).

consideration of project impacts under Section 404 of the Clean Water Act" and "Section 10 of the Rivers and Harbors Act."[274]

A commenter concluded that offshore wind farms should not be constructed in the Gulf of Maine if the two potential mainland interconnection sites would pose multiple environmental harms. The commenter asked:

- "Can BOEM ensure that transmission cables for the proposed wind farm will not be laid along the same corridor as the cables for the State of Maine's research array?" and
- "If BOEM can make this guarantee, then what are the proposed onshore interconnection sites for the commercial wind-farm development if not the two sites referenced above?"[275]

14.5 Entanglement Risks

A commenter expressed concern about potential entanglement risks associated with floating turbine moorings and asked, "What modeling studies have been completed or are being conducted specific to the entanglement risk with moorings of floating marine turbines and the inter-array buoyed cables to marine species in the Gulf of Maine?"[276]

Another commenter stated that primary and secondary entanglement pose significant harms to marine wildlife. The commenter urged BOEM to include a stipulation in the proposed leases associated with the FSN to require lessees to implement measures to prevent, reduce, and monitor the risk of entanglement from floating offshore wind development. The commenter discussed multiple recommendations to mitigate entanglement risks, including:

- Collaborate with Maine to promote technological solutions to entanglement risks;
- Implement design features to minimize entanglement risk and to promote visual and acoustic inspections of potential entanglement risks;
- Implement and conduct continuous monitoring to identify potential entanglement sites;
- Require lessees to notify NMFS or the U.S. Fish and Wildlife Service (USFWS), the USCG, and the relevant state agency within 6 hours of detecting an ensnarement or entanglement event;
- Report recovered fishing gear to the NMFS and the appropriate state agency; and
- Disclose incidences of marine debris ensnarement or marine wildlife entanglements.[277]

14.6 Supply Chain and Economy

A commenter urged BOEM to protect food security by ensuring that offshore wind development would not threaten seafood resources and associated supply chains.[278] Similarly, another commenter stated that the proposed floating wind turbines could threaten seafood security by disrupting the supply chain of fresh seafood, restricting available fishing grounds, impacting seafood availability and price, and contributing to a decline in fish populations. According to the commenter, this would undermine the local economy as well as food security.[279] *See Issue 17 for additional comments discussing fisheries.*

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274 Environmental Protection Agency (BOEM-2024-0026-0231).
275 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
276 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124).
277 National Wildlife Federation et al. (BOEM-2024-0026-0256).
278 Massachusetts Seafood Collaborative (BOEM-2024-0026-0240).
279 Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238).

A commenter urged BOEM to stipulate a preference for domestic content utilization at a data-driven, regionally-specific percent to create a fair return to the United States, protect national security, and ensure expeditious and orderly development. According to the commenter, a domestic offshore wind supply chain could safeguard national and energy security interests, achieve federal wind energy goals, bolster job creation and wages, and yield potential environmental and equity benefits. Thus, the commenter encouraged BOEM to:

- Stipulate a supply chain statement of goals, inclusive of a thorough supplier engagement plan to meet those goals;
- Establish a process within the lease to bolster coordination between supply chain stakeholders and entities; and
- Ensure that offshore wind developers provide appropriate information to facilitate the involvement of U.S. suppliers in the offshore wind energy supply chain.[280]

14.7 Land, Coastal, and Marine Infrastructure

According to a commenter, it is challenging to translate research and site-specific monitoring into the regulations that address the construction and decommissioning of wind turbines.[281] Another commenter recommended including a provision to allow for an analysis of the least disruptive alternative in the FSN should the "cited code provisions" at 30 CFR Parts 285, 585, and 586 not account for this analysis.[282] Another commenter urged BOEM to "clarify its decommissioning requirements and assurances for materials associated with floating turbine and substation technology" to mitigate ecological impacts. Specifically, the commenter recommended that BOEM:

- Require developers to remove all materials associated with development and restore the seabed to its original state if infrastructure cannot be repurposed; and
- Require developers to establish a decommissioning fund to cover the anticipated removal and remediation costs prior to commencing construction.[283]

A commenter said that BOEM and other entities involved in transmission should prioritize the protection of submarine telecommunications cables. The commenter provided multiple recommendations, including:

- Revise the proposed lease areas OCS-A 0564, OCS-A 0565, and OCS-A 0566 to exclude existing submarine cables;
- Alternatively, prohibit turbine towers siting and the "conduct of seafloor sampling within such areas absent prior coordination with submarine cable operators;"
- Inform lessees of the need to coordinate with submarine telecommunications cable owners and operators prior to preparing a COP;
- Include a requirement for information sharing and coordination with owners of existing infrastructure within the lease documentation; and
- Identify existing submarine telecommunications cable infrastructure within the proposed sales notice.[284] *See Issue 3 for additional comments discussing the proposed lease areas.*

[280] BlueGreen Alliance (BOEM-2024-0026-0244).
[281] D. Dow (BOEM-2024-0026-0046).
[282] Passamaquoddy Tribe (BOEM-2024-0026-0263).
[283] RODA (BOEM-2024-0026-0252).
[284] North American Submarine Cable Association (BOEM-2024-0026-0249)

14.8 Other Comments

Several commenters expressed concern about protecting offshore wind farms or electrical generation from adversaries.[285] A few commenters expressed concern about increased electricity costs.[286] Specifically, a couple of commenters referenced a May 31, 2024 meeting that identified transmission costs as greater than "one and a half billion dollars, or eight billion dollars."[287] Another commenter said that the questions posed to BOEM at a May 31, 2024 workshop should be addressed prior to placing acreage up for bid.[288]

A commenter said that an impact analysis should consider the benefits of requiring closed loop cooling systems for high voltage direct current cables.[289] Another commenter expressed concern about the potential environmental consequences and water temperature differences associated with cooling stations. The commenter suggested that developers submitting bids for any leases should state whether or not they would use cooling stations in the COP. The commenter reasoned that developers with no intention of using cooling stations could receive a preferential score or credit, while those that do intend to use cooling stations could receive a consequence or penalty in the assessment of their bid.[290]

Another commenter referenced "Maine's Offshore Wind Roadmap" and recommended that BOEM maintain alignment with the Roadmap, inclusive of investing in areas that would support the advancement of key infrastructure, and discussed transmission planning in Maine. The commenter expressed support for cost-effective mechanisms that could deliver offshore wind into Maine, inclusive of collaborating with other states to ensure reasonable costs to taxpayers and supporting transmission and planning at a regional level. Specifically, the commenter urged BOEM to consider the transmission-related recommendations included within the Roadmap and how the planning process and lease stipulations could reflect this Roadmap.[291]

BOEM Response:

Environmental Impacts, Entanglement

In accordance with Section 7 of the ESA, BOEM has provided NMFS with a Biological Assessment assessing the potential effects of activities reasonably foreseeable following the issuance of a lease in the Gulf of Maine on all ESA-listed species and critical habitat. Based on the assessments that BOEM prepared for the ESA Section 7 consultation, BOEM does not expect impacts that are significantly different in kind or magnitude from those it has identified in previous wind lease sales. Potential entanglement risk at this phase of a project is likely limited to the deployment of a meteorological buoy. BOEM will not execute any leases in the Gulf of Maine prior to the completion of all consultations.

In accordance with BOEM's renewable energy regulations, the submission (and BOEM's potential subsequent approval) of a COP, which is a detailed plan for construction and operation of a wind energy facility on a lease, allows the lessee to construct and operate wind turbine generators and associated facilities for a specified term. If a COP is submitted, BOEM will prepare a NEPA analysis and conduct required consultations, including analyses of entanglement risk, on that site-specific plan.

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285 J. Green (BOEM-2024-0026-0146); K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154); T. Fagin (BOEM-2024-0026-0170).
286 R. Regan (BOEM-2024-0026-0070); L. Green (BOEM-2024-0026-0246); J. Green (BOEM-2024-0026-0162).
287 R. Regan (BOEM-2024-0026-0070); L. Green (BOEM-2024-0026-0246).
288 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
289 New England Fishery Management Council (BOEM-2024-0026-0223).
290 E. Anderson (BOEM-2024-0026-0258).
291 Maine Governor's Energy Office (BOEM-2024-0026-0236).

BOEM is funding and participating in an ongoing study: "Development of Computer Simulations to Assess Entanglement Risk to Whales and Leatherback Sea Turtles in Offshore Floating Wind Turbine Moorings, Cables, and Associated Derelict Fishing Gear Offshore California" (https://www.boem.gov/sites/default/files/documents//PC-19-x07.pdf). While originally focused on California, the scope of this study has been expanded to include leatherback sea turtles, blue and fin whales, NARW, and humpback whales. BOEM has also funded a Technology Assessment Program study "Simulation of Mooring Line Vibration Modes, Mooring Line Tension, and Floater Offset" which focuses on the feasibility of using instrumentation to detect derelict fishing gear entanglement on mooring systems and transmission cables.

Decommissioning

BOEM appreciates the comments related to decommissioning of facilities on the OCS. BOEM takes our role as stewards of the OCS seriously, and the Department's regulatory requirements clearly describe the decommissioning process and expectations (see 30 CFR 285.900 – 913). Together with our sister agency, BSEE, we estimate the cost of decommissioning a facility and require the lessee to provide decommissioning financial assurance for that amount prior to the placement of a facility on the OCS. The financial assurance requirement and its satisfaction by the lessee ensures that the government is at low risk of funding the removal of a facility should the Lessee not be able to uphold its decommissioning obligation. Additionally, the regulations outline the decommissioning process, which includes a requirement to "remove all facilities to a depth of 15 feet below the mudline, unless otherwise authorized by BSEE." (30 CFR 285.910)

Issue 15. Existing uses and how they may be affected by the development of the proposed lease areas (Section IV(c)).

Approximately nine commenters discussed existing uses and how they may be affected by the development of the proposed lease areas.

A commenter said that emissions associated with site characterization activities and development may impact air quality of National Park Service (NPS) managed sites and recommended that BOEM prioritize leasing in areas farthest from NPS-managed lands. The commenter specifically expressed concern about potential impacts to habitat, visual and cultural resources, air quality, and others affecting the Monhegan Island National Natural Landmark, the Cape Code National Seashore, and marine protected areas.[292]

A commenter stated that any offshore wind energy projects in the lease areas would cause wind turbine interference to the oceanographic high-frequency (HF) radars which provide measurement coverage of the region, adding that this could impact maritime safety, navigation, USCG search and rescue, weather forecasting, and other applications of these HF-radar systems' data. The commenter recommended that BOEM require lessees to develop a HF-radar wind turbine interference mitigation plan to be reviewed and coordinated with NOAA, reasoning that such mitigation measures are not covered under other mitigations described in the subsections of the PSN's Section II.i.[293]

A commenter stated that BOEM should work with lessees, states, and other local and regional organizations to develop minimization and mitigation strategies to offset impacts to protected species present in the Gulf of Maine. According to the commenter, some protected habitat and species would likely have a presence in any lease area. The commenter said that wind turbines pose a unique risk to avifauna, thus creating the need for mitigation and the incentivization of further research. The commenter

[292] National Park Service (BOEM-2024-0026-0149).
[293] National Marine Fisheries Service (BOEM-2024-0026-0151).

also recommended that BOEM conduct a portside analysis on the groundfish fishery, stating that many small vessel owners fish closer to shore and leasing in those areas could disproportionately exclude operations of local fleets. The commenter urged BOEM to consider economic impacts to groundfish fishing.[294]

A commenter said that the WEA currently overlaps with areas currently and historically used by their Tribe for fishing. The commenter expressed concern about how development would affect the Tribe's access to these fishing areas and stated that they are unsure of whether BOEM or the USCG intend to prohibit, restrict, or discourage fishing in the Gulf of Maine WEA.[295]

A commenter urged BOEM to consider all information submitted in response to the question about existing uses regardless of whether it is presented in the form of "technical and scientific data," stating that Indigenous Traditional Environmental Knowledge and non-technical input from communities should also be considered.[296]

A commenter stated that the question about impacts to existing uses cannot be meaningfully considered in the absence of data from baseline studies.[297]

BOEM Response:

The pre-lease planning process is designed to analyze existing uses of ocean space and identify portions of the OCS that present the least amount of conflict while also balancing the need for ocean space to meet regional energy production goals. Detailed information on potential conflicts, such as the degree of radar interference and amount of potential curtailment, are not available until greater details on a proposed facility are known. The lease itself does not limit turbine height or specific technologies as project-specific information will be provided at the COP stage for BOEM's review. Prior to submitting a COP, a lessee will conduct a site assessment used to inform project-specific design parameters.

BOEM continues to coordinate with our partners to ensure co-existence of existing or future activities with wind energy development. BOEM has reviewed and analyzed each of the subjects mentioned above, as described throughout this document. For more information on a particular topic, please see topic specific sections.

Issue 16. Military use (DoD only).

Approximately two commenters discussed military use.

A commenter expressed concern regarding the impacts of wind turbines to the Department of Defense's (DOD's) North American Aerospace Defense Command (NORAD) mission, stating that the Gulf of Maine is a very active maritime area and safe and reliable radar is critical for weather forecasting, air traffic control, national defense, and maritime commerce. The commenter further stated that previous studies on radar interactions with turbines were based on data from European wind farms that are smaller and more densely located than those proposed in the U.S. Finally, the commenter recommended that BOEM incorporate various radar adverse impact management techniques (RAM) suggested in the 2022 Report by the National Academy of Sciences, Engineering, and Medicine and include a provision that lessees would be required to contribute funds to cover such RAM techniques.[298]

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294 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
295 Passamaquoddy Tribe (BOEM-2024-0026-0263).
296 Environmental Protection Agency (BOEM-2024-0026-0231).
297 Maine Lobstermen's Association (BOEM-2024-0026-0241).
298 Northeast Seafood Coalition (BOEM-2024-0026-0235).

Another commenter requested further clarification from BOEM on the conditions where curtailment to mitigate impacts to national security and defense purposes would be required as the commenter reasoned that this could potentially impact the financial viability of a project. The commenter also asked BOEM to estimate the number of radar systems per lease for which lessees would need to fund DOD RAM procedures and to provide what type of mitigation measures would be required by the Navy to ameliorate conflicts with ship testing.[299]

BOEM Response:

While BOEM has largely avoided and minimized conflict with military activities during the Area Identification process, the national security stipulations in the lease are necessary to ensure coordination and deconfliction of potential remaining conflicts during lessee activities over the life of the lease.

Issue 17. Recreational and commercial fisheries (not including fisheries compensation fund credit).

Approximately 35 commenters discussed recreational and commercial fisheries.

17.1 Common Fishery Concerns

A commenter generally expressed concern that the project would negatively impact fisheries,[300] while other commenters provided specific reasons for their concern, including:

- Electromagnetic pollution from the project negatively impacting fish behavior, disrupting fisheries;[301]
- Uncertainties in fishery effects from the project, such as potential changes in fish production, biomass, fisheries accessibility, co-use among gear types, and safety during fishing operations;[302]
- Overlap from project areas with fishery surveys such as the Northeast Fisheries Science Center bottom trawl survey and others, increasing uncertainty in the assessment of regional fish stocks;[303]
- Overlap from project areas with habitats for groundfish, pollock, redfish, haddock, monkfish, cod, thorny skate, white hake, American plaice flounder, witch flounder, American lobster, Atlantic herring (corresponding with a concentration of tuna fishing), or fisheries south of Cashes Ledge and around Mayo Swell;[304]
- Concentration of cod fishing efforts in a narrow region in the western Gulf of Maine, forcing fishing vessels into the area around Wilkinson Basin, depleting the cod population in this BOEM-designated corridor;[305] and

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299 American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).
300 R. Chick (BOEM-2024-0026-0063).
301 XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069); R. Chick (BOEM-2024-0026-0063); New England Fishermen's Stewardship Association (BOEM-2024-0026-0232); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); R. Regan (BOEM-2024-0026-0070); L. GREEN (BOEM-2024-0026-0246); Reel Deal Fishing Charters (BOEM-2024-0026-0079); R. Curley (BOEM-2024-0026-0251).
302 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
303 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069); National Marine Fisheries Service (BOEM-2024-0026-0151); RODA (BOEM-2024-0026-0252).
304 National Marine Fisheries Service (BOEM-2024-0026-0151); New England Fishery Management Council (BOEM-2024-0026-0223); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225); New Hampshire Fish and Game Department/Department of Environmental Services (BOEM-2024-0026-0259); XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069); T. Alexander (BOEM-2024-0026-0215).
305 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).

- Exclusion of most fishing activity from the Wilkinson Basin region increasing pressure on heavily exploited stocks while reducing it on those where the opportunity to increase harvests exists.[306]

17.2 Fisheries Analysis and VMS Data

A commenter remarked that the methodology to determine importance to fisheries employed using the NCCOS Suitability Model has underestimated the importance of lease areas OCS-A 0564, OCS-A 0567, and OCS-A 0568. The commenter said that this analysis uses VMS data and attributes vessel speeds below 4 knots as indicating fishing activity. The commenter stated that the model then attributes importance to fishing by averaging the level of presumed fishing activity for the range of 2008 through 2022. The commenter remarked that this approach does not consider the large changes in both fish distribution and fishing strategy since 2021.[307] Another commenter said that, as fish have been responding to a rise in water temperature, and stocks are moving north or east into cooler deeper water, BOEM should consider a more narrowed analysis of the VMS data (2018-2022) by NCCOS as they review the final lease area boundaries for sale.[308]

A commenter said that other data sources are needed to supplement the Greater Atlantic Regional Fisheries Office vessel logbook and VMS data to fully assess existing fisheries that may occur within the proposed lease areas and understand how they may be affected by development, particularly recreational fisheries for highly migratory species such as tuna.[309] Another commenter remarked that as the waters off Cape Cod and Stellwagen Bank are renowned for their rich fisheries and biodiversity, a thorough environmental impact study should be conducted.[310]

A commenter recommended that BOEM conduct a portside analysis on the groundfish fishery, focusing on day-boats and vessel owners with few vessels in the South Region leases. The commenter said that many small vessel owners actively fish closer to shore and leasing in these lease areas could disproportionally exclude operations of local fleets in the Gulf of Maine if they are not able to fish safely within the floating arrays.[311] Another commenter stated that BOEM's analysis confirms that there remain significant areas of groundfish VMS fishing effort at the top five quantile level within all but one of the eight proposed lease areas. The commenter said this presents a threat to the viability of fishing operations in these areas and presents a contrast to other major commercial fisheries in the Gulf of Maine.[312]

A commenter asserted that the data needed to properly understand how OSW development would impact fishing and sensitive environmental habitats in the WEA is lacking.[313]

17.3 Economic Impacts

A commenter expressed concern that offshore wind development in the proposed lease areas could disproportionately impact small groundfish fleets that cannot fish further offshore, adversely impacting fleet diversity and revenue at these Massachusetts ports.[314] Another commenter urged BOEM to ensure funds are in place to keep processing infrastructure afloat if there are disruptions to seafood harvesting

306 XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069).
307 XII Northeast Fishery Sector, Inc. (BOEM-2024-0026-0069).
308 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
309 National Marine Fisheries Service (BOEM-2024-0026-0151).
310 C. Savoy (BOEM-2024-0026-0160).
311 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).
312 Northeast Seafood Coalition (BOEM-2024-0026-0235).
313 Passamaquoddy Tribe (BOEM-2024-0026-0263).
314 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).

during construction or operation of the offshore wind farms.[315] A couple of commenters stated that the cumulative impacts to commercial fisheries and for-hire recreational fishing would be negligibly beneficial in the long-term.[316]

A commenter said that displacement from traditional fishing grounds into less productive areas would likely result in reduced catches and increased operational costs for commercial fishermen. The commenter stated that the economic burden on fishermen would be exacerbated by the proposed compensation model, which according to the commenter inadequately addresses the immediate financial needs and long-term sustainability of the fishing industry.[317]

17.4 Other

To avoid and reduce adverse impacts to pelagic habitats, including planktonic food sources and larval survival necessary for future fishery recruitment success, a commenter recommended that BOEM prohibit the use of open-loop cooling systems for any high-voltage direct current converter stations proposed for use in the lease areas.[318]

A commenter requested that BOEM clarify both its and the USCG's position regarding fishing and what types of fishing (e.g., trawl, trap, pot, or longline) would be allowed, disallowed, or discouraged within floating OSW farms. The commenter also requested that BOEM clarify mitigation measures to account for the potential negative impact of gear loss to fishing.[319]

Another commenter said that BOEM should clarify its goals related to fisheries as the current Administration has not yet announced a plan for ongoing collaboration with the fishing industry. The commenter remarked that to prevent interference with fishing, BOEM should:

- Acknowledge that in areas fished with mobile gear, turbine spacing of less than 2 nm be considered a complete closure;
- Orient turbines such that they maintain fishing practices to the extent possible and, if not practical, space turbines closely together leaving greater no-build area on the most important fishing grounds within a lease;
- Incorporate fishermen's knowledge into cable routes and burial depths; and
- Prohibit any areas from development that consist of sensitive habitat, important fishing grounds, or are vulnerable to adverse impacts from OSW development.[320]

17.5 Questions

A few commenters said that gaps were identified in the NOAA Technical Memorandum *Fisheries and Offshore Wind Interactions: Synthesis of Science* (NMFS-NE-291, March 2023), and asked the following questions:

- What is the annual revenue generated from commercial fisheries in the federal waters of BOEM's Gulf of Maine Planning Area?[321]

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315 Red's Best (BOEM-2024-0026-0051).
316 L. Green (BOEM-2024-0026-0246); R. Regan (BOEM-2024-0026-0070).
317 Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239).
318 National Marine Fisheries Service (BOEM-2024-0026-0151).
319 Passamaquoddy Tribe (BOEM-2024-0026-0263).
320 RODA (BOEM-2024-0026-0252).
321 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); G. Parker (BOEM-2024-0026-0253); Town of Wellfleet (BOEM-2024-0026-0163).

- How much of the total fisheries revenue in the Gulf of Maine is landed by the multispecies ground fishing fleet?[322]
- Which state is largely associated with the multispecies ground fishing fleet in the Gulf of Maine WEA?[323]
- Why is the groundfish industry important to the economy of Massachusetts?[324]
- How might offshore wind development impact small fisheries and small ports in New England, and what are the broader implications for marine fisheries and management decisions that may not show up in the general data report?[325]
- What concerns are raised and addressed regarding the Draft WEA near Georges Bank in relation to high valued fisheries and sensitive deep water coral habitat?[326]
- What types of fisheries and habitats could be affected by development near Georges Bank?[327]
- What historic data has been documented in offshore wind development in the Gulf of Maine predicting future fishing activity?[328] and
- What recommendations are made by the Gulf of Maine commercial fishing industry before identifying and leasing areas for offshore wind development?[329]

Another commenter asked whether:

- BOEM has analyzed the effect of the proposed commercial wind farm on codfish populations that other federal agencies claim are declining?
- BOEM has coordinated or communicated with NOAA regarding NOAA's proposed codfish management restructuring and how this change would interact with the construction of the proposed wind farm? If so, what was the outcome of those discussions?[330]

A commenter stated that significant areas of groundfish VMS fishing effort "at the top 5 quantile level" are present in 7 of the proposed lease areas. The commenter added that the depiction of VMS data on maps would not sufficiently represent fishing effort by the portion of groundfish fleet targeting redfish and pollock. The commenter suggested that lease area OCS-A 0566 be afforded the lowest priority of the proposed lease areas, adding that the lease area could be considered in a future proposed lease sale.[331]

Another commenter encouraged BOEM to lease all eight of the proposed lease areas and provided multiple recommendations, including:

- Prioritize the lease areas closest to shore for the lease sale if the initial auction does not include all of the areas and include the rest in a subsequent lease sale in 2028;

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322 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); G. Parker (BOEM-2024-0026-0253); Town of Wellfleet (BOEM-2024-0026-0163).
323 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); G. Parker (BOEM-2024-0026-0253); Town of Wellfleet (BOEM-2024-0026-0163).
324 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124).
325 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); G. Parker (BOEM-2024-0026-0253); Town of Wellfleet (BOEM-2024-0026-0163).
326 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).
327 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).
328 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163); G. Parker (BOEM-2024-0026-0253).
329 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163); G. Parker (BOEM-2024-0026-0253).
330 New England Fishermen's Stewardship Association (BOEM-2024-0026-0232).
331 Northeast Seafood Coalition (BOEM-2024-0026-0235).

- Engage stakeholders to avoid leasing features that are critical to fishermen; and
- Exclude development from the top three quantiles of the VMS groundfish activity provided through the Northeast Seafood Coalition should BOEM remove or reduce the size of lease areas.[332] .

BOEM Response:

On September 6, 2024, BOEM released a Final EA that considers the potential impacts associated with possible wind energy-related leasing, site assessment, and site characterization activities in the Gulf of Maine. Issuance of leases and grants would only allow for the submittal of plans for BOEM's consideration and approval, which does not constitute an irreversible and irretrievable commitment of resources. A thorough EIS will be completed and published with time for public comment before any COPs are approved. The EIS will include a thorough economic analysis of potential impacts to commercial and recreational fisheries as well as consider project development alternatives to avoid, minimize, or mitigate those impacts. BOEM relies on the best available data and information across multiple fishing sectors and ports in its EIS.

Many of the concerns and questions related to recreational and commercial fisheries will be fully addressed at the time the proposed COP is submitted and project specifics are more fully developed. This includes the location and orientation of turbines and cables, co-use of the area, fisheries mitigation, and the potential impact of HVDC cooling systems or electromagnetic fields (EMF). Additionally, stakeholders and members of the public will be welcome to provide additional data sources and information on important fisheries in the Gulf of Maine WEA and lease areas to inform the EIS that is prepared for the COP.

BOEM is committed to addressing these concerns. For example, the FSN includes bidding credits for a lessee's commitment to establish a fisheries compensatory mitigation fund. BOEM, in partnership with NOAA, has been engaged in developing mitigation for the impact of wind energy development on federal fishery surveys: NOAA Technical Memorandum NMFS-NE-292: NOAA Fisheries and BOEM Federal Survey Mitigation Strategy – Northeast U.S. Region (https://repository.library.noaa.gov/view/noaa/47925). Moreover, BOEM has conducted studies on the impact of EMF on marine species, such as American lobster and skates. For these species, EMF exposure may result in subtle changes to behavior, but does not present a barrier to movement or foraging.

BOEM understands the concerns about spatial overlap between fisheries and the proposed leases in the Gulf of Maine. As such, BOEM has worked extensively with federal partners, state and local governments, and the fishing industries to minimize spatial overlaps between the leases and fishing grounds. This includes incorporating multiple data streams into the Siting Analysis for the Gulf of Maine (https://www.boem.gov/sites/default/files/documents/renewable-energy/GOME_Final_WEA_Report_NCCOS_20240314_508c.pdf). Fisheries data sources, include fishery-independent and dependent data collected by federal (i.e., NOAA NMFS) and state (i.e., Maine Department of Marine Resources) agencies, in addition to the VMS vessel data. The fishing vessel activity from VMS was assessed with the full time series (2009-2021) and a recent time series (2018-2021) to reflect recent changes in spatial distributions.

To further deconflict the leases that were included in the PSN, BOEM has reduced the areas of several leases, in part due to concerns from the fishing industries. Lease areas OCS-A 0562 and 0563 were reduced in the northwestern portion of the lease, which overlaps with groundfish and herring fishing grounds. Aliquots along the eastern boundary of OCS-A 0564 were removed to address concerns raised

[332] Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).

by the Northeast Seafood Coalition about overlap with the lease area and the groundfish fishery in the western Gulf of Maine. Within lease areas OCS-A 0565 and 0566, a corridor has been added between the leases, removing important redfish fishing grounds from the lease area. In lease area OCS-A 0567, aliquots in the northeast portion of the lease have been removed to further reduce overlap with the groundfish fishery. In lease area OCS-A 0568, aliquots in the northwest corner of the lease have been removed for fishery overlap, as well. More generally, the removal of these lease portions may also aid fishers during transit, and will reduce spatial overlap between leases and benthic habitats, such as known coral locations and proximity to Jeffrey's Bank and Wilkinson Basin, meeting the requests made by NOAA, NMFS, and fishing partners.

Issue 18. Finfish and invertebrates.

Approximately five commenters discussed finfish and invertebrates.

A couple of commenters expressed opposition to allowing offshore wind leasing in the Gulf of Maine, including areas east of Truro. The commenters expressed concern that electromagnetic pollution in the area would change bluefin tuna and striped bass behavior, deter the fish from coming to these areas, and adversely impact the commenters' charter fishing business. The commenters also said that the current season for squid was poor and expressed concern that squid would not cross over due to electromagnetic radiation from cabling.[333]

According to another commenter, studies demonstrate that electromagnetic fields generated by underwater cables can impact marine life, including the fish and invertebrates that are part of whale diets. The commenter stated that such changes could have broader impacts on the marine ecosystem.[334]

A commenter stated that the Gulf of Maine includes rich marine habitats and serves as a breeding ground for many fish species. According to the commenter, recent findings indicate that bluefin tuna also spawn in the offshore Northeast Atlantic. The commenter added that this area is one of three known spawning locations worldwide.[335]

Another commenter suggested investigating the effects of ocean climate change on the food chain, inclusive of grazing fish, predatory fish, macroinvertebrates, and epibenthic invertebrates, among other species, and referenced the NOAA Fisheries Energy Modeling and Analysis eXercise (EMAX) model papers. The commenter also recommended including ecological economics as part of socioeconomic inventory.[336]

BOEM Response:

BOEM has conducted studies on the impact of EMF on marine species such as American lobster and skates. For these species, EMF exposure may result in subtle changes to behavior, but does not present a barrier to movement or foraging. Generally, species that swim in the water column will not be affected by the field because of their distance from the cable. Moreover, many species do not have the ability to sense the fields. Bluefin tuna, striped bass, longfin inshore squid, and northern shortfin squid are thought to be unable to sense electric or magnetic fields, reducing the likelihood they would experience behavioral effects (e.g., barriers to movement) from cables.

333 Reel Deal Fishing Charters (BOEM-2024-0026-0079); Reel Deal Fishing Charters (BOEM-2024-0026-0096).
334 R. Chick (BOEM-2024-0026-0063).
335 Meridian Construction Corp. (BOEM-2024-0026-0222).
336 D. Dow (BOEM-2024-0026-0046).

BOEM concurs with the commenter's suggestion about including ecologic and economic factors in decision-making. BOEM includes a wide range of data such as those pertaining to fisheries, social and cultural, economic, and national security. A full description of the data considered can be found online in spreadsheet form in the Gulf of Maine Data Inventory on the BOEM Gulf of Maine project page or in the white paper, Siting Analysis for the Gulf of Maine (https://www.boem.gov/sites/default/files/documents/renewable-energy/GOME_Final_WEA_Report_NCCOS_20240314_508c.pdf).

Issue 19. Benthic resources.

Approximately 15 commenters discussed benthic resources.

Several commenters expressed concern about the damage construction from the transmission cables and anchoring points would cause benthic resources.[337]

A commenter urged the inclusion of stipulations in the FSN to protect sensitive live bottom features in the Gulf of Maine. The commenter discussed the importance of these habitats despite their lack of Endangered Species Act (ESA) listing and, in particular, the need for comprehensive protections during site assessment and characterization activities. The commenter proposed extensive ground-truthing for thorough visual surveys to identify and protect sensitive habitats and recommended that key stipulations include conducting visual surveys to develop plans minimizing impacts in future project assessments.[338]

A commenter stated that the leases OCS-A 0562, OCS-A 0563, OCS-A 0567, and OCS-A 0568 overlap with sensitive hard bottom habitats at Jeffery's Bank, Cashes Ledge, and Ammen Rock. Thus, the commenter said that comprehensive habitat data is necessary to assess the exact extent of these overlaps. The same commenter also stated that leases OCS-A 0565 and OCS-A 0566 lack current habitat data. The commenter added that deep-sea coral sightings just beyond the northern edge of OCS-A 0565 indicate the presence of suitable hard bottom habitats. With regard to lease OCS-A 0569, the commenter discussed a shallow feature in the Gulf of Maine that potentially supports hard bottom habitats. According to the commenter, initial findings from ongoing data processing by R/V Connecticut indicate the presence of hard bottom habitat in the southeastern part of lease OCS-A 0568. Where leases OCS-A 0564, OCS-A 0565, and OCS-A 0566 are concerned, the commenter recommended reducing the size of the lease area to minimize conflict with sensitive habitats and provided Attachment A for additional information. Further, the commenter recommended that BOEM conduct additional mapping to refine the lease boundaries, assess potential unsuitable development areas, and consider existing bathymetric maps. The commenter also recommended that BOEM consider incorporating an additional BOEM-designated corridor running northwest to southeast through the center of OCS-A 0566 consistent with persistent traffic patterns. The commenter recommended using acoustic data to adjust lease boundaries to minimize impacts on sensitive habitats and conducting additional surveys to verify habitat characteristics.[339]

Another commenter stated that it is crucial to conduct detailed mapping and characterization in the Gulf of Maine before proceeding with COPs, adding that including high-resolution mapping is key to identifying and protecting vulnerable habitats such as deep-sea corals. The commenter added that activities like geophysical surveys should avoid impacting vulnerable habitat areas and that similar protective measures are outlined in the Pacific Wind Lease Sale 1 guidelines. The commenter recommended that BOEM remove aliquots overlapping with complex benthic habitats, and add buffer

337 J. Green (BOEM-2024-0026-0146); K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154); J. Green (BOEM-2024-0026-0162); T. Fagin (BOEM-2024-0026-0170).
338 National Marine Fisheries Service (BOEM-2024-0026-0151).
339 National Marine Fisheries Service (BOEM-2024-0026-0151).

zones. The commenter suggested that ongoing multibeam backscatter mapping in lease areas 0567 and 0568 may reveal more habitats before the FSN, since the PSN states that site activities will protect live-bottom features. The commenter stated that BOEM should clarify how ESA Section 7 consultation with NMFS would ensure avoidance measures for these habitats when final leases are issued.[340]

A commenter remarked that to protect the complex habitat, EAs should identify how interactions with complex bottoms are minimized. The commenter said that there are species that must be protected from dislodgement by cables or moorings, and efforts should focus on minimizing impacts to species that support diversity and productivity. Because of this, the commenter recommended that areas overlapping with these species and habitats should be removed.[341]

A commenter said that the current PSN informs potential bidders that lease areas might face future restrictions due to navigation safety, BOEM-designated corridors between leases, DoD activities, conflicts with sand resources, and sensitive benthic habitats. The commenter said that although the PSN mentions that BOEM may impose avoidance measures to protect sensitive benthic species and habitats, it does not address possible future lease restrictions related to threatened and endangered species and their habitats.[342]

A commenter indicated that BOEM should include several lease stipulations to mitigate impacts on sensitive benthic habitats, and said that lessees should avoid placing transmission cables in sensitive areas. Additionally, the commenter said that lessees should develop anchoring plans that identify and avoid sensitive areas during construction, and recommended that micro-siting strategies should be implemented to further minimize impacts on complex benthic habitats within lease areas. The commenter said that altogether, these measures would ensure that offshore wind development minimizes its impact on critical and sensitive benthic habitats. The commenter stated that offshore wind exploration and development in the Gulf of Maine should prioritize avoiding contact with biogenic habitats.[343] To protect these habitats, a couple of commenters recommended the following measures as lease stipulations:

- Lessees should conduct detailed surveys during site assessment to identify sensitive benthic habitats;
- Before deploying anchored meteorological buoys, lessees should obtain box core samples to confirm benthic sediment composition and avoid biogenic habitats when anchoring; and
- During construction and operations, lessees should avoid contact with deep-water corals and sponges, employing micro-siting and ensuring protective buffers.[344]

Another commenter expressed support for planning to identify offshore wind cable routes that minimize impacts on resources and said that the PSN discusses potential protections for hardbottom habitats in the Gulf of Maine. The commenter voiced support for restrictions to minimize impacts on these areas and asked that BOEM mandate setbacks and restrictions on seabed contact near sensitive habitats, based on consultations with NOAA and other agencies.[345]

A commenter said that habitat data is needed to understand the extent of overlap with sensitive habitats. The same commenter identified several additional lease stipulations related to protected species and directed BOEM to the commenter's Attachment B. The commenter also provided additional information and associated figures in the commenter's Attachment A, Supporting Information and Figures. The

340 New England Fishery Management Control (BOEM-2024-0026-0223).
341 Cape Cod Commercial Fishermen's Alliance (BOEM-2024-0026-0225).
342 Environmental Protection Agency (BOEM-2024-0026-0231).
343 Conservation Law Foundation (BOEM-2024-0026-0242).
344 Conservation Law Foundation (BOEM-2024-0026-0242); National Wildlife Federation et al. (BOEM-2024-0026-0256).
345 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).

commenter said that leases OCS-A 0567 and OCS-A 0568 involve areas with important marine habitats, adding that the northern portion of OCS-A 0567 likely contains hard bottom habitats suitable for deep-sea corals and sea pens. The commenter also said that the southeastern portion of OCS-A 0568 overlaps with Franklin Swell and that potential hard bottom habitats could be associated with this area. The commenter recommended that BOEM eliminate approximately the northern two-thirds of leases OCS-A 0562 and OCS-A 0563 from leasing to protect sensitive habitats associated with Cashes Ledge and to reduce conflicts with the groundfish fishery. Specifically, the commenter recommended eliminating lease blocks along the western edge of OCS-A 0562, particularly blocks 6025, 6973, 7024, 7075, and 7125, on the basis that it is crucial for areas where bathymetric maps indicate important habitat features.[346]

A couple of commenters said surveys should precede any seabed contact in uncharted areas and setbacks should be included in COP terms for construction activities. The commenters recommended that leases require minimizing ecological impacts to sensitive habitats.[347] One of these commenters expressed support for BOEM's plan to protect live-bottom features during site assessment and characterization activities on the basis that the Gulf of Maine is home to fragile organisms.[348]

A couple of commenters said the PSN states that site assessment and characterization activities would be subject to protections for live-bottom features, and added that early collaboration with developers is encouraged to ensure projects avoid areas unsuitable for development.[349] A commenter added that the protection of critical sand resources essential for restoration efforts and biogenic structural habitats, which include three-dimensional structures formed by slow-growing organisms like corals and sponges, is crucial, and BOEM should prioritize avoiding development in these areas, including hydrothermal vents, cold seeps, and habitat areas of particular concern.[350]

A commenter remarked that to minimize impacts on sensitive habitats, aliquots overlapping with these features should be removed. The commenter recommended including a buffer around each feature to protect surrounding complex benthic habitat not fully mapped yet, adding that ongoing data collection efforts would further define the spatial extent of vulnerable species. According to the commenter, seafloor mapping results that are expected post-comment period but before the FSN could inform these efforts.[351]

BOEM Response:

The Gulf of Maine lease areas were identified using best available science and information. BOEM, in partnership with NOAA-NCCOS, applied a marine spatial planning model to evaluate the suitability of offshore wind development across a variety of marine resources. This effort led to the exclusion of many important areas for commercial fishing (Lobster Management Area 1, Georges Banks) as well as specific habitats (Cashes Ledge, Franklin Swell). BOEM recognizes that many areas within the Gulf of Maine final lease areas are data poor with respect to geophysical (multibeam, side scan sonar, backscatter) data and even less ground-truth (optical or grab sample) data are available. Lessees are required to submit detailed information on the benthic conditions of the lease in their COP to aid in the design of their project and fill current gaps in our understanding of the existing site conditions.

346 National Marine Fisheries Service (BOEM-2024-0026-0151).
347 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233); The Nature Conservancy (BOEM-2024-0026-0234).
348 The Nature Conservancy (BOEM-2024-0026-0234).
349 Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233); The Nature Conservancy (BOEM-2024-0026-0234).
350 National Wildlife Federation et al. (BOEM-2024-0026-0256).
351 New England Fishery Management Council (BOEM-2024-0026-0223).

The eventual siting and construction activities related to the design and installation of transmission or export cables from offshore wind farms to land-based points of interconnection will include a number of avoidance, minimization, and mitigation measures. Data collected during the site assessment and site characterization phase of lease development can help inform the establishment of these measures during the COP development stage. During the environmental review process, additional measures may be developed through the NEPA review and Essential Fish Habitat consultation under the Magnuson-Stevens Act with NOAA's NMFS as well as input from the USACE. Examples of Conservation Recommendations that could result in conditions of approval of a COP to reduce impacts of construction can include time of year restrictions to avoid impacting marine species spawning events, require Horizontal Directional Drilling (HDD) to avoid impacts on sensitive habitat including Submerged Aquatic Vegetation and shellfish beds, anchoring and microsite plans developed to avoid sensitive and/or complex habitat, and a variety of other mitigation measures.

Issue 20. Coastal and marine habitats of concern.

Approximately 15 commenters discussed coastal and marine habitats of concern.

A commenter discussed several environmental concerns regarding offshore wind energy. For example, the commenter said that floating wind foundations could disrupt water layers, reasoning that this could impact marine ecosystems and cause long-lasting effects on fragile shelf seas. The commenter also expressed concern about wind turbines affecting the cool pool, which according to the commenter is a vital habitat for high-value fisheries like lobsters and scallops. The commenter said that it is critical to understand marine life's interdependence before making changes.[352] Similarly, another commenter expressed concern about overall impacts to marine resources from development of these lease areas.[353]

A commenter stated that important natural resources including beaches, barrier islands, estuaries, salt marshes, nearshore marine resources, wildlife, and fish, as well as night sky, soundscape, and air quality, would be impacted by offshore wind leasing. For example, the commenter said that Monhegan Island features pristine coastal flora and fauna, rugged cliffs, and dense red spruce forests. According to the commenter, although human activity has impacted the southern half of the island, the northern half of the island is largely untouched and supports over 400 wildflower species and numerous migratory birds.[354]

A commenter said that the Gulf of Maine hosts numerous federally and state-listed threatened and endangered species. Post-leasing, the commenter said that BOEM and lessees should collaborate with state and local organizations to develop strategies for minimizing and mitigating impacts on protected species during surveys, construction, and operations. A commenter said that, despite the exclusion of many critical habitats from leasing consideration, some protected habitats and species, like the NARW, are expected to interact with offshore energy activities. The commenter also said that offshore wind also poses collision risks to birds, adding that this is exacerbated by limited data on flight patterns and migration routes. The commenter said that BOEM should promote research by lessees to fill these knowledge gaps and improve future mitigation efforts. Additionally, the commenter said that BOEM should incentivize comprehensive habitat and wildlife research beyond baseline monitoring through proposed bidding credits.[355] *See Issue 21 for additional comments discussing avian species.*

A couple of commenters asserted that floating wind turbines could create environmental impacts through electromagnetic fields and noise pollution from long cables and anchoring systems. The commenters said

[352] R. Regan (BOEM-2024-0026-0070).
[353] Cape Cod Commission (BOEM-2024-0026-0237).
[354] National Park Service (BOEM-2024-0026-0149).
[355] Massachusetts Executive Office of Energy and Environmental Affairs (BOEM-2024-0026-0233).

that this could disrupt marine ecosystems, alter fish behavior, affect migration patterns in the critical habitat of the Gulf of Maine, and potentially lead to long-term ecological imbalances.[356] A commenter further stated that BOEM should ensure that floating wind turbine projects prioritize seafood security by conducting thorough EAs, implementing mitigation measures, and collaborating with NOAA to protect fish populations and marine ecosystems, adding that this would support the sustainability of seafood resources critical to both the fishing community and the public.[357] *See Section 14 for additional comments discussing cable transmission lines.*

A commenter said that BOEM should include several lease stipulations related to avoidance, minimization, and mitigation of impacts to sensitive coral habitats. The commenter said that complex hard bottom habitats in the Gulf of Maine are crucial for Atlantic cod and other species and provide essential fish habitat for breeding, feeding, and growth. The commenter added that these habitats consist of pebbles, cobble, and boulders that support juvenile cod survival as well as various marine species and invertebrates. The commenter said that BOEM should enforce lease stipulations to avoid locating offshore transmission cables in sensitive hard bottom habitats, including designated areas like Jeffreys Bank, Cashes Ledge, and others, due to their ecological significance. According to the commenter, habitats such as Cashes Ledge are sensitive to human activities. The commenter said that BOEM should also mandate anchoring plans that avoid impacting complex benthic habitats within lease areas, thus ensuring minimal disturbance during offshore wind infrastructure installation and operation.[358] *See Section 14 for additional comments discussing cable transmission lines.*

BOEM Response:

BOEM is involved with several studies addressing the impact of offshore wind development on meteorological and oceanographic processes, including stratification (cold pool) and wake effects (See NASEM (2024)[359] and Johnson, et. al (2021)[360]). In addition, BOEM is overseeing a study that addresses offshore wind impacts on the oceanographic process from North Carolina to New York. We anticipate the completion of this study this year, which tackles the hydrodynamic impacts on seasonally stratified water bodies and the wakes' effects on habitats. These studies will be used by BOEM, in combination with studies from other researchers, to review each COP submitted and assess potential impacts in the EIS at the COP stage.

Monhegan Island is over 40 miles from the northern most Gulf of Maine proposed lease areas (OCS-A-0562 and OCS-A-0563). For coastal and marine habitats, as well as coastal flora and fauna and viewsheds that may be affected as a result of lease development in the Gulf of Maine WEA, those potential impact producing factors would be analyzed during the environmental review process under the NEPA. Additionally, coastal and habitat impacts would be assessed during future COP development.

Issue 21. Avian and bat species.

Approximately six commenters discussed avian and bat species.

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356 Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238); Massachusetts Fishermen's Partnership (BOEM-2024-0026-0239).

357 Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238).

358 Conservation Law Foundation (BOEM-2024-0026-0242).

359 National Academies of Sciences, Engineering, and Medicine. 2024. Potential Hydrodynamic Impacts of Offshore Wind Energy on Nantucket Shoals Regional Ecology: An Evaluation from Wind to Whales. Washington, DC: The National Academies Press. https://doi.org/10.17226/27154.

360 Johnson TL, van Berkel JJ, Mortensen LO, Bell MA, Tiong I, Hernandez B, Snyder DB, Thomsen F, Svenstrup Petersen O. 2021. Hydrodynamic modeling, particle tracking and agent-based modeling of larvae in the U.S. mid-Atlantic bight. Lakewood (CO): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2021-049. 232 p. https://espis.boem.gov/final%20reports/BOEM_2021-049.pdf

A couple of commenters expressed concern regarding seabird vulnerability in proposed lease area OCS-A 0566 and about core diving bird habitats in lease areas OCS-A 0569, OCS-A 0568, OCS-A 0564, and OCS-A 0567. The commenters also expressed concern about bat fatalities near wind turbines.[361] One of these commenters added that independent scientific studies are needed to confirm the safety of 16 megawatt (MW) turbines for mammals, fish, birds, bats, and marine life considering the plans for wind power development close to National Seashore beaches.[362] The other commenter said that it is critical that any future offshore wind development in the lease areas avoids adverse impacts on vulnerable avian species. The commenter said that BOEM should carefully assess potential impacts from construction and ongoing operations to ensure responsible decision-making on which lease areas should proceed or be excluded.[363]

A commenter cited NOAA to state that marine animals, including birds, rely on sound for communication and survival, adding that human noise can cause hearing loss, stress, habitat displacement, and behavioral disruptions. The commenter also referenced a Department of Marine Fisheries map that, according to the commenter, identifies high seabird risk in OCS-A 0566 and core diving bird habitats in OCS-A 0569, OCS-A 0568, OCS-A 0564, and OCS-A 0567. The commenter also expressed concern regarding 13 MW turbines and discussed the need for scientific studies proving that 16 MW turbines are safe for birds, bats, and marine life. Finally, the commenter asked for assurance of safety should 10 GW of wind power be sited near National Seashore beaches.[364]

According to a commenter, several organizations expressed concern for birds. The commenter further stated that all of OCS-A 0567 is identified in the USFWS Avian Combined Layer as Core Use Areas for Diving Birds based on tracking data. The commenter said that there are lesser degrees of overlap within that layer than in many of the other lease areas.[365]

A commenter said the FSN should require lessees to adopt measures to monitor, avoid, and minimize bird and bat collisions, especially during turbine operation and site assessment. The commenter said that specific consideration is needed for species listed under the ESA, Migratory Bird Treaty Act, and other conservation obligations. According to the commenter, monitoring efforts, including Motus Wildlife Tracking Systems on buoys, are crucial to understanding and mitigating impacts. Thus, the commenter concluded that the FSN should mandate deployment of appropriate technology to minimize bird and bat fatalities as needed based on monitoring results.[366]

A commenter provided suggestions to minimize bird and bat impacts from offshore wind projects, such as reducing artificial lighting while ensuring safety and regulatory compliance. The commenter reasoned that this could involve using on-demand transportation safety lighting systems, minimizing the number of lights required, using non-white and flashing lights, avoiding high-intensity lighting, and using hooded or directional lighting. The commenter added that activities needing extensive lighting should be scheduled during daylight hours, when possible, to avoid attracting birds and bats during periods of high risk.[367]

The same commenter remarked that BOEM should mandate comprehensive collision risk assessments using marine radar, acoustic detectors, thermal imaging, and collision detection technologies to evaluate impacts on birds and bats vulnerable to turbine collisions. The commenter recommended deploying strike detection technologies once they are commercially available. The commenter added that accurate

361 R. Regan (BOEM-2024-0026-0070); Association to Preserve Cape Cod (BOEM-2024-0026-0126).
362 R. Regan (BOEM-2024-0026-0070).
363 Association to Preserve Cape Cod (BOEM-2024-0026-0126).
364 L. Green (BOEM-2024-0026-0246).
365 R. Curley (BOEM-2024-0026-0251).
366 National Wildlife Federation et al. (BOEM-2024-0026-0256).
367 National Wildlife Federation et al. (BOEM-2024-0026-0256).

estimation of bird and bat take would require documenting collision events using validated technologies like those developed by the Albertani Lab and WT Bird. According to the commenter, integrated monitoring systems combining acoustic, visual, thermographic, and very high-frequency detection should be implemented to bolster transparency in reporting collision incidents to USFWS.[368] The commenter said that BOEM should require developers to implement strategies to minimize turbine collisions with birds and bats, in addition to the recommended lighting modifications, including:

- Rigorous monitoring and collaboration with experts to assess how turbine design affects collision risks;
- Preparing adaptive management plans based on the best available minimization technologies if significant collision impacts are detected; and
- Exploring bat deterrent systems like turbine coatings, ultraviolet lighting, and ultrasonic emitters.[369]

BOEM Response:

From the beginning, BOEM and USFWS worked closely together to identify an offshore wind planning area that avoids and minimizes overlap with areas of relatively high concentrations of birds and areas used by bird species that are sensitive to development. There are no locations in the Gulf of Maine that are completely devoid of birds. BOEM anticipates that lessees will be conducting studies to inform the development of their COPs. Information from lessee efforts and the efforts from others will be incorporated in future environmental reviews of their COPs as required by NEPA and ESA. Further, the new knowledge gained from these efforts would be used to refine mitigation measures and requirements for development.

Issue 22. Marine mammals.

Approximately 40 commenters discussed marine mammals.

Several commenters expressed concern that currently, there is a significant increase in whale and dolphin deaths in the mid-Atlantic. According to the commenters, this prompts the need for thorough research on how offshore wind's electromagnetic frequencies, noise, and heat emissions would impact marine mammals.[370]

A commenter strongly recommended expanding the PSN language to include a discussion on threatened and endangered species, particularly the NARW, as a potential reason for imposing lease area restrictions.[371]

A commenter recommended exploring the effects of ocean climate change on shifting the baseline of the food chain from the current grazing to the microbial food web, referencing the NOAA Fisheries EMAX model papers.[372] Another commenter expressed concern regarding the proposed offshore wind turbines and the potential negative impacts on whale migration and feeding patterns.[373]

368 National Wildlife Federation et al. (BOEM-2024-0026-0256).
369 National Wildlife Federation et al. (BOEM-2024-0026-0256).
370 K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154); J. Green (BOEM-2024-0026-0162); Meridian Construction Corp. (BOEM-2024-0026-0222); Severino Trucking Co., Inc (BOEM-2024-0026-0229).
371 Environmental Protection Agency (BOEM-2024-0026-0231).
372 D. Dow (BOEM-2024-0026-0046).
373 R. Chick (BOEM-2024-0026-0063).

A few commenters stated that the construction and operation of offshore wind turbines pose significant threats to these whales and can disrupt whale communication and echolocation, leading to stress, disorientation, and reduced breeding and feeding efficiency. Additionally, the commenters stated that turbine installation can disrupt benthic habitats crucial for marine food webs.[374] One of these commenters added that offshore wind turbines pose significant environmental impacts concerning marine mammals.[375] One of these commenters added that the introduction of large structures can alter water currents and sediment patterns, potentially disturbing marine ecosystems and impacting fish populations.[376]

A couple of commenters discussed how private whale watching trips constitute 10 percent of their charter fishing business revenue, adding that changes in the ocean environment and electromagnetic pollution from the area would significantly impact their business. The commenters added that losing this revenue stream would jeopardize the employment of staff members and diminish their contribution to the local economy.[377]

A couple of commenters expressed concern that the reduction in the draft WEA could have potential impacts on protected marine species as leases are situated within mapped NMFS critical habitats for whales. The commenters said that assessing these impacts requires additional detail and added that it is crucial to acknowledge current concerns regarding the potential effects on this species.[378]

A commenter remarked that the offshore area east of Cape Cod is vital for whale species and reasoned that since lease areas OCS-A 0567 and OCS-A 0568 are proposed for offshore wind development, it is critical to ensure that any future development in lease areas avoids harming vulnerable marine mammal species. The commenter stated that BOEM should carefully evaluate potential impacts on local wildlife before deciding on lease area approvals.[379]

A commenter expressed concern over the lack of clarity regarding the overall environmental impact of offshore wind development and stated that insufficient research exists on how these projects would affect marine life, particularly concerning recent increases in marine mammal deaths in the Mid-Atlantic. According to the commenter, understanding how electromagnetic frequencies from turbines could disrupt marine mammals' communication, predator detection, and navigation is essential and requires immediate study before further development proceeds.[380]

A commenter stated that all eight proposed lease areas overlap with Unit 1 of critical habitat designated for the endangered NARW and recommended that BOEM develop a comprehensive plan before the FSN to mitigate impacts of offshore wind development on this critical habitat. The commenter said that failure to address these concerns upfront could lead to delays and increased risks for the offshore wind industry. The commenter said the plan should thoroughly address potential effects of offshore wind energy on the critical habitat, aligning with recommendations outlined in the NOAA Fisheries-BOEM North Atlantic Right Whale and Offshore Wind Strategy to ensure minimal impact on right whales and their dependent ecosystems. As such, the commenter recommended that BOEM implement the lease conditions included in the commenter's Attachment B. The commenter specifically discussed the northern halves of OCS-A 0562 and OCS-A 0563, which according to the commenter overlap significantly with high numbers of

374 R. Chick (BOEM-2024-0026-0063); R. Regan (BOEM-2024-0026-0070); Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238).
375 R. Regan (BOEM-2024-0026-0070).
376 Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238).
377 Reel Deal Fishing Charters (BOEM-2024-0026-0079); Reel Deal Fishing Charters (BOEM-2024-0026-0096).
378 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).
379 Association to Preserve Cape Cod (BOEM-2024-0026-0126).
380 J. Green (BOEM-2024-0026-0146).

NARW acoustic detections and visual sightings recorded since 2020. The same commenter stated that the lease areas are adjacent to and overlap with regions of high abundance for protected species, as indicated by data layers showing the relative suitability of NARW densities combined protected resources, and NMFS considerations for NARW in the BOEM/NCCOS Final Gulf of Maine WEA Report.[381]

A commenter remarked that BOEM should implement the no-action alternative until the research array can provide data that sufficiently informs responsible decisions regarding whale transit in the WEA. The commenter said that absent the adoption of the no-action alternative, each lease should contain a stipulation stating that BOEM reserves the right to reduce the size of all lease areas or widen BOEM-designated corridors pending additional monitoring and studies until BOEM has sufficient data to conclusively determine the effect of OSW development on whale transit and migration.[382] *See Issue 5 for additional comments discussing BOEM-designated corridors between leases.*

A commenter referenced a recent NMFS assessment discussing compliance with vessel speed rules aimed at protecting right whales.[383] Further, a couple of commenters suggested that BOEM mandate 3–5 years of aerial surveys for protected species prior to construction.[384] The initial commenter said the surveys should mirror protocols used in Massachusetts/Rhode Island WEAs and be conducted throughout construction and operations. The commenter stated that regional coordination is advised to assess offshore wind's impact on marine megafauna.[385]

A couple of commenters acknowledged the potential for NARW presence within lease areas and stated that developers should regularly update these databases with their findings to enhance understanding of whale distributions.[386] Several commenters remarked that offshore wind development in the northeast would significantly increase vessel traffic and expressed concerns about potential collisions with endangered NARW; the commenters said BOEM's reluctance to enforce a 10-knot speed limit for wind project vessels in critical areas like the Gulf of Maine is concerning.[387]

A commenter stated that the risk of collisions between whales and vessels traveling at speeds exceeding 10 knots is underscored by the role of vessel strikes as a primary cause behind several unusual mortality events affecting large whale populations. The commenter said that, given the species' vulnerability and the importance of the Gulf of Maine as a critical habitat, measures to mitigate collision risks are essential to safeguarding their population. The same commenter remarked that BOEM's current proposal to limit vessel speeds to 10 knots or less only in specific areas based on whale sightings is insufficient, stating that BOEM should require a 10-knot speed limit for all project vessels in and around lease areas throughout the entire project duration to prevent fatal whale strikes. Specifically, the commenter said that the speed limit should apply from initial surveys through construction and operation phases, thus ensuring consistent environmental protection and regulatory clarity. The commenter said that slowing vessel speeds to 4 knots in areas with jellyfish aggregations would significantly reduce collision risks and protect marine biodiversity. Given shifting NARW distributions due to climate change, the commenter remarked that there is no longer a season of low risk for these species. Therefore, the commenter reasoned that implementing year-round noise reduction measures during site assessments in the Gulf of Maine is critical. The commenter said BOEM should mandate reduced power settings for sub-bottom profiling

381 National Marine Fisheries Service (BOEM-2024-0026-0151).
382 Passamaquoddy Tribe (BOEM-2024-0026-0263).
383 National Marine Fisheries Service (BOEM-2024-0026-0151).
384 National Marine Fisheries Service (BOEM-2024-0026-0151-0027); Maine Governor's Energy Office (BOEM-2024-0026-0236).
385 National Marine Fisheries Service (BOEM-2024-0026-0151).
386 The Nature Conservancy (BOEM-2024-0026-0234); Conservation Law Foundation (BOEM-2024-0026-0242).
387 Conservation Law Foundation (BOEM-2024-0026-0242); D. Dow (BOEM-2024-0026-0046); National Wildlife Federation et al. (BOEM-2024-0026-0256); The Nature Conservancy (BOEM-2024-0026-0234).

systems to minimize noise detectable by marine mammals and limit surveys in deep waters to 40 meters above the seafloor and that these measures must apply across all project phases to mitigate ongoing noise impacts. The commenter said that the measures included in the 2021 Programmatic Informal Consultation are insufficient and recommended expanding the 500-meter exclusion zone to include all large whale species and oppose Best Management Practice (BMP) 4.8.8 allowing ramp-up during low-visibility and nighttime. According to the commenter, this would minimize impacts on marine life during offshore wind site assessments in the Gulf of Maine. Finally, the commenter wrote that BOEM should prioritize including vessel strike avoidance measures in the FSN to protect endangered species under the ESA and marine mammals under the Marine Mammal Protection Act. The commenter recommended that BOEM conduct additional surveys in Secondary Area C of the Gulf of Maine, as identified in the NCCOS wind energy area siting analysis, as this area overlaps with lease areas OCS-A-0562 and OCS-A-0563 and requires further investigation into the interannual variability of NARW presence and habitat use.[388]

A commenter said that additional research is needed to assess how floating offshore wind turbines in the Gulf of Maine may affect the density and distribution of essential prey for NARW. According to the commenter, understanding any changes in prey availability due to turbine operations is imperative considering the Gulf of Maine's critical habitat status for right whales. The commenter recommended avoiding turbine placement in key whale foraging areas and dedicating resources to long-term prey studies through collaborative efforts between BOEM and NOAA.[389]

A commenter discussed the critical habitat of the NARW in the Gulf of Maine and the potential impacts of the proposed offshore wind developments on these whales and expressed support for comprehensive understanding and effective management of ocean-based industries while safeguarding NARW and their habitats.[390]

A commenter expressed concern that BOEM has not adequately assessed how offshore wind energy projects could impact endangered NARW. The commenter said that despite strict regulations already burdening the Gulf of Maine fishing sector to protect these whales, Maine lobstermen have lost access to winter fishing grounds. Therefore, the commenter said that the proposed wind farm sites near areas frequented by right whales (OCS-A 0562 and OCS-A 0563) raise alarm. The commenter argued against placing industrial wind farms in such proximity because of the potential of further harm to the right whale population and potentially stricter regulations for fisheries as a result.[391]

A commenter stated that offshore wind turbines pose significant concerns for marine life, including marine mammals. The commenter said that recent maps show proposed turbine areas coincide with high whale activity zones, particularly in lease areas like OCS-A 0566.[392]

A commenter requested that BOEM immediately commission studies to assess the impacts of deployment lines for proposed floating offshore wind turbines on various whale species and evaluate foundation types to identify those posing the least risk to NARW. According to the commenter, the prospect of NARW becoming entangled in lines associated with offshore wind turbines underscores the need for urgent study and mitigation efforts in areas with high whale densities throughout the Gulf of Maine.[393]

BOEM Response:

[388] National Wildlife Federation et al. (BOEM-2024-0026-0256).
[389] Conservation Law Foundation (BOEM-2024-0026-0242).
[390] Maine Governor's Energy Office (BOEM-2024-0026-0236).
[391] Maine Lobstermen's Association (BOEM-2024-0026-0241).
[392] L. Green (BOEM-2024-0026-0246).
[393] R. Curley (BOEM-2024-0026-0251).

Prior to every lease sale, BOEM assesses the impacts of reasonably foreseeable actions following lease issuance, including the impacts of site characterization surveys. The equipment used for surveys associated with offshore wind is different than what is used in the oil and gas industry. Seismic surveys use arrays of airguns to search for oil and gas deposits; these produce high-energy sounds capable of penetrating kilometers into the seafloor. These sound sources are not used in offshore renewable energy projects; rather, offshore wind site characterization surveys use "high-resolution geophysical sources" to look for shallow hazards and characterize the qualities of the seafloor. BOEM and its partners recently published a peer-reviewed paper analyzing the potential effects of these high-resolution geophysical sources on marine mammals and found that the majority of sources used in the renewables industry are de minimis, meaning they are unlikely to result in incidental take of marine mammals. The peer-reviewed paper can be found here, a video describing the main findings of the paper can be found here, and further detail about these sources can be found here.

Through consultations under the ESA, BOEM also has established requirements for conducting site characterization surveys. These include:

- *Exclusion zones around vessels. Operators must establish an "acoustic exclusion zone" for geophysical surveys, so that the zone is clear of any marine mammals and sea turtles for a certain amount of time before acoustic sound sources can be operated.*
- *Visual monitoring by trained third-party, independent Protected Species Observers. Protected Species Observers are trained professionals that look for marine mammals so that the possibility of vessel strikes is minimized and to shut down any sound sources if marine mammals are detected within a certain distance. Any interactions with protected species are immediately reported to NOAA Fisheries and BOEM.*

Additional best practices are found here: PDCs and BMPs for Atlantic Data Collection (boem.gov)

The proposed action is for lease issuance, site characterization activities and site assessment activities – not the construction and operation of wind turbines. Appropriate measures, including ones suggested by the commenters, are considered and applied when appropriate through future ESA consultation with NMFS and as part of the COP environmental and technical review and consultation process. BOEM will consider the commenter's proposed requirements in its environmental analysis of lessees' COPs for offshore wind energy facilities.

Issue 23. Viewsheds, visual resources, historical landmarks, cultural resources, and other recreational resources (should include comments from Native Americans regarding areas that have religious/spiritual significance).

Approximately 13 commenters discussed viewsheds, visual resources, historical landmarks, cultural resources, and other recreational resources.

Several commenters expressed concern about visual impacts to the Cape Cod National Seashore, night skies, and other natural and cultural resources.[394] A couple of commenters cited significant historical sites that should be protected for future generations, including the Nauset Archaeological District and the 25 National Register of Historic Places listings in Cape Cod National Seashore.[395] Another commenter cited natural resources potentially impacted by leases, including the Cape Cod National Seashore and the Mohegan Island National Natural Landmark.[396]

[394] J. Green (BOEM-2024-0026-0246); R. Regan (BOEM-2024-0026-0070); C. Savoy (BOEM-2024-0026-0160); Anonymous (BOEM-2024-0026-0122); National Park Service (BOEM-2024-0026-0149).
[395] J. Green (BOEM-2024-0026-0246); R. Regan (BOEM-2024-0026-0070).
[396] National Park Service (BOEM-2024-0026-0149).

A couple of commenters asked for more specifics on the heights and visual impacts of the turbines.[397] A couple of commenters asked BOEM to provide simulations of how Highland Light, Marconi Beach, and Nauset Beach would appear at night under safety lighting.[398] Another commenter asked for visual simulations of turbines within lease areas OCS-A 0567, OCS-A 0568, OCS-A 0564, OCS-A 0562, and OCS-A 0563, as seen from representative locations within Cape Cod National Seashore and from Monhegan Island National Natural Landmark, including nighttime simulations and video simulations of a 24-hour period. The commenter recommended that use of Aircraft Detection Lighting Systems be included as a requirement for lessees rather than a recommendation and suggested adoption of NPS's Sustainable Outdoor Lighting Principles.[399]

A commenter recommended the use of mitigation methods to reduce visibility, such as turbine height limits, non-reflective paints, Aircraft Detection Lighting Systems (ADLS), and uniform turbine design and spacing.[400]

A commenter urged BOEM to require developers to have plans for meaningful engagement with Tribes and Indigenous communities. The commenter also recommended that BOEM work closely with Tribes and Indigenous communities and utilize place-based and cultural knowledge to understand cultural resources and uses of lease areas.[401]

A commenter said that Gulf of Maine OSW development would be a serious threat to their Tribe's identity, livelihood, and traditional ways. The commenter expressed concern about the extent to which OSW development would impact the Tribe's ability to remain economically self-sustaining and connected to their culture, and about whether the benefits of OSW development in combatting climate change could help restore resources to the area. The commenter remarked that BOEM understands that it lacks sufficient data to make responsible decisions regarding the marine ecosystem in the WEA.[402]

BOEM Response:

BOEM shares the commenter's concerns for historic properties, the importance of National Natural Landmarks, National Seashores, and dark nighttime skies, and works diligently to balance all concerns and interests in the fulfillment of BOEM's mission "to manage the development of U.S. Outer Continental Shelf (OCS) energy, mineral and geological resources in an environmentally and economically responsible way."

BOEM has processes in place to assess and mitigate potential impacts to historical, visual, and recreational resources throughout all phases of offshore energy development from lease sale and issuance, site characterization and assessment, construction and operation, to decommissioning. At each stage BOEM conducts rigorous environmental reviews to identify and address reasonably foreseeable potential impacts. For example, BOEM requires lessees to submit specifics on proposed wind turbine heights, detailed visual impact assessments with affected viewshed modeling and mapping, and visual simulations from multiple viewing points and at varying times of day and night as part of the COP. In the EIS for the COP, BOEM will identify, analyze, and evaluate alternatives to the proposed action that would reduce visual impacts. Mitigation measures such as using ADLS, non-reflective paints, and uniform turbine design and spacing, are also considered as part of the analysis and could be implemented

397 J. Green (BOEM-2024-0026-0125); L. Green (BOEM-2024-0026-0246).
398 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163).
399 National Park Service (BOEM-2024-0026-0149).
400 Cape Cod Commission (BOEM-2024-0026-0237).
401 The Nature Conservancy (BOEM-2024-0026-0234).
402 Passamaquoddy Tribe (BOEM-2024-0026-0263).

as terms and conditions of COP approval. Other regulatory agencies, such as the Federal Aviation Administration (FAA) and the USCG, have established minimum requirements for lighting and other standards that also would apply to all projects. BOEM's "Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development" (April 28, 2021) provides lighting and marking recommendations for wind energy facilities, based on FAA and USCG regulatory requirements.

BOEM will conduct a Section 106 consultation consistent with the National Historic Preservation Act (NHPA) for each project at the COP stage. The COP will include technical reports identifying and assessing effects to historic properties, and must adhere to BOEM's 2020 "Guidelines for Providing Archaeological and Historic Property Information" Pursuant to 30 CFR Part 585, as well as applicable State Historic Preservation Office guidelines. BOEM will consult on measures to resolve adverse effects to historic properties during the project specific Section 106 consultation. BOEM does not intend to identify specific historic properties at the leasing stage. BOEM subject matter experts also will utilize the information from the comments concerning historical sites to inform the COP-level reviews.

In regard to turbine height limits, for individual leases, a lessee will be allowed to use a Project Design Envelope (PDE) as part of its COP. This PDE can include a range of facilities and facility related options, such as the numbers of WTGs and offshore substations, the height of the WTGs, and spacing. This is codified via the Modernization Rule (30 CFR 515.113) and its use as part of a COP submission via 30 CFR 585.626. BOEM's regulations allow BOEM to determine if a PDE is acceptable, which is typically associated with whether a PDE is too broad or vague to allow for effective NEPA analysis and consultation. BOEM can address concerns about impacts through the development of alternatives as part of the NEPA review and through the development of avoidance, minimization, and mitigation measures as part of the Section 106 consultation process. However, the alternatives and avoidance, minimization, and mitigation measures must be technically and economically feasible. For example, if a project's purpose and need and goal are tied to the delivery of an awarded Power Purchase Agreement generation capacity, BOEM cannot include an alternative in the NEPA review that would reduce the number of WTGs needed to meet that generation capacity.

Lastly, lessees are required to coordinate with Tribal Nations early in the planning and design process, which is supported by the development of Native American Tribal Communication Plans. BOEM also requires lessees to demonstrate engagement with Tribal Nations in their COP to document how the project was designed after considering Tribal feedback received. In addition, BOEM will continue to consult with Tribes in the region and uphold our federal trust responsibilities with our Tribal partners.

Issue 24. Air and water quality.

Approximately four commenters discussed air and water quality.

24.1 Air Quality

Given that air pollutants can travel hundreds of kilometers, a commenter said that the further emission sources (i.e., diesel-powered vessels, heavy lift vessels, tugboats, barges, generators, or jack-up vessels) are located from Class I and Class II parks, the less likely they are to cause impacts to resources in those areas. The commenter recommended that BOEM prioritize leasing in those areas farthest from NPS-managed lands in order to protect air quality and related values.[403]

Another commenter remarked that all projects located in the [area described in the] PSN would need to demonstrate sufficiently low emissions in any air quality impact analysis required by the Prevention of

[403] National Park Service (BOEM-2024-0026-0149).

Significant Deterioration (PSD) permitting and may need to utilize stringent air pollution control technologies to demonstrate compliance with air permitting requirements. The commenter recommended that BOEM fully explain to prospective lessees the requirements associated with demonstrating compliance with the Clean Air Act ambient air standards in the nearfield and within Class I areas. The commenter stated that BOEM's current proposed lease areas in the Gulf of Maine contain one lease area, namely OCS-A 0567, that straddles the inner and outer OCS divide for Clean Air Act permitting. The commenter suggested that BOEM make prospective lessees aware of the corresponding nearest onshore area for a given project location so that they could complete the necessary procedural step to designate the corresponding onshore area, which determines the applicable state-based air quality regulations that may apply to the project via an EPA-issued OCS permit.[404]

The same commenter remarked that BOEM should consider adding buffers or separations between the proposed lease areas since EPA air permitting requirements generally require aggregation of emissions for projects on directly adjacent developments when they are under common control. The commenter said that aggregated projects would increase the total emissions of the source, and emissions may exceed more stringent permitting program requirements.[405]

BOEM Response:

The air quality impacts of site characterization and site assessment activities expected to take place after the issuance of commercial wind energy leases are assessed in the EA. Any potential impacts were compared to EPA's major source permitting thresholds to determine if a National Ambient Air Quality Standard (NAAQS) exceedance would occur and, if applicable, any project permitting requirements. The use of a diesel-powered generator as a part of site characterization and site assessment activities may require an OCS air permit from the EPA. Under 40 CFR Part 55, the EPA has the authority to regulate air emissions associated with OCS sources.

If a COP is submitted by a lessee, BOEM encourages the lessee to seek early consultations with the appropriate stakeholders of the nearest onshore area(s) and adjacent state(s), and the EPA and/or state agencies to discuss the OCS air permitting process and requirements. Pursuant to Clean Air Act Section 328, the Lessee is required to obtain an air permit from either the EPA or the state delegated permitting authority and must demonstrate that the estimated emissions projected to occur during construction and operations and maintenance phases will not cause or contribute to a violation of the applicable Federal NAAQS or State AAQS and the PSD increments. All OCS sources located within 25 nautical miles of a state's seaward boundary must satisfy the same air permitting requirements that apply to sources located onshore. Ambient concentration estimates shall be based on applicable air quality modeling, data bases, and other requirements as specified in 40 CFR Part 51 Appendix W (Guideline on Air Quality Models). If proposed emissions occur near Class I or II areas, the appropriate Federal Land Manager (FLM) will be notified. The FLM has the direct responsibility of ensuring the protection of Air Quality Related Values, including visibility and deposition, for Class I and Class II areas (40 CFR 52.21(p)). The evaluation of impacts to any Class I/II areas would be added to the NEPA analysis when available. The EIS would also analyze cumulative impacts pursuant to NEPA and may include terms and conditions to address mitigation of the Class I/II areas as a part of COP approval.

Site-specific data collected by the lessee will inform the design of the proposed facility. This may result in additional offsets, use of BMPs, or implementation of mitigation measures (i.e. geographical segregation of lease areas or relocation) in addition to the implementation of best available control technology or lowest achievable emission rate requirements as a part of the OCS permit or at the lessee's option. The

404 Environmental Protection Agency (BOEM-2024-0026-0231).
405 Environmental Protection Agency (BOEM-2024-0026-0231).

OCS air permit will contain, at a minimum, requirements for emissions control, emissions limitation, monitoring, testing, and reporting for OCS sources.

24.2 Water Quality

A commenter recommended that BOEM include a lease stipulation that would require regular physical and biological oceanographic sampling for a minimum of 3–5 years prior to construction in the lease areas and surrounding waters. The commenter remarked that surveys should be designed to assess seasonal characteristics of the water column and that sampling should occur such that results could be used to assess effects of the physical structure of wind turbines on the oceanographic and atmospheric environment, including the effects of wind wake.[406]

Another commenter stated that the Gulf of Maine is a seasonally stratified water body and there is the risk that the wake effect of currents would cause the waters to mix and be changed irreversibly. The commenter asked what scientific studies have been done in this regard?[407]

BOEM Response:

Meteorological and oceanographic (metocean) data collection occurs during site assessment activities through the deployment of metocean buoys and other data collection devices. While this data is primarily collected to inform the design of a facility, the data can also be used to assess physical characteristics of the water column. Typical parameters measured include wind speed, wind direction, wave height, wave period, wave direction, current speed, current direction, and water temperature. Additional parameters can be collected as needed to inform metocean and water quality assessments.

As part of a COP, the lessee must demonstrate an overall understanding of the metocean and water quality conditions at the site of proposed activities. This typically occurs through an assessment of data collected during site assessment activities, publicly available data from other sources (e.g. National Data Buoy Center, National Coastal Conditions Report), and models.

BOEM has funded several studies on the impacts of an offshore wind facility on oceanographic processes. Johnson, et al. (2021) modeled the potential impacts of offshore wind development in the Rhode Island and Massachusetts lease areas. Two additional studies are currently underway to model the potential impacts of OSW development in lease areas offshore New York southwards to North Carolina. These studies will be used by BOEM, in combination with studies from other researchers, to assess potential impacts in its NEPA analysis of a COP.

Issue 25. Geological concerns, sand/sand displacement, seismic hazards, and other comments related to seafloor or seabed disruption.

Approximately 10 commenters discussed geological concerns, sand or sand displacement, seismic hazards, or other topics associated with seafloor or seabed disruption.

A couple of commenters voiced general opposition to any activities that might cause harm to the ocean floor.[408] A couple of commenters requested that BOEM:

[406] National Marine Fisheries Service (BOEM-2024-0026-0151).
[407] Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124).
[408] M. Arsenault (BOEM-2024-0026-0035); T. Fagin (BOEM-2024-0026-0170).

- Explain how sand resource areas and sand deposit zones would be protected from the impacts of cable corridors;[409] and
- Coordinate early with potential lessees on the identification of sand resource areas.[410]

BOEM Response:

As it relates to sand resources, BOEM's Office of Renewable Energy Programs facilitates coordination between BOEM's Marine Minerals Program (MMP) and lessees early in the post-leasing process to introduce the program and facilitate an information exchange to assist with sand resource avoidance. For more information on MMP and MMP resources of interest please see: "A Citizen's Guide to the BOEM Marine Minerals Leasing".

As part of a COP, the lessee must include reports, often referred to as the Marine Site Investigation Report, that document the results of surveys and investigations that characterize and model the site of the proposed project. This includes project-specific geologic information and supporting data that describe the geologic ground model, geohazard analysis, sediment mobility estimates, and human-made risks. Additionally, BOEM funded a study, "Geological and Geotechnical Overview of the Atlantic and Gulf of Mexico Outer Continental Shelf" available here that evaluated the seafloor and near-seafloor geological and geotechnical conditions of regions including the Gulf of Maine and Georges Bank. This study provides information on the geologic setting, seabed conditions, seabed sediments, subsurface stratigraphy, and geohazards of the area.

The lessee must discuss environmental resources and impact producing factors (IPFs) in the COP. For each biological, physical, and socioeconomic resources, lessees should identify all IPFs and provide a detailed assessment of each. The assessment should include, but is not limited to, a description of each IPF, spatial delineation of the affected area for each potentially affected resource, a quantified inventory of these affected resources, and a narrative describing how these resources would be affected. One resource to identify potential IPFs is BOEM's Study "National Environmental Policy Act Documentation for Impact-Producing Factors in the Offshore Wind Cumulative Impacts Scenario on the North Atlantic Outer Continental Shelf" available here. In this study, marine minerals extraction, land use and coastal infrastructure were considered as IPFs. 30 CFR 585.621 states in part that the lessee must demonstrate that proposed activities do "not unreasonably interfere with other uses of the OCS", which include leasing and use of known sand resources.

Issue 26. Labor, unions, social and environmental justice, and other comments related to socio-economic concerns (excludes bidding credit comments).

Approximately 25 commenters discussed labor, unions, social and environmental justice, and other comments related to socioeconomic concerns.

A commenter urged BOEM to: "(i) require project labor agreements for construction workers on the projects and Jones Act-compliant vessels, as well as labor peace agreements for operations and maintenance and supply chain workers; (ii) minimize negative impacts on other ocean users, particularly commercial fishing; and (iii) consult with Native American Tribes and Communities, particularly Maine's four Wabanaki nations: the Maliseet, Mi'kmaq, Passamaquoddy, and Penobscot nations."[411] A couple of other commenters also discussed the importance of project labor agreements and labor peace

[409] New England Fishery Management Council (BOEM-2024-0026-0223); American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).
[410] American Clean Power and RENEW Northeast Inc. (BOEM-2024-0026-0245).
[411] Maine Labor Climate Council (BOEM-2024-0026-0228).

agreements.[412] One of these commenters suggested other equity and labor measures, including: ensuring workers have the right to join a union, supporting American manufacturing, outlining a supply chain statement of goals, requiring developers adopt equitable safety management systems, and ensuring workplace safety.[413]

A couple of commenters stated that the reduction in greenhouse gas emissions resulting from proposed wind development would overall have a negligible effect on environmental justice communities.[414] One of these commenters also expressed concern about potential impacts to tourism, which according to the commenter is a significant contributor to the Cape Cod economy.[415] Another commenter expressed concern about loss of business to their charter boat company due to impacts on fishing and tourism.[416]

A commenter stated that liabilities associated with development of new turbines would lead to greater insurance premiums and asked BOEM to clarify how lease terms would protect local communities potentially impacted by liabilities.[417]

A commenter stated that economic concerns should be considered to a lesser extent than environmental benefits, but still expressed opposition to offshore wind development due to harm to marine life.[418] Another commenter expressed opposition to leasing areas in the Gulf of Maine, stating that the lease prices are extremely low compared to the revenues of lobstermen and fishermen in the area.[419]

Another commenter suggested that project labor agreements (PLAs) should be included as a stipulation of lease sales.[420]

BOEM Response:

Economic impacts to lobstermen, fishermen, charter fishing companies, tourism, and the community will be assessed through the NEPA process that will be conducted after submittal of a COP. BOEM may require terms and conditions of COP approval to mitigate these impacts as identified in the NEPA analysis and as documented in the Record of Decision. Additional opportunities for stakeholder engagement and consultation, including public comment opportunities, will be available during the NEPA and consultation process for the COP. BOEM encourages interested parties to participate in those future opportunities and provide substantive comments identifying knowledge gaps and providing sources of information and data we may use to improve our analyses.

BOEM encourages PLAs for the construction stage of offshore wind projects but does not have authority to require provisions common to Labor Peace Agreements. Many of the suggested provisions including safety management systems are covered in the BOEM 30 CFR 585 or BSEE 30 CFR 285 regulations, but are not included in each individual lease.

Issue 27. Other comments on the PSN.

Approximately 25 commenters provided other comments on the PSN.

412 BlueGreen Alliance (BOEM-2024-0026-0244); New England for Offshore Wind (BOEM-2024-0026-0250).
413 BlueGreen Alliance (BOEM-2024-0026-0244).
414 L. Green (BOEM-2024-0026-0246); R. Regan (BOEM-2024-0026-0070).
415 R. Regan (BOEM-2024-0026-0070).
416 Reel Deal Fishing Charters (BOEM-2024-0026-0079).
417 A. Gabriele (BOEM-2024-0026-0227).
418 Meridian Construction Corp (BOEM-2024-0026-0222).
419 M. Thompson (BOEM-2024-0026-0005).
420 BlueGreen Alliance (BOEM-2024-0026-0244).

27.1 Offshore Wind Technology

Some commenters expressed concern that floating offshore wind has not previously been installed at such a scale.[421] A few commenters expressed concern that the technology to deploy offshore wind at this scale does not exist or is lacking.[422] Specifically, a commenter stated that the absence of a demonstration project ahead of the sale of the lease areas increases the uncertainty of lease development and associated impacts.[423] A commenter urged BOEM to update EAs at a minimum of every 5 years to account for new and emerging technologies.[424]

BOEM Response:

BOEM acknowledges the status of floating offshore wind technology and notes that construction of a wind energy facility in any of the leases in this sale is 8-10 years away allowing for additional time for technology maturation prior to installation. BOEM has also granted a Research Lease for offshore wind in the Gulf of Maine to the State of Maine expressly for the purpose of conducting research to inform potential future development. As always, BOEM will use the best available information, including information from the Research lease and any other floating offshore wind deployments worldwide before it decides on any future installations.

27.2 Public Safety

A couple of commenters asked how a municipality would be protected in the event of wind turbine debris associated with a catastrophic event.[425] Another commenter referenced a legal determination wherein the health of local citizens in Falmouth, Massachusetts, was subject to "irreparable harm" because of two wind turbines.[426] A commenter expressed concern that offshore wind infrastructure could impact rescue efforts to assist people in distress at sea.[427]

To minimize the potential risks and environmental impacts associated with wind turbines, a commenter urged BOEM to implement advanced safety measures and continuous environmental monitoring.[428]

A commenter discussed safety concerns associated with offshore wind structures, including the effect of weather events on mooring lines and the potential risk of failure.[429] A commenter likewise said that the PSN does not account for the potential damage and failure to offshore wind turbines during extreme weather events. The commenter recommended conducting a comprehensive assessment of the potential impacts of extreme weather events on offshore wind infrastructure prior to moving forward with the lease sale.[430]

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421 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163); J. Green (BOEM-2024-0026-0146); J. Green (BOEM-2024-0026-0162); G. Parker (BOEM-2024-0026-0253); R. Curley (BOEM-2024-0026-0251).
422 K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154); T. Fagin (BOEM-2024-0026-0170).
423 R. Curley (BOEM-2024-0026-0251).
424 New England Fishery Management Council (BOEM-2024-0026-0223).
425 Cape and Islands Municipal Leaders Association, Inc. (BOEM-2024-0026-0124); Town of Wellfleet (BOEM-2024-0026-0163); G. Parker (BOEM-2024-0026-0253).
426 R. Regan (BOEM-2024-0026-0070).
427 R. Curley (BOEM-2024-0026-0251).
428 Gloucester Fishermen's Wives Association (BOEM-2024-0026-0238).
429 R. Curley (BOEM-2024-0026-0251).
430 M. Gilreath (BOEM-2024-0026-0211).

27.3 Questions and Requests for Additional Information

Several commenters asked about how the Jones Act would be addressed.[431] Several commenters asked about plans to service and maintain offshore wind infrastructure.[432] Similarly, another commenter said there is a lack of information regarding plans to service and maintain offshore wind infrastructure.[433] *See Issue 14 for additional comments discussing land, coastal, and marine infrastructure.*

A commenter asked multiple questions regarding the number, height, size, and anchorage system of the wind turbines, as well as the potential impacts of wind turbine infrastructure on environmental resources.[434] Another commenter asked BOEM to "assess the risks of increased pathogenic mixing of seasonally stratified waters" and to file with the Massachusetts Office of Coastal Zone Management.[435]

27.4 Other Comments

A commenter expressed concern that the proposed lease sale could trigger "unchecked development" of wind energy projects in the absence of appropriate safeguards.[436] Another commenter suggested that, prior to the lease auction, BOEM could undertake site survey and evaluation work and require the winning developers to submit reimbursement. According to the commenter, including this suggestion as part of a stipulation in future leases could bolster the quality of data and shorten the overall timeline.[437]

A commenter urged BOEM to require collecting site characterization data in a standardized format based on stakeholder engagement and the best available science and to make such data publicly available.[438] Another commenter recommended requiring lessees to provide a plan to minimize the introduction of invasive species in the FSN.[439]

BOEM Response:

Floating wind turbines will need to be designed to the same level of safety as fixed bottom turbines. Specific design standards for floating turbines have been developed, partly based on the long record of floating platforms used for oil and gas drilling and production. Turbines, foundations, and towers are designed to resist site specific environmental loads including extreme wind events such as hurricanes. Floating wind platforms will also need to meet USCG stability and buoyancy requirements or standards. Cables, both export/inter-array including the dynamic sections, mooring, and anchor systems also need to meet design standards to withstand the loads and station keeping of the platforms during extreme events.

Compliance with the Jones Act is the responsibility of the offshore wind developer that will be commissioning ships to support survey operations, construction, operations and maintenance, and decommissioning of offshore wind farms.

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431 J. Green (BOEM-2024-0026-0146); K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154); J. Green (BOEM-2024-0026-0162).
432 J. Green (BOEM-2024-0026-0125); J. Green (BOEM-2024-0026-0146); K. Green (BOEM-2024-0026-0153); R. March (BOEM-2024-0026-0154); J. Green (BOEM-2024-0026-0162).
433 T. Fagin (BOEM-2024-0026-0170).
434 J. Green (BOEM-2024-0026-0125).
435 R. Curley (BOEM-2024-0026-0251).
436 M. Gilreath (BOEM-2024-0026-0211).
437 New England for Offshore Wind (BOEM-2024-0026-0250).
438 National Marine Fisheries Service (BOEM-2024-0026-0151).
439 National Wildlife Federation et al. (BOEM-2024-0026-0256).