

Beacon Wind Project Environmental Impact Statement Final Scoping Report

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

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Appendix A: List of Submissions and Individual Comments by Topic

List of Abbreviations and Acronyms

| | |
|-----------------|--|
| Beacon Wind | Beacon Wind LLC |
| BOEM | Bureau of Ocean Energy Management |
| CFR | Code of Federal Regulations |
| COP | Construction and Operations Plan |
| EFH | Essential Fish Habitat |
| EIS | Environmental Impact Statement |
| EMF | Electromagnetic field |
| EPA | U.S. Environmental Protection Agency |
| ESA | Endangered Species Act |
| GHG | Greenhouse gas |
| GW | Gigawatts |
| HAPC | Habitat area of particular concern |
| HVAC | High voltage alternating current |
| HVDC | High voltage direct current |
| ID | Identification |
| ISO-NE | New England Independent System Operator |
| MMPA | Marine Mammal Protection Act |
| MW | Megawatts |
| NARW | North Atlantic right whale |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NOI | Notice of intent |
| NPDES | National Pollutant Discharge Elimination System |
| NYISO | New York Independent System Operator |
| NYSERDA | New York State Energy Research and Development Authority |
| OSS | Offshore substation |
| PDE | Project design envelope |
| PDF | Portable document format |
| PPA | Power purchase agreement |
| SF ₆ | Sulphur hexafluoride |
| USC | United States Code |
| USCG | U.S. Coast Guard |
| USFWS | U.S. Fish and Wildlife Service |
| UXO | Unexploded ordnance |
| WTG | Wind turbine generator |

1. Introduction

Council on Environmental Quality regulations for implementing the National Environmental Policy Act (NEPA) under Title 40 of the Code of Federal Regulations (CFR) Section 1501.9 require agencies such as the Bureau of Ocean Energy Management (BOEM) to perform certain actions as part of the scoping process, including the following.

- Determining the scope and the significant issues to be analyzed in depth in the environmental impact statement (EIS).
- Identifying and eliminating from detailed study the issues that are not significant.

This document, in combination with the Draft EIS, is intended to satisfy BOEM's obligations under 40 CFR Section 1501.9.

On February 18, 2022, Beacon Wind LLC (Beacon Wind), submitted a Construction and Operations Plan (COP) for the Beacon Wind Project to BOEM seeking approval to construct and operate two wind energy facilities (BW1 and BW2 or, collectively, the Project) offshore Massachusetts with two export cable routes making landfall in Queens, New York, or with one cable making landfall in Queens, New York and the other in Waterford, Connecticut. BW1 has a 25-year offtake agreement with the New York State Energy Research and Development Authority (NYSERDA) and is expected to deliver 1,230 Megawatts (MW) of power to the New York Independent System Operator (NYISO) electric grid at an identified point of interconnection in Queens, New York. Beacon Wind is actively seeking an offtake agreement for BW2. Beacon Wind anticipates that BW2 will deliver more than 1,200 MW of power and interconnect with either the NYISO electric grid in Queens, New York, or with the New England Independent System Operator (ISO-NE) electric grid in Waterford, Connecticut. Offshore components of the Project would include up to 155 total wind turbine generators (WTGs) (between 61 and 94 WTGs for each BW1 and BW2), 2 offshore substations (OSSs) (1 for each BW1 and BW2), foundations and associated scour protection for WTGs and OSSs, interarray cables, 2 submarine export cable routes (1 for each BW1 and BW2), cable protection, and 1 temporary meteorological and oceanographic (metocean) buoy. Onshore components of the Beacon Wind Project, which would be sited in Queens, New York for BW1 and either Queens, New York or Waterford, Connecticut for BW2, would include two submarine export cable landfall areas, two onshore substations, and two onshore export and interconnection cables. After revision of the initial COP and receipt of supplemental filings, BOEM determined Beacon Wind's COP to be sufficient in June 2023.

On June 30, 2023, BOEM issued a Notice of Intent (NOI) to prepare an EIS consistent with NEPA (42 United States Code [USC] 4321 et seq.) to assess the potential impacts of the Proposed Action and alternatives (88 Federal Register [FR] 42386). The NOI commenced a public scoping process for identifying issues and potential alternatives for consideration in the EIS. The formal scoping period was from June 30 through July 31, 2023. During the comment period, federal agencies, state and local governments, and the general public had the opportunity to help BOEM identify potentially significant resources and issues, impact-producing factors, reasonable alternatives (e.g., size, geographic, seasonal, or other restrictions on construction and siting of facilities and activities), and potential mitigation measures to analyze in the EIS, as well as provide additional information. BOEM also used the NEPA scoping process to initiate the Section 106 consultation process under the National Historic Preservation Act (NHPA) (54 USC 300101 et seq.), as permitted by 36 CFR Section 800.2(d)(3), which requires federal agencies to assess the effects of projects on historic properties. Additionally,

BOEM informed its Section 106 consultation by seeking public comment and input through the NOI regarding the identification of historic properties or potential effects on historic properties from activities associated with approval of the Beacon Wind COP. BOEM also invites federally recognized tribes to engage in government-to-government consultation throughout the NEPA process.

The NOI requested comments from the public in written form, delivered by mail, or through the Regulations.gov web portal. The public could also provide verbal or written comments at two in-person meetings or provide verbal comments at two virtual scoping meetings hosted by BOEM (Table 3-1).

2. Objective

The objective of this report is to identify substantive public scoping comments for consideration in the development of the EIS and categorize them based on the applicable resource areas or NEPA topics. Section 3, *Methodology*, describes the methodology used to identify and categorize comments. This categorization scheme allows subject matter experts responsible for preparing the EIS to review comments directly related to their areas of expertise and view the number of comments received by topic.

3. Methodology

3.1 Terminology

The following terminology is used throughout this scoping report.

- **Submission.** A submission is the entire content submitted by a single person or group at a single time. For example, a written or typed letter from an individual, an email with a portable document format (PDF) attachment, or a transcript of a verbal comment provided at a public scoping meeting are each considered to be a submission.
- **Comment.** A comment is a specific statement within a submission that expresses the individual's specific point of view, concern, question, or suggestion. One submission may contain multiple comments.

3.2 Comment Submittal

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

- Electronic submissions received via Regulations.gov on docket number BOEM-2023-0037.
- Electronic submissions received via email to a BOEM representative.
- Hard-copy submissions received by mail to BOEM.
- Verbal or written comments provided at public scoping meetings.

3.3 Public Scoping Meetings

Table 3-1, lists the public meetings hosted by BOEM during the scoping period and the estimated number of attendees.

Table 3-1 Public Scoping Meetings

| Meeting Date | Meeting Type and Location | Time | Estimated Number of Attendees |
|---------------|---|----------------------------------|-------------------------------|
| July 13, 2023 | Virtual: Zoom Webinar | 11:00 a.m. Eastern Daylight Time | 96 |
| July 18, 2023 | In person: University of Massachusetts, Dartmouth | 6:00 p.m. Eastern Daylight Time | 21 |
| July 20, 2023 | In person: The Adria Hotel, Queens, New York | 6:00 p.m. Eastern Daylight Time | 23 |
| July 26, 2023 | Virtual: Zoom Webinar | 11:00 a.m. Eastern Daylight Time | 93 |

Each public scoping meeting featured presentations by BOEM providing an overview of the wind energy leasing history offshore Massachusetts and the NEPA process, as well as a presentation by Beacon Wind with an overview of the Beacon Wind Project. During the virtual meetings, presentations were followed by a verbal public comment session, then a question-and-answer session. During the in-person meetings, the presentation was followed by an open house, where attendees could ask questions of BOEM subject matter experts and submit written comments or provide verbal comments to a court reporter. BOEM's virtual public meeting room for the Beacon Wind NOI (<https://www.boem.gov/renewable-energy/state-activities/beacon-wind-noi-eis-web-virtual-meeting-room>) contains digital copies of the printed materials on display at the in-person meetings and recordings of the virtual public meetings. Beacon Wind had an array of printed materials and poster displays at the in-person meetings, as well as staff available to answer questions from the public about the Project. Additionally, representatives of NYSEERDA had a table display and fielded questions from the public at the Queens, New York meeting.

3.4 Comment Processing

3.4.1 Compilation of Submissions

BOEM's process for analyzing public comments involved using ICF's commercial web-based CommentWorks® software product. Submissions were received via Regulations.gov, mail, email, or delivered verbally or in writing at the public meetings (Table 4-1). All submissions were downloaded, processed, and imported into CommentWorks. CommentWorks served as the submission database and recorded information about each submission, including the submitter's name, submission date, submission method, and whether the submitter identified as a representative of an organization, or from a government entity or agency.

As submissions were entered into CommentWorks, they were assigned a temporary submission identification (ID), later replaced by a final submission ID that matches comments posted to Regulations.gov. The final submission IDs are listed in Appendix A, *List of Submissions and Individual Comments by Topic*.

Duplicate submissions from the same individual or duplicate submissions received via different delivery methods (e.g., submitted via Regulations.gov and emailed to a BOEM representative) were counted as a single submission.

Form letters are submissions that contain the same or similar text submitted by multiple individuals through an organized campaign. Each copy of a form letter was counted as a single submission.

3.4.2 Bracketing of Comments

All submissions were read in full to bracket and code individual comments, as defined in Section 3.1, *Terminology*. A hierarchical outline was developed to include key issues addressed by the commenters or identified in the NOI. This issue outline was used to code each individual comment within CommentWorks to a specific topic. Each comment coded received a unique comment ID number. For example, the first comment identified in submission BOEM-2023-0037-0002 was identified as comment BOEM-2023-0037-0002-0001. When a comment pertained equally to more than one topic, it was not coded to multiple topics but instead coded to the most applicable topic. The topics are listed in Table 4-2.

Appendix A, *List of Submissions and Individual Comments by Topic*, lists all of the submissions received, as well as all of the individual comments that were extracted from each submission, organized by topic. The individual comments provided in Appendix A include verbatim comment excerpts as written by the commenters. The purpose of presenting this material in its verbatim form is to preserve the exact words of the commenter as they relate to each issue. However, formatting may differ from the original submission as a result of the conversions needed to enter submissions into CommentWorks software in a consistent format for processing. Comment submissions can be viewed in their original format with any associated attachments by browsing comments posted at <https://www.regulations.gov/document/BOEM-2023-0037-0001>.

3.4.3 Classification of Comments

Substantive comments are those requiring further consideration due to the potential for actionable implications on the NEPA process or EIS. Comments considered substantive and bracketed for purposes of BOEM's public scoping effort include comments that identified:

- Significant issues to be analyzed in the EIS.
- Sources of information to include in the EIS.
- Data gaps and information needs.
- Potential effects that the proposed action could have on biological resources, physical resources, socioeconomic and cultural resources.
- Other reasonable alternatives to the proposed action that BOEM should consider, including additional or alternative avoidance, minimization, and mitigation measures.
- Identification of historic properties, potential effects to historic properties, and measures to avoid, minimize, or mitigate adverse effects on historic properties.

Comments expressing general support or opposition to BOEM's offshore wind program or the Beacon Wind Project but lacking specific or substantive supporting rationale were also bracketed, but not considered substantive. The same non-substantive coding was applied to comments addressing multiple topics in a generalized, non-actionable manner. General themes expressed in non-substantive comments are summarized in Section 5.31, *Non-Substantive: General Support or Opposition, or Multiple Topics Discussed Generally*. Although BOEM reviews all comments received, only those comments determined to be unique, and substantive are carried on for further consideration in developing the EIS. As such, BOEM does not tally comments received in support or opposition to a given project, nor consider the relative frequencies of such comments as an influencing factor in the decisionmaking process.

Text not related to the Proposed Action, alternatives, connected actions, reasonably foreseeable impacts, or cumulative actions, as well as background information not directly related to or providing essential context for a substantive comment, was considered to be not germane. Text determined not to be germane was not bracketed or coded, nor included in Appendix A.

Only a single copy of each form letter (referred to as the “form letter master”) and letters containing additional unique, substantive text (referred to as “form letter plus”), were bracketed and coded.

4. Distribution of Submissions and Comments

4.1 Submissions

BOEM received 523 submissions from the public, government agencies and elected officials, and other interested organizations. Table 4-1 shows the number of submissions received via each delivery method. Comments received via multiple delivery methods were only counted once.

Table 4-1 Number of Submissions by Delivery Method

| Delivery Method | Number of Submissions Received |
|---|---------------------------------------|
| Regulations.gov | 134 |
| Email to BOEM representative | 2 |
| Verbal comment transcribed by court reporter at virtual or in-person public meeting | 36 |
| Written comment submitted at in-person public meeting | 3 |
| Mail | 348 |
| Total¹ | 523 |

¹ Includes 347 identical or substantially similar copies of a form letter.

BOEM received 523 total submissions from the following entities.

- 3 submissions from federal agencies: The National Marine Fisheries Service (NMFS), National Park Service, and U.S. Environmental Protection Agency (EPA).
- 4 submissions from state agencies: The Connecticut State Historic Preservation Office, Massachusetts Office of Coastal Zone Management, New Bedford Port Authority, and New York State.¹
- 4 submissions from state or local elected officials: Dylan Fernandes, member of the Massachusetts House of Representatives; Zohran Mamdani, member of the New York State Assembly 36 District; Jeffrey Roy, House Chair for Joint Committee Telecommunications Utilities and Energy in the Massachusetts Legislature; and Donovan Richards Jr., President of Queens Borough.
- 1 submission from a local government: Town of Nantucket.

¹ The New York State Departments of Environmental Conservation and New York State Department of State, in consultation with the Office of Parks, Recreation, and Historic Preservation; Office of General Services; and Department of Public Service.

- 50 submissions from non-governmental or quasi-governmental organizations, or individuals identifying as affiliated with such organizations.
- 459 submissions from individuals.
- 2 submissions from anonymous individuals.

BOEM received multiple submissions associated with two form letter campaigns expressing support for the Beacon Wind Project. This included approximately 347 identical or substantially similar copies of the form letter master (BOEM-2023-0037-0153) and 11 identical or substantially similar copies of form letter master (BOEM-2023-0037-0055).

4.2 Comments

BOEM identified a total of 1,258 unique comments, of which 751 were deemed substantive. Table 4-2 shows the distribution of comments coded to each topic. The most commonly addressed topics included alternatives, mitigation and monitoring, marine mammals, NEPA and the public involvement process, and demographics, employment and economics.

Table 4-2 Distribution of Comments by Resource or NEPA Topic

| Topic | Number of Comments |
|--|---------------------------|
| Non-Substantive: General Support or Opposition, or Multiple Topics Discussed Generally | 507 |
| Alternatives | 81 |
| Mitigation and Monitoring | 60 |
| Marine Mammals | 54 |
| Process and Scope for NEPA, Permits and Consultations, and Public Involvement | 52 |
| Demographics, Employment, and Economics | 50 |
| Air Quality & Climate Change | 49 |
| Commercial Fisheries and For-Hire Recreational Fishing | 48 |
| Finfish, Invertebrates, and Essential Fish Habitat | 40 |
| Connected Actions, Planned Activities Scenario, and Cumulative Impacts | 40 |
| Benthic Resources | 36 |
| Proposed Action/Project Design Envelope | 27 |
| Water Quality | 27 |
| Birds | 23 |
| General Wildlife | 21 |
| Cultural, Historical, and Archaeological Resources | 21 |
| Purpose and Need | 20 |
| Bats | 14 |
| Environmental Justice | 14 |
| Navigation and Vessel Traffic | 14 |
| Materials and Waste Management | 12 |
| Scenic and Visual Resources | 9 |
| Electromagnetic Fields (EMF) | 7 |
| Noise | 7 |

| Topic | Number of Comments |
|---|--------------------|
| Other Uses (Marine Minerals, Military Use, Aviation, Scientific Research and Surveys) | 6 |
| Land Use and Coastal Infrastructure | 5 |
| Sea Turtles | 5 |
| Recreation and Tourism | 3 |
| Coastal Habitat and Fauna | 2 |
| Public Health and Safety | 2 |
| Wetlands and Waters of the U.S. | 2 |
| Total | 1,258 |

5. Comment Summaries by Topic

The following sections summarize the key points of comments coded to each topic. Comments are summarized, as appropriate, based on concerns that were raised by several commenters and interpreted for clarity and conciseness. BOEM's interpretation and summarization of scoping comments does not constitute agreement or disagreement with the content of the scoping comments. The purpose of this report is to present the issues, questions, and concerns raised in the scoping comments for consideration during the NEPA process. Additionally, because each comment was coded to only one category, but may express concerns related to multiple categories, the comment summaries below attempt to capture comments coded to each category as well as related comments that may have been coded to different categories.

Appendix A, *List of Submissions and Individual Comments by Topic*, presents the full text of each coded comment ordered by topic. The comment excerpts that only expressed general support or opposition are not included in Appendix A in their verbatim form. Instead, those comments are summarized here in Section 5.31, *Non-Substantive: General Support or Opposition, or Multiple Topics Discussed Generally*.

5.1 Process and Scope for NEPA, Permits and Consultations, and Public Involvement

Commenters expressed appreciation for BOEM's requests for public input and for the opportunity to engage in discussions during in-person public meetings.

Commenters offered various criticisms of and suggestions to enhance the NEPA and public engagement process:

- Select public meeting venues that are located within potentially affected communities and easily accessible by public transportation. One commenter requested holding a future meeting in Rhode Island because Rhode Island commercial fishing vessels are active in the lease area.
- Hold public meetings during times that accommodate greater numbers of people.
- Use clear terminology and plain language in BOEM documents and informational materials and offer technical assistance as needed to enhance public understanding. One commenter requested minimal use of abbreviations, use of page numbers and hyperlinks to easily locate cited content, and compliance with accessibility requirements.

- Make BOEM documents and informational materials available in languages spoken within potentially affected communities and provide translation and interpretive services.
- Tailor outreach to low-income and minority communities with information about potential environmental justice impacts.
- Enhance transparency of the NEPA process by making all technical reports for the Beacon Wind Project available to the public.
- Systematically classify impacts based on magnitude, direction, timing, and duration. One commenter indicated that impact classifications should be based on quantitative criteria.
- Ensure the analysis in the EIS reflects the best available science and information and sufficiently characterizes baseline conditions by requiring new biological and ecological surveys where data is over 5 years old. Additionally, ensure that the Final EIS is updated with current knowledge, science, technology, and practices that may emerge during development of the document.
- Establish appropriately sized geographic analysis areas (including affected coastal and inland areas) and evaluate potential impacts during all stages of construction, operation, and decommissioning.
- Expedite review and approval of renewable energy projects.
- Considering the sequential or overlapping timing of BOEM public comment periods and complexity of the offshore wind projects, public comment periods should be at least 60 days to allow the public to adequately review and comment. One commenter requested that the public have the opportunity to make comments after reviewing the consultation documents such as the Essential Fish Habitat (EFH) Assessment and Biological Assessments/Opinions and requested that they be made publicly available on the BOEM website.
- Conduct additional outreach to fishing communities with the potential to be adversely affected by the Project.
- Conduct robust consultation with federally recognized, state- recognized tribes, and non-federally recognized tribes that encompasses the full extent of Project activities and considers historical presence of tribes in the region.
- Ensure that the EIS complies with the applicable and federal laws including NEPA and required consultations under the Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), and the Magnuson-Stevens Fishery Conservation and Management Act.
- Coordinate regularly with affected states, local communities, federal agencies, and tribes throughout all stages of the NEPA process, providing updates and requesting input on draft documents, changes to the project design envelope (PDE), and the status of BW2. Commenters indicated that consultation for BW2 may be delayed until the preliminary designs and schedule are confirmed.
- Incorporate into the EIS all National Oceanic and Atmospheric Administration (NOAA) requirements for adoption of the EIS.
- Maintain impartiality in press releases and communications and ensure analyses are conducted with objectivity and independence from the Administration's directives to meet renewable energy goals.
- BOEM's decision to issue the Beacon Wind lease should not bias the agency's decision of whether to approve the COP.

- Develop a regional Programmatic EISs with tiered analyses for individual projects or contiguous lease areas to facilitate a robust analysis of cumulative impacts and coordination of mitigation measures.
- Ensure projects are developed in an environmentally responsible manner and that economic benefits are maximized and equitably distributed.

Commenters also identified a range of impact producing factors and issues to consider in establishing the scope of the NEPA analysis and associated consultations.

5.2 Purpose and Need

Many comments related to the purpose and need for the Beacon Wind Project cited a need to reduce reliance on fossil fuels and reduce greenhouse gas (GHG) emissions contributing to climate change through deployment of renewable energy. Some commenters noted how the Beacon Wind Project could contribute to federal and state renewable energy goals, including:

- The Biden Administration's goal of 30 gigawatts of offshore wind by 2030.
- The New York State's Climate Leadership and Community Protection Act targeting 9,000 MW of offshore wind energy installed by 2035 and reducing 100 percent of the electricity sector's GHG emissions by 2040.
- Connecticut's goal of 2,000 MW of offshore wind by 2030.

Other comments received regarding the purpose and need include:

- Commenters indicated that the purpose and need is defined too narrowly and improperly tied to renewable energy goals and existing agreements and goals of the developer rather than GHG reduction targets. Instead, a commenter suggested that the purpose and need should be "to reduce the GHG emissions per terawatt-hour relative to the weighted mix of energy types from which power is currently made, using a 10-year lookback." Another commenter noted that the purpose and need should be defined broadly enough to allow for consideration of other reasonable alternatives.
- Commenters remarked that defining the purpose and need based on federal and state renewable energy goals and the agreements made by the developer does not relieve BOEM of its obligations to evaluate and minimize adverse impacts and conserve lands, waters, and biodiversity.
- One commenter requested that the EIS include the purpose and need of the National Marine Fisheries Service (NMFS) action and that BOEM change the purpose and need statement to incorporate revisions previously requested by NMFS.

5.3 Proposed Action/Project Design Envelope

Commenters requested additional details or clarifications about the Proposed Action, including:

- Available seabed preparation and cable-laying techniques that could minimize impacts on benthic habitat and water quality.
- Maximum depth that cables for the Beacon Wind voltage could be buried without overheating and assurance that minimum burial depth would be sufficient to minimize conflicts with fishing operations and surveys and effects of heat and electromagnetic field (EMF) emissions.

- Identification of specific existing out-of-service cables that would be crossed by cables for the Beacon Wind Project and would need to have segments removed.
- Detailed accounting of type, area, and location of rock armoring and scour protection to be used along the export cable within state and federal waters.
- Percentage of electrical loss through the export cables.
- Proposed horizontal directional drilling installation methods, including the potential for inadvertent returns and impacts associated with cofferdam installation(s).
- Explanation of suction-bucket jacket foundations and conditions most suitable for this foundation type.
- Whether the assertion made in the COP that underwater horizontal drilling noise would be less than 102 decibels at 1 meter from the drill was the result of empirical measurement or derived from a model of sound transmission.
- Reliability of electric facilities and compatibility with existing utility infrastructure including those documented in NYSERDA's Offshore Wind Cable Corridor Constraints Assessment.
- Additional rationale explaining why the use of closed-cycle OSS cooling systems would not be feasible.
- Anticipated time of year construction activities for each project would occur, to the extent known, in order to assess overlap with protected species and sensitive life stages.
- Emergency preparedness for severe storm events.
- Potential for icing of turbine blades and potential hazards to fishermen.
- Potential public health and safety concerns related to EMF emissions from export cables.
- Decommissioning of cable and scour protection areas and procedures for handling disturbance of reef habitat and resuspension of sediments.
- Further explaining the potential for cable linkage between BW1 and BW2 if both projects connect to the New York Independence System Operator.

One commenter requested coordination with NMFS to determine which parts of the PDE would need to be narrowed to carry out a reasonable analysis that would support BOEM's requests for ESA and EFH consultation. The commenter explained that the Proposed Action, as defined for these consultations, should reflect a realistic scenario that incorporates any revisions to the PDE that have been made as well as any technical or logistical constraints on Project design and layout that have been identified (e.g., glauconite soils).

Commenters requested confirmation of BW2 siting, design, and schedule details when available. One commenter remarked that due to the uncertain timing of the BW2 project, due to the absence of an offtake agreement, construction delays could result in the need for supplemental NEPA analysis that accounts for changed conditions and new data. Another commenter asked whether monitoring and lessons learned from installation of BW1 could be adaptively applied to BW2.

Commenters identified various permits and authorizations that may be required for the Beacon Wind Project:

- Review by the New York Public Service Commission under Article VII of the Public Service Law, "Siting of Major Utility Transmission Facilities."
- New York State Office of General Services easement for installation of cables on State-owned lands underwater.
- U.S. Army Corps of Engineers authorizations.

5.4 Alternatives

Commenters suggested specific siting and design alternatives to the Proposed Action or requested, more generally, consideration of alternatives to avoid or minimize impacts on various sensitive resources or marine uses. See Section 5.3, *Proposed Action/Project Design Envelope*, and Section 5.6, *Mitigation and Monitoring*, for additional comments related to Project siting, design, and implementation and avoidance and minimization measures, respectfully.

Specific siting and design alternatives raised in comments include:

- Removal of WTG and OSS positions within 20 kilometers of the 30-meter isobath around the region identified as Nantucket Shoals to avoid North Atlantic Right Whale (NARW) essential winter-feeding habitat and habitat of importance for a variety of other species due to potential impacts from noise, habitat alteration, and changes in prey availability.
- Establishment of a visual clearance zone at least 5,000 meters surrounding a driven pile and an acoustic exclusion zone of at least 2,000 meters surrounding a driven pile to minimize effects on NARW and other protected species with a monitoring and reporting program to ensure enforcement.
- Elimination of WTG positions closest to Nantucket to reduce visual impacts.
- Alternative routes for the submarine export cable(s) approaching the Queens, New York landfall location suggested to avoid sensitive resources in Long Island Sound and concentrate construction activities in heavily developed areas:
 - Approaching Long Island from the south, make initial landfall west of the Bannister Bay entrance channel and traverse northward underground, crossing Head of Bay, then entering Flushing Bay and passing through Riber's Channel on the south side of Riker's Island to meet the East River.
 - Route the final western segment of the export cable through Riker's Channel to avoid North and South Brother islands in the East River and associated water bird sanctuaries and feeding areas.
 - Land-based route through Long Island that avoids or minimizes impacts on Long Island Sound by routing export cables over land rather than through the entire length of the Sound.

General considerations for alternatives identified in comments include:

- Evaluate WTG, OSS, and cable routing options that would avoid or minimize impacts on sensitive habitats such as submerged aquatic vegetation, wading bird nesting and foraging habitat, estuaries and embayments, sand ridges and troughs, cold water corals, hard bottom, NARW seasonal management areas and dynamic management areas, Habitat Areas of Particular Concern (HAPCs), and complex topography, particularly any of these habitats that exist within Block Island and Long Island Sound.
- Evaluate WTG, OSS, and cable routing options that would avoid or minimize impacts on areas utilized for fishing and navigation such as siting Project components outside of fishing tow areas anchorage areas, and areas with high commercial or recreational vessel traffic.
- Evaluate different methods of cable installation that would avoid resuspension of anoxic sediments in low oxygen areas.
- Consider deeper burial of export and interarray cables to minimize the potential for fishing gear or anchoring systems.
- Avoid sensitive habitats within Long Island Sound as identified in the Long Island Sound Blue Plan.

- Evaluate potential to use a shared export cable corridor for Beacon Wind and future projects entering Long Island Sound.
- Analyze alternative WTG spacings and incorporation of vessel transit corridors into the 1×1 nautical mile grid for Massachusetts and Rhode Island offshore wind leases to improve access and safety for fishing operations.
- Consider changes in timing of construction activities and foundation types to limit pile driving and other disturbances during seasonally sensitive times for NARWs and other protected species.
- Consider use of closed-cycle OSS cooling systems to avoid entrainment and impingement of larva or consider alternative locations for the proposed once-through, non-contact cooling systems to minimize effects to protected species.
- Consider use of Sulphur hexafluoride (SF₆) free switchgears for offshore OSSs, onshore substation facilities, and WTGs to minimize the potential for GHG emissions.
- Consider alternative renewable energy sources such as small-scale nuclear and solar or onshore wind energy. One commenter indicated that there are limited options to bring other sources of renewable energy to New York City.

Comments on development of alternatives and the approach to alternatives analysis requested:

- The public, including fishery groups, should be included in the earliest stages of alternatives development.
- That power purchase agreement (PPA) should not unreasonably restrict or limit the reasonable range of alternatives.
- Detailed explanation of any alternatives considered but not carried forward for detailed analysis.
- BOEM independently evaluates whether gravity-based WTG foundations are feasible as asserted in the COP.
- Elimination of “future climate change” from the description of baseline conditions so impacts from climate change are not conflated with warming effects of Project development.
- Comprehensive evaluation of the impacts of the No Action Alternative, particularly for air quality, GHG emissions, economics, and artificial reef creation.
- Independent analysis of the No Action Alternative alone and in combination with ongoing and planned activities.
- Identification of intended areas of use and comparison of impacts from the WTG and OSS foundation types included in the PDE, considering noise, disturbance, and hydrodynamic effects.
- Detailed information and mapping of glauconite soils within the lease area to evaluate potential engineering constraints such as pile driving refusal for WTG and OSS foundation types or areas unsuitable for development, such that these factors can be adequately considered in alternatives development. One commenter requested that geologic data be made available to the public earlier in the process.
- Explanation of how the proposed export cable routes were developed and any interested parties that were consulted.
- Detailed data on geological, benthic, and biological data in the locations of proposed Project components and surrounding areas to assess impacts of the alternatives and inform avoidance and minimization strategies.
- Information about any micro-siting efforts for WTG, OSS, or interarray and export cables.

- A monetary cost comparison for implementing different alternatives.
- Clear communication of different PDE constraints associated with different alternatives.
- Consideration of a broad range of cable routing and landfall locations for BW2 given the absence of a power purchase agreement.
- Identification of mitigation measures and which measures would apply under each alternative.

5.5 Connected Actions, Planned Activities Scenario, and Cumulative Impacts

Commenters voiced the importance of a consistent and comprehensive cumulative impact analysis that includes other ongoing and reasonably foreseeable future offshore wind and non-offshore wind projects, as the Beacon Wind Project is likely to result in cumulative impacts on the same resources as nearby projects in the region.

Specifically, commenters requested that the EIS assess cumulative impacts of:

- Pre-existing subsea cables combined with installation of new offshore export cables, scour protection, and associated construction vessel activity from all projects in the region on various resources including benthic habitat and organisms, water quality, air quality, commercial fishing activities, and estuaries.
- Heat emitted by interarray high voltage alternating current (HVAC) cables and offshore export cables.
- OSS cooling systems for multiple projects on impingement and entrainment of fish larvae, shellfish larvae, and primary productivity of zooplankton and phytoplankton.
- Hydrodynamic and wind wake effect of wind farms on ocean currents, vertical mixing, turbidity, and primary production.
- Underwater noise impacts on marine mammals and other species.
- Increased vessel traffic, overlapping vessel routes, and sequencing of port uses during construction activities.
- Commercial fishing access and displacement, including the socioeconomic impacts and cost limitations on fishing communities that cannot relocate fishing activity, and fishing regulations that limit where and when fishing activities can occur.
- Alterations of benthic habitat and predator/prey interactions, increased pressure and space-use conflicts with recreational users, displacement due to wind farm construction and operations, and gear loss due to shipping traffic strikes on the commercial fishing industry.
- Historic properties, sites, and districts listed or eligible for listing in the National Register of Historic Places, noting that Beacon Wind would be visible in the background of other offshore wind projects from national historic landmarks.
- Fishing surveys noting that disruptions in survey activities would result in uncertainty in stock assessment, more conservative fisheries management measures, and impacts on fishery participants and communities.
- Environmental and economic effects on indigenous, coastal, and disadvantaged communities.
- Noise, infrastructure, and vessel traffic on species listed under the ESA and MMPA, including an analysis of the potential reduction in the effective migration space.

Additional topics regarding cumulative analysis include:

- A commenter recommended that BOEM take a holistic and flexible approach to utilizing the best available research, data, and information that could be applied to the combined development of all projects.
- A commenter indicated that limiting cumulative impact analysis to those that have a “reasonably close causal relationship to the Proposed Action and the alternatives” is too restrictive and not in line with NEPA regulations.
- Commenters emphasized the importance of having a separate No Action Alternative that only includes offshore wind projects that already have completed environmental reviews and have been permitted. A commenter cautioned that a no action alternative approach that includes proposed, but not yet approved, offshore wind projects would dilute the actual impacts of the Beacon Wind Project.
- A commenter expressed concern with the variability in the cumulative impacts by resource across offshore wind projects, including the no action alternative, even though these cumulative impact analyses generally include the same list of anticipated offshore wind projects. Similarly, a commenter noted inconsistencies in the size of the geographic analysis area used for resources across offshore wind projects. Commenters recommended consistency to improve the cumulative impact analysis.
- A commenter highlighted that BOEM’s approach for initiating an NOI has been inconsistent across projects as some have a PPA in place while others do not. The commenter concluded that this inconsistency makes completing a cumulative analysis impossible as there is no appropriate time in the federal process to do so.
- Commenters recommended that BOEM conduct a programmatic EIS to evaluate the cumulative impacts of all reasonably foreseeable offshore wind development and survey efforts prior to additional activity.
- A commenter recommended that the EIS include a detailed response plan to address unintended and unforeseen effects on the marine environment and marine wildlife, including thresholds for possible decommissioning if the Project has unexpected effects.

Topics raised about potential connected actions include:

- A commenter argued that upgrades and improvements by port facilities that are proposed to be utilized by Beacon Wind should be included in the EIS as connected actions because the Beacon Wind Project cannot move forward without undertaking these upgrades. Other commenters suggested that the cumulative effects and growth-inducing effects resulting from multiple port facility improvements should be analyzed.
- A commenter recommended that the possibility for the onshore export cable corridor to accept additional power be included.

5.6 Mitigation and Monitoring

Comments suggested overall strategies for mitigation and monitoring as well as proposed mitigation and monitoring measures.

Topics raised in this category included the following:

- Commenters expressed praise for the developer’s funding of real-time monitoring of whales and making the data publicly available.

- Commenters suggested mitigation measures to reduce the impact to night skies including using the Aircraft Detection Lighting System, shielding, downward-pointing security lighting, adding motion sensors to security lighting, turning off lights when not needed during construction and operations, using the minimum lumen output needed on lights, and using warm color-temperature light when possible.
- Commenters encouraged BOEM use best practices for all monitoring, reporting, and communications with stakeholders. Commenters also asked that BOEM discuss how monitoring results would be made available to regulatory agencies and the public.
- A commenter requested that the EIS identify which mitigation measures are included as part of the proposed Project and, thus, evaluated in the analysis, which measures are proposed as required, and which measures are optional and could be implemented by the developer to potentially reduce impacts.
- A commenter suggested that BOEM develop Project-specific as well as regional survey monitoring and mitigation measures in consultation with NOAA and NMFS that are consistent with the measures developed for other recent projects as well as the 2022 Federal Survey Mitigation Implementation Strategy developed by NMFS and BOEM.
- A commenter suggested that BOEM expand their monitoring and mitigation measures discussion regarding measures to employ to reduce potential impacts on whales, including the NARW, from noise and vessel strikes. Comments suggested potential mitigation measures on these topics including requiring timing restrictions for construction and detonation of unexploded ordnances, requiring slow vessel speed zones, requiring implementation of state-of-the-art noise attenuation measures and passive acoustic monitoring, limiting types of survey gear, and requiring robust monitoring of whales and noise. Commenters asked that BOEM work closely with NOAA and NMFS to develop mitigation and monitoring plans that include appropriate measures to avoid impacts on whales and their habitat.
- A commenter suggested mitigation measures to reduce potential impacts on specific fish and marine species and their habitats including establishing buffer zones for avoidance around spawning grounds, habitats of particular concern, seasonal management areas, and dynamic management areas; requiring slow vessel speed zones during peak migratory seasons; pausing construction during spawning seasons and during high presence of certain species; using non-invasive underwater equipment to create a minimal disturbance zone around crucial habitats; using noise dampening techniques during construction activities; and the use of adaptive management to guide mitigation as survey and monitoring results become available.
- Commenters noted that BOEM needs to provide remedy and mitigation options if impacts on commercial fishing are larger than anticipated. Commenters suggested various mitigation measures to offset potential impacts on the commercial fishing industry including financial compensation, to survey and collect data regarding the impacts on commercial fishing from the Project throughout the life of the Project and on a cumulative basis, inclusion of transit lanes of four nautical miles, development of a Comprehensive Mariner Communications and Notifications Plan, and communication with the fishing industry regarding gear adaptations. Commenters also requested that BOEM continue to engage directly with the commercial fishing community regarding compensation and mitigation.
- A commenter recommended that BOEM develop and describe best practices and measures to mitigate air quality pollutants from emissions sources on the wind turbine generators and the vessel engines. The commenter also provided suggestions of potential mitigation measures for this including the use of ultra-low sulfur fuels, use of lowering emitting and

high efficiency engine designs, use of Tier 4 certified engines, use of fuel cells and marine batteries, and the use of electric cranes and support equipment.

- Commenters asked that BOEM mitigation or minimize impacts on water quality from operations of converter stations at a project and cumulative level including impingement, entrainment, and discharge of heated and chlorinated effluent as well as from using a closed-cycle cooling system if the technology becomes available during operations.
- A commenter noted that if switchgears that use SF₆ are used, BOEM consider mitigation measures for monitoring and leak detection to limit leaks to less than one percent.
- A commenter suggested mitigation measures for buried cable installation within areas of known high seabed mobility including a robust siting analysis, mariner notifications of shallow-buried and exposed cables, cable protection measures, monitoring and maintenance of target burial depth, and adaptive management if repeated cable exposures occur.
- A commenter suggested BOEM assess the feasibility of using the turbines and offshore wind infrastructure to house instruments of monitoring, scientific testing, and water safety including cameras, environmental sensors, telemetry receivers, weather stations, and cellular reception devices.

5.7 Air Quality and Climate Change

Air quality comments included evaluating emissions from the proposed Project relative to permitting and regulatory requirements. Topics raised in this category included the following:

- Multiple commenters noted that EIS needs to thoroughly analyze emissions associated with construction, Operations & Maintenance (O&M), and decommissioning, including the real emissions impacts from back-up power usage. Several of the same commenters also noted that the emissions associated with material sourcing and production are not being accounted for within BOEM's offshore wind EISs. It was recommended that full life-cycle emissions attributed to the Project be identified and added to any associated emissions calculations.
- Multiple commenters suggested various additional air quality analyses including those that run air quality dispersion models, and track emissions impacts on potential environmental justice areas and disadvantaged communities. Commenters requested that these analyses be easy to interpret and adequately explained for the public in the EIS. One commenter specifically recommended conducting air quality dispersion modeling with receptors located at the state seaward boundaries.
- A commenter noted that the EIS needs to sufficiently describe how the Proposed Action would comply with General Conformity requirements under the Clean Air Act (CAA) for the New York-Northern New Jersey-Long Island, NY-NJ-CT Nonattainment area.
- Multiple commenters specifically expressed concerns about SF₆ and the need to disclose all quantities involved during each Project stage. This includes both general usage in all Project infrastructure and fugitive emissions or leakage. One commenter highlighted the need to account for unreported SF₆ leakage.
- Multiple commenters stated the Project's potential to reduce GHG emissions and associated contributions to climate change when compared to fossil-fuel based energy sources and requested that the EIS quantify these reductions.

- Commenters noted how the Project would align with federal and state initiatives to address climate change, including the State of New York's 2019 Climate Leadership and Community Protection Act.
- Commenters stated that the effects of climate change, such as sea level rise and higher ocean temperatures, greatly outweigh environmental costs of the Project.
- Multiple commenters noted that the EIS needs to accurately weigh the negative economic, environmental, and climate change impacts associated with No Action Alternative. In addition, the EIS should report the beneficial climate impacts using the social cost of carbon as an analysis metric. Lastly, commenters requested that the analysis contain a robust analysis of emission avoidance and the estimated fossil fuel displacement.
- Commenters expressed concerns that the Project could indirectly alter atmospheric conditions and aquatic habitats which, in turn, would disturb natural oceanic carbon sequestration processes. A recommendation was to explore the Proposed Action's effect on phytoplankton and other components associated with blue carbon (i.e., carbon dioxide that is absorbed from the atmosphere and stored in the ocean).

5.8 Water Quality

Topics raised in this category, specifically related to pollution, included the following.

- A commenter expressed concern that the blades of the wind turbines may be unable to withstand hurricanes or Nor'easters and fall into and pollute the oceans.
- Commenters expressed concern regarding leaks of pollution, plastics, and toxic compounds would be released into the ocean because of the proposed Project, and requested that avoidance and mitigation measures be considered.
- A commenter requested that dredged spoils from inshore, nearshore, or harbor maintenance and disposal of onshore materials including waste be assessed and managed as part of the development process.
- A commenter requested that the EIS disclose all chemicals that will be used and discharged during the construction and operation of the proposed Project, including the volume, frequency, concentration, and mass of each.
- A commenter stated that the EIS should account for any changes or updates to the National Pollutant Discharge Elimination System (NPDES) related information provided in the COP and the consequences those changes may have on the environmental impacts of the proposed Project.
- A commenter requested that BOEM require the applicant to take core samples from the cable route and lease areas and test them for toxic compounds.
- Commenters expressed concern regarding the potential for contamination from various sources including turbine blades, stanchions, dredged spoils, disposal of onshore materials, and bilge water.

Topics raised on this category, specifically related to sediment and deposition, included the following.

- A commenter requested that bottom sediments be evaluated for sediment contamination in any place the proposed Project would potentially disturb.
- A commenter requested that the EIS discuss the impacts of suspended soils and deposition related to the proposed Project's operations, along with measures to implement or reduce the impacts.

- A commenter stated that the EIS should consider the implications and health consequences of resuspending toxic compounds because of construction and installation.
- Commenters requested that BOEM perform, consider, and evaluate various types of data and tests, including monitoring data from installed cables, modeling of the extent, concentration, and quantity of suspended solids, sediments, and expected contaminant concentrations, and an evaluation of sediment management related to the inter array and export cables.

Topics raised on this category, specifically related to additions to the EIS, included the following.

- Many commenters requested additions to the EIS, including water quality baseline levels; language identifying the Environmental Protection Agency (EPA) and U.S. Coast Guard (USCG) as federal authorities regulating bilge water discharges; an explanation as to how stormwater exposed to industrial activities will be managed; an evaluation to sea surface temperature impacts; an evaluation of changes in dissolved oxygen and nutrients resulting from construction.
- Commenters requested that BOEM consider currents, bathymetry, microclimates, metocean data, and the New York State Water Quality Standards and Guidance Values in its evaluation of the proposed Project.

Topics raised on this category, specifically related to cooling and discharged water, included the following.

- A commenter requested that the EIS quantify the amount of heat the proposed Project would give off and transfer into water bodies.
- Commenters expressed concern regarding potential impacts of heat transfer on marine life and requested that impacts be fully evaluated.
- One commenter requested that the EIS evaluate the impacts of ocean discharge from the proposed Project on the marine environment, including estimates of the quantities and composition of pollutants to be discharged, their potential to bioaccumulate and be transported, and whether the proposed Project can operate while consistently complying with applicable marine water quality criteria.
- A commenter requested that the EIS explain how vessel operations would prevent pollutant discharge from routine releases and potential release of nonnative organisms through the discharge of ballast water, as well as how the proposed Project would be consistent with state vessel discharge requirements.

Topics raised on this category, specifically related to the effects of degraded water quality on the marine environment, included the following.

- A commenter expressed concern that monopiles could promote invasive species that would decrease water oxygenation levels, causing fish die-offs and harmful algal blooms, resulting in a financial burden.
- A commenter requested that BOEM require the applicant to consider the impact of deoxygenation on fisheries to ensure the proposed Project is in line with conservation of biodiversity and marine life.
- A commenter stated that the EIS should consider the cumulative impact of other aspects of the Project that may degrade water quality and address impacts on the marine environment and human health.
- A commenter expressed concern regarding the effects the foundations and operation of WTGs would have on oceanographic and atmospheric conditions.

5.9 General Wildlife

General wildlife comments identified a variety of potential impact mechanisms to wildlife species from Project construction and operation and requested thorough analysis of impacts on wildlife species.

Topics raised in this category included the following.

- Commenters expressed concern with potential impacts on wildlife and habitat (including artificial reef habitat) from pile driving, general construction activities, cooling water intake system operation (e.g., entrainment and impingement), vessel strikes, noise, potential entanglement, surveys or monitoring, the presence of wind turbines (aggregations of fish around turbine bases), activities that may displace species, disruption and conversion of habitat types that may affect the use of the area by predators and prey, sediment dispersion or pollutant discharge, Project lighting, and EMFs or heat from interarray and export cables.
- Commenters expressed particular concern with the proposed Project's potential impact on species listed under the ESA and MMPA in addition to designated critical habitat within the action area and encouraged BOEM to use the NOAA-developed ESA Information Needs document in developing the assessment. The commenter noted that while the lease area does not occur in designated critical habitat, vessel transit routes may occur within it. The commenter also provided a list of marine species found in the lease area and that further information on those species may be found in the ESA Information Needs document.
- A commenter expressed concern that Project implementation would alter commercial and recreational fishing and existing vessel activity in ways that could adversely affect listed species both within and outside of the lease area such as entanglement in marine debris ensnared on the structural foundations.
- A commenter noted that a broad grouping approach (e.g., all marine mammals) for species impact analysis is not appropriate because of taxa variability in many life history areas, and that is more accurate to describe degrees of impacts on individual species or groups of species.
- A commenter stated that the analysis of direct, indirect, and cumulative impacts of the Project on each species must utilize the most recent models and telemetry data.
- A commenter stated that Project implementation would violate Executive Order 14008's mandate that the federal government support renewable energy projects that "conserve our land, waters, and biodiversity" as well as the Human Right to Health. The commenter requested that the EIS assess overall biodiversity and the relationship between biodiversity loss and human health.
- A commenter requested that the EIS evaluate potential loss of habitat, particularly on those species that exhibit high site fidelity, and offer evidence that other specific, mapped suitable habitats would relieve pressure on the species.
- A commenter expressed concern that offshore wind projects would adversely affect ocean life at a faster pace than climate change and questioned whether there is sufficient genetic variation in the population(s) to allow for adaptation the very rapid changes resulting from the cumulative impacts of multiple wind projects on the outer continental shelf.
- Commenters expressed concern about potential impacts on Nantucket Shoals wildlife because it is near a bathymetric feature that supports tidal mixing fronts which attract small planktonic prey items where predators, including commercially and recreationally important fish species, marine mammals, sea turtles and birds are known to feed, in addition to providing foraging habitat for the endangered NARW.

- A commenter suggested that consideration be given to the information provided by NMFS for previous offshore wind NEPA documents including the issued Biological Opinions and MMPA authorizations and to incorporate that information and analysis into this EIS as appropriate.
- A commenter expressed concern about the effects of the Project on the lower trophic levels, which provide a food source for higher trophic levels in addition to effects on spawning.
- Commenters suggested that the affected environment is dynamic, and that species' presence varies over time and season. For this reason, the commenter requested that the affected environment section include information about physical and biological oceanography; seasonal changes; hydrodynamic regimes and their influence; an assessment of species status, habitat requirements, seasonal abundance and distribution, seasonal habitat use, migration routes and characterization of benthic and pelagic communities; and species survey results, and that details should be provided related to all habitat types within the affected area with a particular focus on complex habitats such as submerged aquatic vegetation, hard bottom habitats, and HAPC.
- Commenters stated that the environmental consequences section must consider all impact producing factors/potential Project impacts on species, including survey and monitoring activities that would occur following COP approval, and must evaluate impacts from aviation lighting and anthropogenic noise from stationary (e.g., turbines) and transient sources and evaluate impacts on heron and wading bird nesting and foraging habitat and identify work avoidance periods.
- A commenter stated that best management practices should be implemented to reduce risks from extreme environmental conditions (i.e., rough seas, complex currents, and cold waters) and impacts on vulnerable habitats (including seagrass and other macroalgae) and at-risk species.

5.10 Birds

Bird comments included concerns regarding collision risk, data-gathering methods, and monitoring.

Topics raised in this category included the following.

- Commenters requested that the Draft EIS consider the full range of potential impacts on all bird species known to forage, rest in, or migrate through or near the Project area, including those species protected under the Migratory Bird Treaty Act and the ESA, as well as species of birds covered under obligations for conservation of birds under the Fish and Wildlife Conservation Act as amended in 1988.
- Commenters noted concerns about collision risk to seabirds and suggested quantification of sea duck abundance using the most recent Atlantic Coast Sea Duck Surveys and suggest identification of heron and wading bird nesting and foraging habitat and notes that New York City Audubon conducts surveys of island habitats.
- A commenter suggested that the EIS describe future collaboration with other offshore wind developers on avian monitoring and identified the Atlantic Marine Bird Cooperative's "Recommendations on BOEM Avian Survey Guidelines" as a source for preparing a long-term avian monitoring plan.
- Commenters suggested that the EIS identify specific mitigation strategies that account for acceptable levels of mortality or displacement of susceptible species (not just ESA-listed species) and describe appropriate mitigation including employing avoidance and minimizing

methods such as bird-deterrent devices, a piping plover protection plan for landside construction activities, WTG Aircraft Detection Lighting Systems, bird mortality monitoring, and coordination with the U.S. Fish and Wildlife Service (USFWS) to support migration monitoring via Motus wildlife tracking tags and installation of telemetry receiving stations.

- A commenter suggested coordinating with state and federal agencies on avian mitigation opportunities, including identification of opportunities to support conservation and habitat restoration or enhancement for protected avian species.
- A commenter suggested that surveys for rare, threatened, and endangered species be conducted along all alternative export cable routes. In addition to ESA-listed species, one commenter suggested also analyzing impacts on avian species listed by the International Union for Conservation of Nature or by Massachusetts as endangered, threatened, or state-species of concern.
- Commenters expressed concern with an export cable that passes within 1 mile of the largest federally endangered roseate tern colony in the northwest Atlantic (Great Gull Island in Long Island Sound), and potential effects on its prey fish's sandy substrate. One commenter suggested that potential disturbance of this substrate through cable laying established a need for pre- and post-construction roseate tern telemetry monitoring, post-construction chick provisioning, and nest productivity monitoring.
- Commenters expressed concern about effects on birds from increased frequency of fog/mist/cloud condition caused by WTG operations and by Project implementation effects on diving bird foraging and bird migration flight altitude.
- A commenter suggested that bird avoidance of WTGs results in habitat loss and loss of efficient migratory routes and suggests estimating the cumulative area and magnitude of habitat loss, in addition to estimating the additional miles of species-specific migratory route and the associated energetic costs and reductions in survival.
- Commenters expressed concern regarding the number of offshore wind projects to be implemented and suggested including analysis of the synergistic effects of the several adjacent offshore wind leases expected to be brought into active status in the reasonably foreseeable future.
- Commenters suggested studies of multiple factors affecting birds, including how infrasound compromises avian storm avoidance systems in birds; migration departure timing and conditions and survival cost of timing disruption; survival cost of storm avoidance disruption; diving bird hearing impacts; and avian response(s) to lights.
- A commenter suggested spatial mapping of where the lease area overlaps major portions of the Atlantic Flyway, including migration altitudes and altitude variation to show avian temporo-spatial use of the lease area for better impact prediction.
- A commenter is concerned that the modelled probability index as described in the appendices to the COP did not discuss detection probabilities for the various bird species and that the relative density indices are therefore questionable.
- A commenter noted that the offshore and onshore study areas for the Beacon Wind Project support key avian migration stop-over and wintering habitat, and that affected avian species include onshore- migrant passerine, shorebird, sea duck, offshore marine, and colonial waterbird species which may be designated for protected status under various state, federal, and international protocols.
- Several commenters suggested the need for an avian monitoring plan. A commenter suggested the EIS contain a focused avian monitoring and mitigation plan based on the Avian Impact Assessment in Appendix P of the COP because of lack of specific migratory

pathway and flight altitude data and consequent uncertainties of impact assessment. Other commenters suggested incorporating best monitoring and management practices into a regional adaptive management plan based on ongoing monitoring studies with mitigation measures based on monitoring results, and commenters suggested a plan that includes impacts from other offshore wind developments expected across the Atlantic Outer Continental Shelf. An additional commenter suggested developing an avian monitoring plan that includes a commitment to integrate collision detection technology as it becomes commercially available and feasible to install offshore in addition to the installation of a Motus sensor array to detect birds and bats in the Project area and support nano-tagging of bird and bats to better understand directional movements and flux around the lease area.

- Commenters noted the number of bird species present in offshore and coastal habitats within the affected environment and requested that the EIS consider their wide variety of life histories, geographic origins, behaviors, foraging styles, and ecological niches.
- A commenter noted that avian turbine collisions in the marine environment are difficult to detect and that several factors influence bird presence within a given area including the distribution of food resources (marine foragers), migration routes and weather effects (passerines and shorebirds). Relying on the current system of estimating the collision potential for each species or guild evaluated by bird density and abundance data is inappropriate because the collision risk models are sensitive to input parameters such as estimated abundance or density of species and flight heights which often do not have high precision and accuracy.
- A commenter stated detecting the population level effects of collisions is difficult because bird species at risk of collision are often not linked to source populations, and that inferences about collision risks might be drawn from European studies.
- A commenter suggested the using the Ocean Wind Final EIS approach for avian mitigation and monitoring that: (1) incorporates adaptive management (2) consultations with state and federal resource agencies (3) uses regional assessments for collision risk (4) regularly updates and refines estimation of collision rate parameters and (5) addresses the synergistic effects of multiple offshore wind projects.
- Commenters suggested that pre-construction acoustic surveys and monthly aerial-based surveys alone are not adequate for determining species-specific or guild-specific impacts without a long-term commitment to monitoring. Several commenters recommended remote and automated avian monitoring systems that rely on a radar, acoustic detection, and thermal videography and/or still photography.
- A commenter suggested addressing potential impacts on diving marine birds from subsurface acoustic disturbances and from sound pressure waves during construction and related operations and impacts on avian navigation from low frequency sound (infrasound).
- A commenter suggested addressing the indirect effects on marine birds from post-construction redistribution of forage fish populations resulting from habitat loss and habitat replacement with vertical structures that act as artificial reefs and addressing secondary consequences for avian habitat use and energetics from the synergistic effects of ecosystem-scale alterations.
- A commenter stated that a North American and European literature review of bird reactions to wind farms indicates that displacement in offshore habitats is more prevalent than attraction and suggests that determination of effects will require a careful monitoring design.

5.11 Bats

Topics raised in this category included the following.

- A commenter stated that the cumulative impact analysis should use a geographic analysis area that extends 100 miles inland and offshore because many bat species are capable of flights in excess of 100 miles.
- A commenter stated that the analysis in the COP is insufficient to draw conclusions about risks to bat species given the paucity of data in the region, lack of inclusion of relevant recent telemetry data, and uncertainties around bat behavior at offshore wind facilities.
- A commenter suggested the need for evaluation of northern long-eared bat activity year-round within the vicinity of the Proposed Action.
- A commenter stated that the COP does not include the federally endangered Indiana bat and suggested that BOEM consult with the USFWS regarding inclusion of Indiana bat in the analysis of affected biological resources.
- A commenter states that the Draft EIS does not incorporate the latest scientific findings regarding bat mortality associated with wind farms and does not address the public health consequences of decreasing bat populations such as the spread of mosquito-borne illnesses and subsequent rise in insecticide use.
- Commenters stated the need to evaluate the impacts on bats from air pressure changes, operational noise, power plant ultrasound-generating equipment, condensate from power plants, and light pollution.
- A commenter stated that because of the known attraction of bats to structures, including WTGs, basing post-construction impact analyses on pre-construction data or other data collected in the absence of WTGs is inappropriate and that low levels of bat calls in acoustic surveys do not indicate that bats are not present.
- A commenter suggested that bat experts should be consulted to determine what information can be obtained regarding total fatalities from bat carcasses detected on vessels and Project structures because there is no current reliable method to determine bat fatality rates in the offshore environment.
- Commenters stated that validated and commercially available bat collision detection technologies for use offshore be required because pre-construction acoustic activity may not accurately predict post-construction bat fatalities.
- Commenters suggested that once monitoring technologies are available to measure impacts, bat post-construction monitoring should be conducted in coordination with the agencies. Should significant bat fatalities occur, adaptive management and mitigation measures should be employed, and the post-construction bat monitoring data should be available to agencies and the public.
- A commenter suggested that acoustic monitors be deployed on WTGs post-construction in coordination with the North American Bat Monitoring Program to detect bat activity in the rotor swept zone and that researchers should be consulted regarding the number of deployed acoustic detectors and years of post-construction data needed to best inform impact analyses.
- A commenter suggested that BOEM incorporate the Motus Wildlife Tracking System Data (<https://motus.org>) into the bat analysis for the Project lifespan, install Motus towers in the lease area in addition to supporting the upgrading of coastal Motus towers, and nanotag bats for inclusion in the Motus network.

5.12 Benthic Resources

Comments regarding benthic resources included concerns over changes to habitat, lost benthic resources, and adequacy of benthic survey data. Benthic habitat refers to habitat on the sea floor, including natural structures and vegetation.

Topics raised in this category included the following.

- Commenters expressed concern over the impacts the offshore components of the Project may have on benthic resources and asked BOEM to fully describe the anticipated geographic extent and recovery time for seafloor habitats that would be disturbed from construction of the Project including the export and interarray cables. Commenters also asked that BOEM identify existing benthic, shellfish, and coral conditions in the affected environment.
- Commenters provided suggestions to mitigate potential impacts on benthic resources including methods of transporting sediment; developing a boulder relocation reporting plan; avoiding submerged aquatic vegetation, sensitive ecological areas, and habitat areas of particular concern; installing scour protection around the base of offshore structures; co-locating cables and minimizing cable spacing; developing an anchoring plan during construction; requiring the use of horizontal directional drilling for burying cables at landing sites; and monitoring of benthic habitats throughout the lifecycle and all phases of the Project.
- A commenter asked that the EIS disclose information on the current benthic habitat conditions as well as all known shipwrecks, artificial reefs, and derelict gear to support the COP's assertion that construction of the Project will not create measurable opportunities for the introduction of invasive species or the contamination of sediments.
- Commenters asked that BOEM analyze the impacts on benthic resources from impingement, entrainment, and heated and chlorinated discharge near converter stations and the proposed open-loop cooling system; from underwater noise and vibration caused by the Project's construction and operations; and hydrodynamic effects from Project construction and operations.
- Commenters provided evidence of long-term impacts on benthic resources from cable installation in other areas of the world including off the French coast and in the Gulf of Mexico.

5.13 Coastal Habitat and Fauna

Topics raised in this category included the following.

- Commenters requested that BOEM evaluate impacts on terrestrial vegetation, specifically those within parklands and conservation areas, measures to prevent the spread of invasive species, and the impacts of siting new infrastructure along the shoreline.
- A commenter requested that BOEM consider impacts on coastal erosion hazard areas, as well as significant coastal fish and wildlife habitats in the Draft EIS.

5.14 Finfish, Invertebrates, and Essential Fish Habitat

Topics raised in this category included the following:

- Commenters recommended using up-to-date EFH and HAPC designations for impact analysis. Commenters noted that HAPC has been designated:

- by the New England Council for juvenile Atlantic cod inshore areas along the coastline and a 20-mile buffer overlapping the Beacon Wind lease area and other Southern New England lease areas pending NMFS approval and also recently recommended an HAPC for cod spawning habitat and complex habitats.
- by the Mid-Atlantic Council for summer flounder all native species of macroalgae, seagrasses, freshwater and tidal macrophytes, and loose aggregations and the importance of native species restoration. Commenters noted that the proposed cable route overlaps HAPC for summer flounder and complex habitats and other sensitive estuarine environments.
- Commenters recommended the use the EFH mapper for spatial data for species managed by the New England, Mid-Atlantic, and South Atlantic Councils and for Highly Migratory Species at <https://www.habitat.noaa.gov/protection/efh/efhmapper/>; the EFH Information Needs document; the NMFS Recommendations for Mapping Fish Habitat (March 2021); the EFH Information Needs for Offshore Wind Energy Projects in the Atlantic.
- Commenters noted that EFH consultation should begin early in the EIS development process because adverse impacts on EFH may result from actions occurring within or outside of areas designated as EFH and that EFH assessments and consultations conducted in the later stages of other projects (Vineyard Wind and South Fork) have failed to adequately assess the impacts of geological and geophysical surveys to the acoustic environment. Commenters requested that BOEM consult with the Mid-Atlantic Fishery Management Council, New England Fishery Management Council, and NMFS.
- A commenter identified mandatory elements for the Project's EFH assessment as required by 50 CFR 600.920(e)(3)), as well as expanded consultation requirements described in 50 CFR 600.920(f) on account of the potential for substantial adverse effects to EFH. The commenter also indicated that the assessment should follow the EFH Assessment Template for Offshore Wind Energy Projects.
- A commenter noted recent identification of five separate, interrelated spawning Atlantic cod sub-populations in the northwest Atlantic, with the southernmost sub-population overlapping the lease area, and that the extent of proposed development of multiple projects in southern New England produces a population-level scale vulnerability.
- A commenter expressed concern for impacts on winter flounder, longfin squid with demersal eggs and during inshore migration (April to August), and disruption of social spawning behavior resulting in susceptibility of demersal eggs to abrasion and burial.
- Commenters requested analysis impacts from EMFs on finfish and invertebrates, including an evaluation of the differences in effects between HVAC and HVDC cables. One commenter asked BOEM to assess whether sharks would be attracted to export or interarray cables due to their sensitivity to EMF.
- A commenter noted that NMFS comments regarding EFH conservation recommendations and mitigation measures for the Revolution Wind Project are also relevant to Beacon Wind.
- Commenters expressed concern about cumulative effects of regional offshore wind development on prey resources and stated that these may be characterized as adverse effects under EFH regulations.
- Commenters requested the EIS analyze Project-specific and cumulative effects on the physical and biological habitat features for benthic resources, fish, and invertebrate species, including benthic, demersal, benthic-pelagic, pelagic, emergent fauna, and epifaunal species and the biological consequences of those effects. The commenters recommended that the analysis include hydrodynamics and oceanographic and atmospheric conditions; current stock status for different species; migration routes; seasonal abundance and distribution;

EFH including that designated under the Magnuson-Stevens Fisheries Conservation Act; spawning, recruitment, and nursery areas; forage species and food web interactions; impacts on all life stages (adults, juveniles, larvae, eggs) and focus on species and life stages that may be more vulnerable to impacts. They requested that mitigation measures be proposed and analyzed for impacts that are not feasible to avoid or minimize.

- A commenter stated the EIS must include alternatives to avoid EFH, HAPC and deep-sea coral areas because of their importance in supporting sustainable fisheries.
- A commenter stated that intake pipe opening mesh size or spacing of the trash racks of the open-cycle cooling system should be re-evaluated because Beacon Wind's mesh size is significantly larger than the Sunrise Wind Project.
- Commenters requested the following topics be analyzed, documented, or included in the EIS:
 - All New York State Significant Coastal Fish and Wildlife Habitats that may be affected by Project implementation (e.g., Great Gull Island, Hempstead Harbor, Little Neck Bay, North and South Brother Islands).
 - The presence and potential impacts on Atlantic sea scallops and ocean quahogs and other commercial finfish and invertebrate species.
 - Impacts resulting from aquatic species impingement and entrainment and discharge of heated effluent from OSSs. Commenters suggested BOEM fully analyze and quantify the daily seawater withdrawn from the lease area and the impacts of the offshore substations discharge of the heated cooling water including entrainment and impingement mortality and losses as well as the impact on finfish resources including critical habitat.
 - Identification and modeling of invasive species that may affect the quality and biodiversity of EFH.
 - Discussion of impacts on habitat alteration including conversion of smaller-grained hard habitats (e.g., pebbles and cobbles) that support early finfish life history stages to smaller grained soft- sediment habitats and impacts from attraction of larger predator species to artificial substrates. Also consider increased opportunity for pathogen virulence evolution due to higher spatial density of fish surrounding artificial substrates.
 - Discussion of the habitat value and function of natural versus man-made reef structures.
 - Impacts on invertebrates from impairment of locomotion, mechanosensory reception, ability to clean feeding siphons.

5.15 Marine Mammals

Marine mammal comments included comments on potential impacts on species or their habitat, and notes species listed under the ESA and MMPA.

Topics raised in this category include the following.

- Many commenters expressed concern regarding the status of NARW and that the proposed Project would adversely affect NARW, as well as other marine mammals and their habitat that may be found in the lease area. Impacts on marine mammals must be avoided and minimized to the full extent practicable.

- A commenter suggested that validated scientific baseline information should be collected over a 3 to 5-year period prior to construction. Additionally, commenters expressed the need for long-term studies of changes to population, foraging, calving, and prey species abundance due to offshore wind.
- Commenters expressed concern with noise impacts on marine mammals, particularly NARW, and potential injury of NARW that should be adequately addressed in the EIS. Specifically, mortality events caused from sonar and seismic surveys and injury that may be caused from installation of foundations.
- Commenters expressed concerns regarding unexploded ordnance (UXO) encounters and Formerly Used Defense Sites in the Project area and management strategies that would be implemented to avoid harm during Project construction.
- Commenters requested that the EIS include information on the seasonal abundance and distribution of marine mammals and other marine animals and recognize that NARW is present year-round in the Project area. The commenters recommended that the EIS include anticipated habitat uses (e.g., foraging, migrating), threats, habitats, and prey that may be directly or indirectly affected by the proposed Project.
- Commenters asked that the analysis for marine mammals (including assessments for ESA and MMPA) use the best available scientific information to support any conclusions, including the latest marine mammal stock reports. The commenters recommended that BOEM not use the Duke University habitat-density models as the sole information source from which to estimate marine mammal occurrence, density, and impact.
- A commenter stated that the potential overlap of Project construction and in-water activities should be fully evaluated in the EIS, as well as measures to avoid and minimize impacts on sensitive life stages of marine species, including marine mammals. The commenter requested that the evaluation of environmental consequences in the EIS consider how the time of year of construction activities overlap with the presence of important resources.
- A commenter suggested the persistent tidal mixing frontal zone adjacent to Nantucket Shoals be addressed, because the Project area overlaps this area. The commenter noted that these areas are where water masses driven by tidal forces converge and are often important feeding locations and are areas where predators, including marine mammals aggregate seeking prey, and that BOEM must analyze how water current changes, ocean strata mixing, and temperature changes resulting from the Project will affect the area.
- Commenters expressed concern with the lack of knowledge around the hydrodynamic and associated ecosystem changes related to offshore wind development. A commenter also noted that NOAA fisheries has acknowledged that large-scale buildout of offshore wind energy in the Northeast region of the United States may cause local oceanographic changes that may affect the distribution of NARW.
- A commenter expressed concern in prey density in the lease area, and how turbulent wakes formed by ocean currents, and strata mixing from Project activities will impact prey species in the lease area.
- A commenter was concerned with vessel strikes and stated that vessel strikes pose an unacceptable risk in this region, and BOEM must acknowledge that any vessel operating in that region has the potential to strike a NARW. The commenter felt that BOEM has significantly downplayed the risk of vessel strikes to endangered whales in previous offshore wind permitting documents and encouraged BOEM to provide a more robust quantitative analysis.
- Commenters expressed concern with impacts on whale foraging areas and that NARW have shifted their aggregation and feeding areas in recent years due to climate change. The

commenters noted that the region south of Nantucket and Martha's Vineyard is now considered a year-round core habitat for foraging NARW, and commenters requested this be factored into BOEM's analysis.

- A commenter suggested that the analysis account for the Seasonal Management Areas and Dynamic Management Areas that have been established for NARW, because these areas illustrate important NARW areas where wind development should be avoided.
- A commenter suggested that BOEM monitor for oceanographic changes caused by large-scale build-out of offshore wind energy that may affect the marine mammal prey base.
- A commenter expressed concern that harbor porpoises should be addressed in the EIS and require special attention regarding offshore wind development as they are very sensitive to noise impacts. The commenter suggested starting with studies conducted in Europe that have demonstrated harbor porpoises are easily disturbed by the low-frequency noise produced by pile-driving operations during offshore wind development.

5.16 Sea Turtles

Sea turtle comments pertained to biological, structural, or habitat impacts on the species.

Topics raised in this category included the following.

- Commenters requested that BOEM include seasonal distribution, abundance, and migration routes in the EIS for sea turtles.
- One commenter asked that BOEM evaluate the behavioral and physiological impacts associated with vessel traffic, noise, lighting, and EMFs on sea turtles.
- One commenter suggested BOEM incorporate the models developed by the U.S. Naval Undersea Warfare Center, released in July 2023, into the impact analysis.
- A commenter expressed concern that there is federal funding available to organizations that respond to marine mammal strandings, but that funding is not available for sea turtle strandings. This requires funding and support for sea turtle strandings from private sources and volunteers. The commenter suggests the offshore wind industry and federal government collaborate to support ongoing data collection and stranding rescue programs for sea turtles.
- One commenter expressed concern that artificial reefs created by the Project could increase the presence of barnacles that could attach themselves to sea turtles and increase the energetic cost of swimming.

5.17 Wetlands and Waters of the United States

Topics raised in this category included the following.

- A commenter requested that BOEM identifies and evaluates impacts on freshwater and tidal wetlands and regulated adjacent areas that might be impacted by the Project.

5.18 Commercial Fisheries and For-Hire Recreational Fishing

Fisheries comments discussed economic and social impacts on commercial fisheries, commercial fishing operations, and for-hire recreational fishing operators.

Topics raised in this category included the following:

- A commenter noted that the developer has consulted with regional stakeholders and local fishing industry partners to collect and input data. The proposed 1 by 1 nautical mile layout proposed by the developer would allow for navigation within the lease area.
- Commenters requested the EIS fully characterize the extent and value of commercial, for-hire, and charter fishing within the Project area including a breakdown of the economic exposure of the proposed Project by state, port, gear type, and fishery. Additionally, commenters requested that the EIS evaluate commercial, for-hire recreational, and private recreational fishing separately but in the same or adjacent sections to illustrate potential impacts on all fishery sectors and describe how all impacts may vary by target species, gear type, fishing location, and type of fishing (commercial or recreational).
- A commenter requested the EIS acknowledge that the benefits of any artificial reefs will have varying effects by target species and by fishing sector.
- Commenters requested that BOEM coordinate early and often with NMFS and state agency fisheries staff on the most appropriate data for analysis of potential impacts on fisheries, as well as cooperatively working with the state, fishing communities, and commercial, charter, and recreational interests.
- Commenters voiced safety concerns about commercial and recreational fishing vessels maneuvering, drifting, or anchoring near WTGs and OSSs and requested the EIS evaluate these safety considerations across different fisheries. Varying weather conditions and fishing gear should be considered when evaluating impacts on fisheries within the lease area. A commenter requested that BOEM utilize similar evaluations as past EISs in regard to impacts due to WTG spacing.
- A commenter noted that fishermen cannot easily relocate to different areas to avoid a wind farm without socioeconomic impacts.
- A commenter noted the COP discussion of pre-construction preparation which may involve relocating boulders and unexploded ordinances. The commenter requested the EIS evaluate the potential issues and impacts associated with shifting the location of known obstructions or unexploded ordinances which may cause safety impacts on vessels, including gear/vessel damage and personal injury. The EIS should include measures to avoid and minimize such impacts beyond communicating planned operations as suggested in the COP's reference to the "Fisheries Mitigation Plan."
- Commenters requested that BOEM accurately characterize the value of commercial fisheries landings within the Project area and not solely rely on financial metrics. Additional factors to consider include the number of impacted fishery participants, the use of a low-value species as bait for a high-value species, or a seasonally important fishery.
- Commenters expressed concern about the impact of WTG noise in combination with other stressors on commercial fisheries and requested discussion of this impact within the EIS.
- A commenter urged BOEM to not overly rely on ex-vessel value when assessing and weighing impacts across fisheries in the EIS because this data can mask other important information.
- Commenters expressed concern related to the impacts of offshore wind-related surveys on commercially harvested fish and listed species. Commenters requested BOEM consider the impacts on all harvested species within and surrounding the lease area.
- Commenters requested that the EIS include an analysis of all biological, cultural, and socioeconomic issues related to fisheries and marine resources in the affected environment section. The commenters recommended that specific topics include historic and recent landings, revenue, and effort; fishery participants; changes in transit patterns; and impacts

on coastal communities. Commenters recommended that the geographic scope for this analysis be expanded to include vessels that port from outside of the Project area.

- A commenter stated that the EIS should include the best scientific information to characterize fishing operations and evaluate impacts and include at least 10 years of data history in addition to recent data to accurately reflect both recent operations and annual fluctuations in fishing operations due to changing environmental conditions, market price, and management measures.
- Commenters requested that the EIS thoroughly evaluate both the biological and socioeconomic impacts of the Project on fishery resources, operations, and associated communities, and include alternatives that avoid and minimize impacts on such habitat. A range of export cable burial depths to avoid interactions with commercial shipping and fishing vessels was requested by commenters. Specifically, commenters noted concerns about cables installed through the Long Island Sound as well as the danger of gear entanglement.
- Commenters discussed the need for the EIS to outline mitigation measures to protect fisheries, utilizing BOEM's Draft Fisheries Mitigation Guidance (BOEM-2022-0033) as a baseline. This includes an assessment to account for loss in income and protecting fisheries that lack landing or revenue data including the development of a mitigation fund to support regional monitoring of key commercial fish stocks. Additional commenters requested the development of a monitoring plan that would be described in the EIS to account for potential losses.
- Commenters requested that BOEM work with NOAA Fisheries to ensure appropriate fishing and habitat data is used in the development of alternatives and in the evaluation of potential impacts.
- Commenters requested that the EIS assess the potential impacts on key species' distribution, abundance, and feeding in the Project area and its vicinity, including estimating the extent of fishable seafloor loss within cable corridors due to secondary cable protection and seafloor disturbance. Commenters requested that the EIS consider the decommissioning of cables and management of abandoned or unmonitored cables on commercial fisheries. One commenter requested quantification of the export cable route footprint and assess the effects of armoring on the ability to trawl in the area of the cable and cable corridor.
- Commenters requested BOEM outline a research plan for fisheries and benthic studies, emphasizing coordination with other developers to analyze Project-specific and regional fisheries effects, and detail measures to facilitate fishermen's access to the lease area during Project operations.

5.19 Cultural, Historical, and Archaeological Resources

Comments related to cultural, historical, and archaeological resources were mostly reminders to BOEM to coordinate and consult with the appropriate parties, as well as abide by the relevant laws and policies. Comments also stressed that there may be unidentified cultural resources within the Project area.

- Multiple commenters noted the need for BOEM to ensure they are doing their due diligence to identify historical, archaeological, and cultural sites including previously unidentified sites.
- Commenters stated that there may be significant unidentified sites and suggested that BOEM conduct professional surveys prior to selecting a preferred alternative.

- One commentor noted that visual impacts from the Project that could affect the setting of historic properties would be irrelevant if the historic properties become damaged or inaccessible to the public due to climate change.
- Commentors consistently note that BOEM should coordinate with tribes, historic groups, indigenous groups, and state and private parties in order to fully evaluate impacts on resources and sites. They also note a need for compliance with the NHPA, including the Section 110(f) process to assess adverse impacts on historic properties.
- Commentors provided historical background on areas and sites within the Project vicinity to note their importance.

5.20 Demographics, Employment, and Economics

Topics raised in this category included the following:

- A commenter stated that Equinor has expertise in wind installation and is a reliable partner by committing to recruit and train local New York workers for offshore wind jobs.
- Multiple commentors stated the economic benefits of the Project such as the developer distributing \$52 million in social investments across New York to support workforce development, innovation, and the local community, and that this is part of a larger \$2.5 billion commitment in economic development for the state.
- Commentors stated that this Project will establish New York City as a hub for the offshore wind industry, creating union jobs and clean energy innovation.
- A commenter discussed that the Project is vital to improving the local supply chain and manufacturing capabilities, including the domestic production of steel. The commenter also discussed the number of supplier contracts relating to offshore wind and associated economic activity.
- Multiple commentors emphasized the number of full-time jobs created by the Project, contributing to the Administration's Justice 40 initiatives, including jobs that are direct, indirect, and induced, and requested that the EIS build on this information and include further specificity for each category.
- A commenter specifically stated that the Project would generate thousands in jobs and millions of dollars in economic impact in New York and provided the estimated number of direct jobs in Queens and Brooklyn for BW1 and BW2 for construction and operations.
- A commenter requested that BOEM include any language access needs for local communities that may be present to access job benefits, and that BOEM consider this and other qualities that should be take into account to ensure jobs are accessible to a diverse workforce.
- A commenter stated that all economic reports, including PPA's, should be readily available to the public.
- A commenter requested that positive and negative economic impacts of the manufacturing and supply chain facility, workforce development programs, and opportunities for marine workforce be part of the EIS analysis.
- A commenter requested that BOEM fully corroborate statements by developers regarding Project economics since the public cannot, as BOEM considers this information confidential.
- Commentors mentioned that the Project's success is not only critical to meet New York's renewable energy goals, but to support local job creation and benefit the state economy, and that Beacon Wind is actively partnering with New York industry leaders, suppliers,

businesses, developing port infrastructure and hiring New York based employees, also adding that Equinor has already connected local New York businesses to the offshore wind supply chain and launched a fund to support workforce development and training for historically marginalized communities.

- Commenters requested that the EIS consider the economic costs and benefits of the proposed Project, as well as all alternatives, similar to BOEM’s cost benefit analyses for oil and gas activities taking into consideration the economic implications of climate change. Specifics for BOEM to consider include the following.
 - Quantifiable and qualitative measures of costs and benefits that are difficult to quantify, but essential to consider (potential economic, environmental, public health and safety, distributive impacts, equity).
 - Quantitative analysis of the costs of the Project to the fishing industry and impacted communities (analyze reduced fishing revenue, catch rates, changes to species, spawning success, fishing culture, fisherman health and well-being).
 - The amount of federal, state, or local taxpayer subsidies devoted to the Project, projections of the full cost to ratepayers (including the contract price in addition to any predictions of Project contingencies or overages), and portion of Project costs that will accrue to foreign markets.
 - Comparison of relative costs and environmental impacts of alternative technologies.
- Commenters expressed support for Project Labor Agreements, Local Hire provisions, and Community Workforce Agreements and the economic benefits that such agreements would have on the local communities.
- Commenters requested the following topics be analyzed, documented, or included in the EIS.
 - Impacts on housing and property values, population, economy, and employment.
 - Apprenticeship utilization, including the type of apprenticeship ensuring that they are union programs or Department of Labor certified, and the ration of apprentice to journeyman jobs.
 - Negotiations between the developer and trade unions.
 - Allocation of funds by the developer for environmental and economic initiatives for the communities most affected, as well as commitments to port infrastructure for those dedicated to marshaling and operation and maintenance activities.
 - “Multiplier effects” that make fisheries more valuable throughout the supply chain – this includes an expected “cascading effect” in diversified fishing businesses where economic stability in one season is required to support their activities in other fisheries throughout the year.
 - Workforce development needs, plans and collaborations associated with the Project.
 - Specify job categories (for construction, operations, and maintenance) and job numbers per category resulting from each domestically manufactured component, as well as how these numbers are accounted for in the total number of direct, indirect, and induced jobs, gross state product, and personal income anticipated from the Project.
 - Education and certifications necessary to access each job category, the training, average wages, hours, career advancement, physical demands, and safety information, as well as any commitments the company has made to ensure workers have the free and fair choice to join a union, such as through a union neutrality agreement.

- Jobs that require specialized experience that would prohibit workers in the U.S. from accessing those jobs, and the specific experience and training that is required.
- Specify whether workers will need to go overseas to receive training, and the duration of that training.
- Impacts of rising costs of materials and labor for offshore wind projects.
- Commenters stated the economic benefits Beacon Wind would have on the New York region, such as job training at the South Brooklyn Marine Terminal as well as being the hub for future offshore wind development, health, economic and education resources for grassroots groups such as United Puerto Rican's Organization of Sunset Park, use of project labor agreements that assist in creating union jobs, and clean energy for communities that would be harmed by fossil fuel pollution.
- A commenter stated Equinor's commitment to supporting workforce development through Equinor's partnership with the New York City Economic Development Corporation and the Sunset Park Task Force by awarding grants in workforce development and training for historically marginalized communities.
- A commenter stated that the Beacon Wind Project is critical for the Northeast to reach renewable energy goals and to support local job creation. The commenter also stated that investing in local ports and supply chains to encourage economic development and employment contributions is central to Connecticut's industry goals.
- A commenter mentioned that Equinor is part of the National Offshore Wind Institute and will implement workforce development initiatives that are relevant to career pathways, which will accelerate the development of the offshore wind industry and will provide workforce skill development training and initiatives.

5.21 Environmental Justice

Topics raised in this category included the following.

- Commenters expressed support for the proposed Project as part of the conversation of non-renewable energy facilities to clean energy facilities, resulting in beneficial health effects, the possibility for new jobs, and improved air quality for historically disadvantaged communities. Another commenter requested that BOEM ensure that communities and tribes receive the maximum possible benefits of the proposed Project.
- Commenters asked BOEM to account for both the improved health effects the proposed Project would bring, as well as the health burdens of the No Action Alternative, when assessing the proposed Project. Commenters also requested that BOEM ensure the full scope of benefits to environmental justice communities are assessed in the EIS.
- A commenter commended the work that the developer of the proposed Project has done in terms of awarding grants to and training historically marginalized communities.
- Commenters requested that BOEM utilize screening tools including those developed by the EPA, Council on Environmental Quality, and Centers for Disease Control, to assist in evaluating effects on communities with environmental justice concerns and includes this data as part of its analysis in assessing the impacts of the proposed Project.
- A commenter stated that BOEM should consider the status of negotiations with labor unions and grassroots organizations based in environmental justice communities affected by offshore wind development when evaluating the proposed Project.

- A commenter stated that prior offshore wind development projects have had negative impacts on environmental justice populations and that BOEM should perform a cumulative analysis that includes these negative effects on populations.
- A commenter requested that the EIS address environmental justice effects specific to fishing communities with minority and low-income populations and coastal communities that include tribal nations who utilize the ocean.
- Commenters requested that BOEM consider several policies including Executive Order 12898, 13985, and 13175, as well as the New York State Climate Leadership and Community Protection Act, and their associated requirements when evaluating the proposed Project.

5.22 Land Use and Coastal Infrastructure

Land use and coastal infrastructure comments addressed potential land use conflicts.

Topics raised in this category included the following.

- A commenter noted that various stations and depots containing fuels and other maintenance equipment for wind farms are generally being built within residential areas. The commenter is concerned that the infrastructure takes up too much space, contributes to noise pollution, and may not be sufficiently prepared for hurricanes or other adverse weather.
- Two commenters noted that wind farm infrastructure/construction that negatively affects public access to parklands or other coastal uses is incompatible with the State of New York's objectives on Alienation and Conversion of Municipal Parkland.
- The same commenters noted that infrastructure/construction could impact public services including other utility assets and community infrastructure.
- A commenter highlighted the potential need for a Federal Consistency Review which would initiate a review process that ensures the Project is consistent with program policies instituted by the State of Massachusetts.

5.23 Navigation and Vessel Traffic

Navigation and vessel traffic comments addressed potential effects on the ability to operate and navigate personal or commercial vessels and potential increases of vessel traffic.

Topics raised in this category included the following:

- A commenter requested that the EIS include a vessel traffic plan to minimize the effects of increased vessel traffic due to Project construction and operations.
- Commenters requested that the EIS analyze the establishment of transit lanes through the lease areas as an alternative and consider effects on fishing economics, product quality, markets, fisheries management, and living marine resources. The commenter noted the importance for analysis to consider the history of collaboration and negotiation that led to transit lane proposals.
- A commenter noted the COP's discussion of burying export cables and the importance of this design feature for the safety of vessels when anchoring. A commenter requested that the Long Island Sound Regulated Navigation Area be treated similarly to federal navigation channels and anchorage due to the concentrated vessel activity. As a result, the commenter requested that cables should be buried at least 15 feet deep in this area.

- A commenter requested that the EIS evaluate traffic considerations related to the construction phase of the Project on ports, O&M facilities, and the need for in-water safety zones.
- Several commenters expressed concern regarding the impacts on vessel navigation systems inside and adjacent to the lease area, including search and rescue response, and the potential for increased allisions and collisions.
- Commenters requested that BOEM continue to coordinate with local, state, and federal agencies to ensure the best available information is utilized when developing alternatives and evaluating potential impacts. One commenter specifically requests that BOEM review information in the USCG's Massachusetts and Rhode Island Port Access Route Study.

5.24 Other Uses (Marine Minerals, Military Use, Aviation, Scientific Research and Surveys)

Topics raised on this category included the following.

- One commenter requested that BOEM identify U.S. military training and exercise areas in the Draft EIS.
- Commenters expressed concern with the proposed Project's potential impact on scientific surveys in terms of reduced survey rates, ability to safely and effectively deploy survey gear, and forced modification of survey methods. Commenters were concerned that these negative impacts would in turn effect fishery communities, conservation efforts, available science, and the American public.
- One commenter expressed concern regarding impacts on fisheries dependent data collections and stated that BOEM should require an analysis that considers potential changes in data collections of species expected to be impacted by offshore wind development.
- A commenter expressed concern that impacts on surveys, specifically NOAA scientific surveys, were not adequately described in the COP for the proposed Project and that the proposed Project would result in permanent impacts on existing NOAA survey operations.
- A commenter asked that the EIS analyze mitigation measures for high frequency radar interference at project and cumulative scales because this technology is integral to the USCG and therefore is paramount to mariner safety.

5.25 Recreation and Tourism

Topics raised in this category included the following.

- A commenter expressed concern that offshore wind projects would negatively impact marine navigation, sailing, power boating, whale watching, and recreational fishing and felt that the BOEM has not adequately addressed the ramifications of such negative impacts.
- A commenter stated that the EIS should evaluate the impacts the Beacon Wind Project would have on boating, fishing, and temporary closures of beaches.
- A commenter asked that the Beacon Wind Project avoid impacts on existing and future sand borrow areas, as well as beach nourishment activities.
- A commenter requested that BOEM review datasets providing information on offshore artificial reef diving and wreck diving areas important to New York.

5.26 Scenic and Visual Resources

Scenic and visual resources comments generally included concerns regarding the visual impact from the project to historic properties and tourism onshore and requests for specifications on how impacts are analyzed in the EIS.

Topics raised in this category included the following.

- Commenters expressed concern with the reflection of the sun on wind turbine blades and how it may impact ocean animals, birds, and humans.
- Commenters asked for clarification on key observation point locations that will be used in the analysis. Commenters also asked that visual simulations consider a range of lighting, atmospheric, and seasonal conditions to reflect the full spectrum of visibility under various lighting conditions year-round, including the highest visibility conditions such as nighttime lighting.
- Commenters noted the need for BOEM to identify historic properties including National Historic Landmarks within the viewshed of the Project, to evaluate the effects from the Project on those properties; and to resolve any adverse effects through avoidance, minimization, and mitigation measures per Section 106 of the National Historic Preservation Act.
- One commentor noted a beneficial economic relationship between the ocean view and tourism in Nantucket, and how tourism may suffer due to visual impacts of the Project. Commenters noted that BOEM should consider and analyze the temporary and permanent visual and aesthetic impacts of the Project from onshore and offshore observation points.
- One commentor stated that the Visual Impact Assessment was inadequate in showing actual impacts of WTGs and other infrastructure of the Project on visual resources and urged BOEM to conduct additional visual assessments to comply with Section 106 requirements.
- The Town of Nantucket commented that they support the use of Aircraft Detection Lighting System, but that BOEM should not consider the use of this system as mitigation or minimization measure as it has become standard practice. Similarly, the commenter suggested that BOEM should not consider the current WTG spacing and non-reflective paint color as minimization measures but rather as baseline Project design features.

5.27 Noise

Noise comments included concerns regarding impacts from noise associated with construction and operations of the Project to marine life.

Topics raised in this category included the following.

- Commenters asked that BOEM provide the ambient noise levels for the proposed action.
- A commenter suggested that BOEM evaluate the potential application of sound penalties for onshore tonal noise impacts and assess the adequacy of proposed mitigation measures.
- A commenter suggested that BOEM request new guidelines on thresholds from noise for marine mammal behavioral disturbance from NMFS that are sufficiently protective and consistent with the best available science.
- Commenters expressed concern of harm from noise being a shared impact across a functionally diverse and taxonomically diverse range of invertebrates. One commenter

suggested controlled experiments and studies on species most likely to experience higher mortality as a result of anthropogenic sound.

- Commenters requested that the EIS consider impacts specifically related to breeding, behavior, and feeding on NARW from noise.
- One commenter expressed concerns related to Long Island Sound being more vulnerable to noise disturbance because of the enclosed nature of the bottom habitat.

5.28 Electromagnetic Fields

Topics raised in this category included the following.

- Commenters expressed concern over the potential impacts of Project-related EMFs on humans, benthic species, elasmobranchs, and long-range migratory and magnetic field-sensitive species including sea turtles, sharks, and other marine mammals. Commenters were concerned that offshore wind power cables would impact the ability of some species to orientate and navigate, undermining their ability to migrate, find food sources, and procreate.
- Commenters asked that BOEM do a more thorough consideration on the impact of EMFs, specifically considering a more global perspective of impacts, evaluating export cable burial depth and methods and mitigation measures to minimized predicted EMFs, and undertaking an EMF study to establish baseline magnetic and electric fields.

5.29 Materials and Waste Management

Materials and waste management comments addressed potential risks of hazardous materials.

Topics raised in this category included the following.

- Multiple commenters expressed concerns with the decommissioning stage of the Project due to difficulties and costs associated with transportation, blade recyclability, and disposal.
- Multiple commenters expressed concerns that the Project will increase demand for rare earth metals and minerals and therefore lead to increased mining of these materials globally which can negatively impact ecosystems, water quality, health and safety, and the greater human environment. Commenters asked that BOEM analyze the quantity and impacts of rare earth minerals used in each WTG, for the Project as a whole, and cumulatively with other offshore wind projects.
- Two commenters noted the need for preparation, mitigation, and impact analysis for inadvertent releases and spills of oil or other pollutants associated with the Project.
- Two commenters expressed the need for to disclose more details regarding the amount and types of materials being used and the country of origin for all materials, both raw and manufactured. In addition, one commenter noted that the EIS needs to describe the quality, standards, and certifications of the materials used to construct the Project.

5.30 Public Health and Safety

Comments relating to public health and safety requested the following.

- Analysis of potential mental health impacts due to visual changes of the seascape from installation of WTGs.

- Analysis of potential workplace safety and mental health hazards for workers involved with construction and operations of the Project.

5.31 Non-Substantive: General Support or Opposition, or Multiple Topics Discussed Generally

Many commenters expressed general support for the proposed Project. Some provided comments of support without providing justification. Others were supportive of the proposed Project for specific reasons, which included the following.

- The Project would represent an actionable step to address climate change by transitioning from use of fossil fuels to renewable energy and thereby reducing GHG emissions. Commenters stressed the importance of addressing climate change and reasoned that the potential environmental and visual impacts of the Project would be minor relative to effects of climate change such as sea level rise, rising ocean temperatures and acidification, extreme storms, severe heat events, and wildfires.
- The Project would contribute to national, state, and local offshore wind goals/commitments and energy needs of New York State and potentially New England states.
- The Project would create high-paying, union jobs supported by labor agreements, would benefit the local and State economies, and would contribute to the development of a domestic offshore wind supply chain.
- Equinor and subsidiary Beacon Wind have conducted outreach to interested parties, identified best practices to mitigate environmental and social impacts, and contributed to research initiatives.
- The Project would result in improvements to local air quality and support environmental justice from decommissioning of the fossil-fuel-powered Astoria energy plant and subsequent sale to Beacon Wind for renewable energy generation.
- BOEM's consideration of and commitment to environmental protection.

Many commenters requested that the Project be approved in full and as expeditiously as possible in light of the urgent need to address climate change.

Other commenters expressed opposition to the Project or urged that BOEM exercise caution and objectivity in its decision. Specific reasons cited by commenters expressing opposition to the Project included:

- The Project may cause adverse impacts on benthic communities, water quality, fish, and wildlife and loss of biodiversity from development of offshore wind.
- There are uncertainties and data gaps with available studies and scientific information and need for additional monitoring to fully evaluate the impacts of offshore wind development.
- The Project may have visual impacts on coastal communities where WTGs and associated lighting would be visible.
- There are high life-cycle costs and impacts associated with extraction of raw materials and disposal of offshore wind infrastructure.
- Distrust for the relationships and motives of the federal government and private companies in developing offshore wind.

Appendix A. List of Submissions and Individual Comments by Topic

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Opposition, or Multiple Topics Discussed GenerallyA-263**

A.1. Index of Comment Submissions Sorted by Submission Number

Table A-1 lists the name and agency or organization affiliation (if any) for each person who provided a scoping submission. The submission identification (ID) number listed below corresponds to the comment numbers referenced in Section A-2.

Table A-1. List of Submission Identifications, Names, and Affiliations

| Submission ID | Name | Affiliation |
|---------------------|--------------------|---|
| BOEM-2023-0037-0002 | Sara Gronim | |
| BOEM-2023-0037-0003 | | Queens Borough President's Office |
| BOEM-2023-0037-0004 | Marc Schmied | |
| BOEM-2023-0037-0005 | Carolyn O'Keefe | |
| BOEM-2023-0037-0006 | Bruce McKay | |
| BOEM-2023-0037-0007 | jean publiee | |
| BOEM-2023-0037-0008 | Kathy Malone | |
| BOEM-2023-0037-0009 | | Massachusetts Manufacturing Extension Partnership |
| BOEM-2023-0037-0010 | Zoë Kaplan-Lewis | |
| BOEM-2023-0037-0011 | | ECOConcrete |
| BOEM-2023-0037-0012 | Mimi Bluestone | |
| BOEM-2023-0037-0013 | Diane Matza | |
| BOEM-2023-0037-0014 | Andrew Moss | |
| BOEM-2023-0037-0015 | Bill Nowak | |
| BOEM-2023-0037-0016 | Jay Blackman | |
| BOEM-2023-0037-0017 | Elizabeth Poreba | |
| BOEM-2023-0037-0018 | Christine Arroyo | |
| BOEM-2023-0037-0019 | Jiahua Huang | |
| BOEM-2023-0037-0020 | Kanwaldeep Sekhon | |
| BOEM-2023-0037-0021 | Bart Farell | |
| BOEM-2023-0037-0022 | Nivo Rovedo | |
| BOEM-2023-0037-0023 | John Rath | |
| BOEM-2023-0037-0024 | Don Porter | |
| BOEM-2023-0037-0025 | Patricia Henighan | |
| BOEM-2023-0037-0026 | Robert Heinemann | |
| BOEM-2023-0037-0027 | Anthony Favale | |
| BOEM-2023-0037-0028 | Stephanie Doba | |
| BOEM-2023-0037-0029 | Chris Efthimiou | |
| BOEM-2023-0037-0030 | Matthew Eager | |
| BOEM-2023-0037-0031 | Mary Roma | |
| BOEM-2023-0037-0032 | Alyson Shotz | |
| BOEM-2023-0037-0033 | Jennifer Valentine | |
| BOEM-2023-0037-0034 | Steven Dahlgren | |
| BOEM-2023-0037-0035 | Virginia Matney | |

| Submission ID | Name | Affiliation |
|----------------------|---|--|
| BOEM-2023-0037-0036 | Nadine Godwin | |
| BOEM-2023-0037-0037 | Anonymous | |
| BOEM-2023-0037-0038 | Cullen Howe | |
| BOEM-2023-0037-0039 | Sandra Naidich | |
| BOEM-2023-0037-0040 | Tom Helling | |
| BOEM-2023-0037-0041 | Stephen Santangelo | |
| BOEM-2023-0037-0042 | Ryan Gellis | |
| BOEM-2023-0037-0043 | David Case | |
| BOEM-2023-0037-0044 | Bill Haddican | |
| BOEM-2023-0037-0045 | Deborah Kaplan | |
| BOEM-2023-0037-0046 | Toby Stavisky | |
| BOEM-2023-0037-0047 | Laurie Aron | |
| BOEM-2023-0037-0048 | Johnathon Campbell | |
| BOEM-2023-0037-0049 | Erland Castillo | |
| BOEM-2023-0037-0050 | Mi G | |
| BOEM-2023-0037-0051 | Seth Silverman | |
| BOEM-2023-0037-0052 | Michelle Nadboy | |
| BOEM-2023-0037-0053 | Steve McEvoy | |
| BOEM-2023-0037-0054 | roberta pyzel | |
| BOEM-2023-0037-0055 | William Roberson | |
| BOEM-2023-0037-0056 | Pete Klosterman | |
| BOEM-2023-0037-0057 | Judith Weis | |
| BOEM-2023-0037-0058 | Jennifer Valentine | |
| BOEM-2023-0037-0059 | Lillian Dalke | |
| BOEM-2023-0037-0060 | Carmen McLeod | |
| BOEM-2023-0037-0061 | Thomas A. Nies, Christopher M. Moore | New England and Mid-Atlantic Fishery Management Council |
| BOEM-2023-0037-0062 | Jason Dragseth | |
| BOEM-2023-0037-0063 | Daniel Tainow | |
| BOEM-2023-0037-0064 | | Xodus Group |
| BOEM-2023-0037-0065 | Anne Conway | |
| BOEM-2023-0037-0066 | Annabella Cockerell | Mothers Out Front |
| BOEM-2023-0037-0067 | Sally Courtright | |
| BOEM-2023-0037-0068 | Tim Snyder | |
| BOEM-2023-0037-0069 | Nadine Godwin | |
| BOEM-2023-0037-0070 | Joseph P. Dragone | Capital Region BOCES |
| BOEM-2023-0037-0071 | Tony Simone | |
| BOEM-2023-0037-0072 | Gracey Connelly | |
| BOEM-2023-0037-0073 | Toby Pannone | |
| BOEM-2023-0037-0074 | Peter Levinson | |
| BOEM-2023-0037-0075 | Richard Cherry | |
| BOEM-2023-0037-0076 | Bernice Gordon | |

| Submission ID | Name | Affiliation |
|----------------------|-------------------------------|--|
| BOEM-2023-0037-0077 | Dylan Fernandes | Massachusetts House of Representatives |
| BOEM-2023-0037-0078 | Deborah Herdan | |
| BOEM-2023-0037-0079 | Sarah Gallagher | |
| BOEM-2023-0037-0080 | Neil Donnelly | |
| BOEM-2023-0037-0081 | Alexander Betser | |
| BOEM-2023-0037-0082 | Andrew Hunt | |
| BOEM-2023-0037-0083 | Arthur Massei | |
| BOEM-2023-0037-0084 | Jonathan Kinney | Connecticut State Historic Preservation Office |
| BOEM-2023-0037-0085 | Jeff Schumann | |
| BOEM-2023-0037-0086 | Gib Brogan | Oceana |
| BOEM-2023-0037-0087 | Susan Boyle | |
| BOEM-2023-0037-0088 | Allison Romer | |
| BOEM-2023-0037-0089 | Kevin Costa | |
| BOEM-2023-0037-0090 | Vincent Valdmanis | |
| BOEM-2023-0037-0091 | Ryan Shanley | |
| BOEM-2023-0037-0092 | Anonymous | |
| BOEM-2023-0037-0093 | Maria McGrath | |
| BOEM-2023-0037-0094 | Marina Ancona | |
| BOEM-2023-0037-0095 | Rachel Federman | |
| BOEM-2023-0037-0096 | Kathleen McCarthy | |
| BOEM-2023-0037-0097 | Jean-Sé Dorais | |
| BOEM-2023-0037-0098 | Andrew Shifren | |
| BOEM-2023-0037-0099 | Jennifer Handler | |
| BOEM-2023-0037-0100 | Elyce Semenech | |
| BOEM-2023-0037-0101 | Louisa Pregerson | |
| BOEM-2023-0037-0102 | Jemilla Mulvihill | |
| BOEM-2023-0037-0103 | McGinley Brown | |
| BOEM-2023-0037-0104 | James Boyle | |
| BOEM-2023-0037-0105 | | Long Island Association |
| BOEM-2023-0037-0106 | Andrew Rosenthal | |
| BOEM-2023-0037-0107 | Sarah Strauss | |
| BOEM-2023-0037-0108 | Katie Cubina | Mystic Aquarium |
| BOEM-2023-0037-0109 | Gina Caroddo | |
| BOEM-2023-0037-0110 | Sarah Gerstenzang | |
| BOEM-2023-0037-0111 | Brian Vahey | The American Waterways Operators |
| BOEM-2023-0037-0112 | Ed Hill Jr | |
| BOEM-2023-0037-0113 | | Bristol Community College's National Offshore Wind Institute |
| BOEM-2023-0037-0114 | Daniel, Dylan Bettinger, Bust | TurbineHub |
| BOEM-2023-0037-0115 | Lane Johnson | Responsible Offshore Development Alliance |
| BOEM-2023-0037-0116 | Savannah Hatch | New England for Offshore Wind Coalition |

| Submission ID | Name | Affiliation |
|----------------------|-----------------------------|---|
| BOEM-2023-0037-0117 | | New Bedford Port Authority |
| BOEM-2023-0037-0118 | | Massachusetts Office of Coastal Zone Management |
| BOEM-2023-0037-0119 | Nora Brown | |
| BOEM-2023-0037-0120 | Benton Brown | |
| BOEM-2023-0037-0121 | Delia Kulukundis | |
| BOEM-2023-0037-0122 | Meghan Lapp | Seafreeze Shoreside, Seafreeze Ltd. |
| BOEM-2023-0037-0123 | Ross Gould | Business Network for Offshore Wind |
| BOEM-2023-0037-0124 | Eli Smith | |
| BOEM-2023-0037-0125 | Jason Walsh | BlueGreen Alliance |
| BOEM-2023-0037-0126 | | AtherasAtheras, Stacey |
| BOEM-2023-0037-0127 | | National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al. |
| BOEM-2023-0037-0128 | Sean, Kisha Mahar, Santiago | New York State |
| BOEM-2023-0037-0129 | Vicki Dunleavy | |
| BOEM-2023-0037-0130 | | Town of Nantucket |
| BOEM-2023-0037-0131 | Timothy Timmermann | U.S. Environmental Protection Agency |
| BOEM-2023-0037-0132 | | Sierra Club Volunteer |
| BOEM-2023-0037-0133 | Lisa Quattrochi Knight | Green Oceans |
| BOEM-2023-0037-0134 | Bonnie Brady | Long Island Commercial Fishing Association |
| BOEM-2023-0037-0135 | Michelle Bachman | New England Fishery Management Council |
| BOEM-2023-0037-0136 | Meghan Lapp | Sea Freeze |
| BOEM-2023-0037-0137 | Carl Borchert | |
| BOEM-2023-0037-0138 | Matt Gove | Surf Rider Foundation |
| BOEM-2023-0037-0139 | Kai Salem | 350 Brooklyn |
| BOEM-2023-0037-0140 | Zoey Kaplan Lewis | 350 Brooklyn |
| BOEM-2023-0037-0141 | Kate Will | |
| BOEM-2023-0037-0142 | Mike Okoniewski | West Coast Pelagic Conservation Group |
| BOEM-2023-0037-0143 | Bonnie Brady | Long Island Commercial Fishing Association |
| BOEM-2023-0037-0144 | Pushkar Bhatia | Business Network For Offshore Wind |
| BOEM-2023-0037-0145 | John Lavender | |
| BOEM-2023-0037-0146 | Kate Will | |
| BOEM-2023-0037-0147 | Michael Reid | |
| BOEM-2023-0037-0148 | Richard Khuzami | Old Astoria Neighborhood Association |
| BOEM-2023-0037-0149 | Jonathan Meade | National Park Service |
| BOEM-2023-0037-0150 | Tor Vincent | |
| BOEM-2023-0037-0151 | Michael Pentony | National Marine Fisheries Service |
| BOEM-2023-0037-0152 | Alena Walters | Sea Life Conservation, Inc. |
| BOEM-2023-0037-0153 | Multiple Commenters | |
| BOEM-2023-0037-0154 | Laurie Aron | Sierra Club |
| BOEM-2023-0037-0155 | Bill Haddican | 350 Brooklyn |

| Submission ID | Name | Affiliation |
|--|--------------------|---|
| BOEM-2023-0037-0156 | Wendy Fried | 350 Brooklyn |
| BOEM-2023-0037-0157 | Daniel Chue | New York City Environmental Justice Alliance |
| BOEM-2023-0037-0158 | Nathan Cohen | New York League of Conservation Voters |
| BOEM-2023-0037-0159 | Johnathon Campbell | 350 Brooklyn |
| BOEM-2023-0037-0160 | Lisa Harrison | |
| BOEM-2023-0037-0161 | Katy Yang | Sierra Club |
| BOEM-2023-0037-0162 | Nicky Ordway | 350 Brooklyn |
| BOEM-2023-0037-0163 | Nivo Rovedo | Sierra Club |
| BOEM-2023-0037-0164 | Katie Cubina | Mystic Aquarium |
| BOEM-2023-0037-0165 | Jeffrey Roy | Joint Committee Telecommunications Utilities and Energy |
| BOEM-2023-0037-0166 | Sara Gronim | 350 Brooklyn |
| BOEM-2023-0037-0167 | Lily Dalke | |
| BOEM-2023-0037-0168 | Justin Green | |
| BOEM-2023-0037-0169 | Mike Okoniewski | West Coast Pelagic Conservation Group |
| BOEM-2023-0037-0170 | Fred Zalzman | New York Offshore Wind Alliance |
| BOEM-2023-0037-0171 | Chris Sorensen | New York City District Council of Carpenters |
| BOEM-2023-0037-0172 | Zohran Mamdani | 36 District |
| BOEM-2023-0037-0173 | Delia Kulukundis | 350 Brooklyn |
| BOEM-2023-0037-0174 | Zahra Saifee | New England for Offshore Wind Coalition |
| BOEM-2023-0037-0175 | David Case | Sierra Club |
| BOEM-2023-0037-0176 | John Dunderdale | Local 56 Pile Drivers and Divers |
| BOEM-2023-0037-0177 | Marcus Chevitaese | Sightir, Inc. |
| BOEM-2023-0037-DRAFT-0026 (Duplicate submission not posted to Regulations.gov) | Robert Heinemann | |

A.2. Individual Comments by Topic

A.2.1 Process and Scope for NEPA, Permits and Consultations, and Public Involvement

Comment Number: BOEM-2023-0037-0061-0001

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: 60-day comment periods are preferable over 45-day periods for public review and input on COPs and NEPA documents

Comment Number: BOEM-2023-0037-0061-0009

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We recommend that BOEM extend the comment period for this scoping opportunity and future scoping and DEIS document reviews to 60 days, consistent with multiple other projects (e.g., Sunrise Wind, CVOW, New England Wind, SouthCoast Wind). A 60-day comment period for review is preferable over 45 days given the length and complexity of the COP and associated documents. This comment period overlapped with the notice of availability for the Atlantic Shores South DEIS and with opportunities related to both commercial and research leasing in the Gulf of Maine. Consulting and coordinating on these projects is taxing available resources in the fishing, fishery management, and fishery science communities.

Comment Number: BOEM-2023-0037-0061-0014

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: As the impacts analysis is developed, clear terminology will be important for readers to understand the complexity of the alternatives considered and the large number of impact-producing factors and environmental resources evaluated. The EIS should specify both magnitude and direction when characterizing impacts and define short and long term in the context of impacts.

Comment Number: BOEM-2023-0037-0062-0001

Commenter: Jason Dragseth

Commenter Type: Individual

Comment Except Text: Regarding BOEMs timelines, I would very much like to see the agency act with urgency to approve clean energy projects. The environmental impact statement timelines provided by BOEM at the meeting are (way) too long. Beacon Wind is not the first offshore wind project to be considered by BOEM, and it won't be last one. I hope the experience gained by the agency with each offshore wind project can be leveraged to make each subsequent approval quicker.

Comment Number: BOEM-2023-0037-0066-0006

Commenter: Annabella Cockerell

Organization: Mothers Out Front

Commenter Type: Organization

Comment Except Text: We commend the agency's commitment to seeking public input and actively encourage all stakeholders to engage in the comment process. Our voices, based on sound reasoning and supported by scientific evidence, can help shape a more sustainable future.

Comment Number: BOEM-2023-0037-0086-0002

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: To ensure that the Beacon Wind project is developed in a responsible manner, BOEM must confirm that the project complies with existing laws including NEPA, the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA) and the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Oceana appreciates the urgency that the administration has expressed to get projects like this under way quickly, but that cannot come at the expense of a full review and assessment. Oceana expects that some of the reviews and permitting may be concurrent, but offshore wind development must adhere to the rigorous review process that uses best available science to consider immediate and cumulative impacts to ocean wildlife.

Comment Number: BOEM-2023-0037-0086-0003

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Oceana notes that many of the wind development areas and projects were proposed more than 10 years ago. Prior to issuing permits, BOEM and the National Marine Fisheries Service (NMFS) must use the best available science that meets the information standards of all relevant statutes. Due to changing ocean conditions in the U.S. Atlantic Wind Energy Areas, Oceana also suggests that BOEM require new biological and ecological surveys of all proposed lease areas where the data is over five years old to ensure that development of these areas is appropriate and compatible with other marine conservation goals.

Comment Number: BOEM-2023-0037-0086-0005

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Additionally, the project must undergo consultation and permitting under the ESA and MMPA; including a Biological Opinion for all Endangered Species Act-listed species and Incidental Harassment Authorizations under the MMPA. Each of these must use the best scientific information available and the analysis and conclusions of these assessments must be updated as new information is published.

Comment Number: BOEM-2023-0037-0086-0008

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Oceana also encourages BOEM to conduct similar outreach and consultation with state and regional managers at the Atlantic States Marine Fisheries Commission with authority and responsibility for inshore fisheries to ensure effects on inshore habitats are minimized.

Comment Number: BOEM-2023-0037-0086-0009

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Oceana recognizes that these proposals represent the state of the issues at this time and the environmental review and permitting can take years. BOEM should ensure that the final EIS for this project is updated with current knowledge, science, technology, and practices that may emerge during development of the document.

Comment Number: BOEM-2023-0037-0086-0019

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The environmental effects of leasing and development were explicitly bifurcated in the NEPA process that uses an EA to assess the impact of leasing but not development. Now the process is considering the effects of development and the agencies must seriously consider a No Action alternative that avoids all effects of offshore wind development in this area. As with all leases, it is important to note that the lease for this project included no guarantee that development will be permitted. The importance of the area south of the islands to NARWs should require strong consideration of whether these areas are appropriate for future offshore wind development.

Comment Number: BOEM-2023-0037-0115-0001

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: BOEM, like most OSW developers, is taking an unpredictable approach to minimizing conflicts between offshore wind energy (OSW) and fisheries and has not offered a plan for ongoing collaboration with the fishing industry. BOEM has announced new “public comment periods” almost daily for the past several months without sufficiently addressing the collective requests it has already received through the public process. Compounding the numerous comment deadlines is the often very short comment period, as demonstrated by the mere 30 days given for this NOI.

This approach creates confusion, makes authentic engagement impossible, and exacerbates a growing divide between the select few who will financially benefit from OSW development and the overwhelming majority of coastal citizens who will suffer direct negative environmental and economic impacts, which are disproportionate to the minor global benefits these OSW projects

offer toward mitigating climate change. The “divide and conquer” approach, in lieu of furnishing factual and accessible information, inflicts further harm to the social fabric of our fishing communities. These communities can—and want to—work together with BOEM to solve important and tangible problems but only if those in positions of power afford them the ability to do so authentically.

Comment Number: BOEM-2023-0037-0115-0002

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: RODA has repeatedly stated that BOEM’s current approach of flooding the public with comment periods, while ignoring requests for transparency and authentic inclusion, prevents meaningful engagement thereby putting at risk the achievement of sustainable and environmentally conscious renewable energy production. RODA has consistently, for years, offered specific requests to BOEM to improve communication, safety, transmission planning, research, cumulative effects analyses, seafood business longevity, and environmental impacts. These requests are available on the RODA website [Footnote 2: <https://rodafisheries.org/offshore-wind/>] and BOEM should address them and forge working relationships with this constituency that provides food security to our nation throughout the development of this EIS and other actions.

Comment Number: BOEM-2023-0037-0115-0004

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: It is imperative for BOEM to publish all matters of public interest in the Federal Register, in accordance with its own past practice (until recently), standard practice at other agencies, and the law. This is especially important given BOEM’s decision to conduct stand-alone NEPA reviews for the large number of OSW projects undergoing permitting rather than adopt a programmatic approach. It is extremely difficult for impacted parties and other members of the public to follow an individual project through its evolution, and consistent dockets within the Federal Register are a minimum necessary tool toward that end.

Comment Number: BOEM-2023-0037-0115-0006

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The Administration’s demands to immediately address climate change using OSW as the main approach before conducting any science-based planning admittedly places BOEM, and the public at large, in a tenuous position. Environmental due diligence is required before leasing an unlimited amount of our federal ocean resources to large foreign companies. BOEM should never advocate for, nor commit to advance, any project prior to considering the information prepared in an EIS. For this reason, the one-sided, promotional tone of BOEM’s press release announcing this NOI (and the press releases that have accompanied every OSW-related announcement, no matter how minor or inconsequential, this year) is wholly inappropriate for a public trust agency and appears unprecedented in any industry. It is indisputable that public policies should prioritize a transition to energy sources that will reduce GHG emissions. However, it is unclear whether BOEM can be expected to conduct an

independent review of these projects when effectively ordered by the White House to achieve 30 GW capacity of offshore wind energy specifically by 2030, rather than an overall evaluation of possible energy strategies and their environmental and economic tradeoffs.

Comment Number: BOEM-2023-0037-0115-0013

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: RODA again calls upon BOEM to develop suitable Programmatic Environmental Impact Statements by region, with tiered analyses for individual projects or contiguous lease areas. This is the only approach that will both meet NEPA's requirements and allow for effective public comment opportunity. Fishermen, scientists, managers, and other non-OSW professionals simply cannot provide meaningful comments on each individual project BOEM plans to review in the near term. Without the ability to provide consolidated reviews and comments, the quality of decision making and project planning and the ability to find suitable mitigation measures will be strongly jeopardized.

Comment Number: BOEM-2023-0037-0122-0022

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: Additionally, there were no public meetings for the Beacon Wind NOI held in Rhode Island despite the fact that federally permitted Rhode Island commercial fishing vessels have activity in the area. In person meetings were only held in Queens, NY and Dartmouth, MA, and only two webinar options. For the fishing industry in the middle of a busy season, as well as attempting to read and follow other project document releases, this is simply inadequate. We request that BOEM hold a DEIS public comment period which does not overlap with releases of information from other projects or Fishery Management Council meetings. If it cannot do so, we request an extended comment period. The fishing industry is also dealing with fishery regulation public comment periods simultaneously with BOEM comment periods, and as the most affected user group we request that those considerations be addressed through an extended comment period for the DEIS.

Comment Number: BOEM-2023-0037-0122-0031

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request that BOEM better align the DEIS public comment period with other federal cooperating agency consultations. We specifically request that the DEIS public comment period remain open until after the NMFS Essential Fish Habitat consultation and Biological Opinion documents are released. The public, particularly those regulated subject to similar types of analysis, should have the opportunity to review those documents and incorporate their findings into public comments on the DEIS. We also request that BOEM make all federal cooperating agency documents, whether from NMFS, USCAE or other cooperating agencies, publicly available on all respective BOEM offshore wind project webpages, whether under the "Environmental Review" tab or any other appropriate tab. All federal documents related to a project should appear on that project's BOEM webpage. Currently, this is not the case and should be rectified.

Comment Number: BOEM-2023-0037-0125-0007

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: As part of the NEPA process, BOEM is required to review environmental, social, and economic data related to the proposed project. In the National Environmental Policy Act, Congress declared: “It is the continuing policy of the Federal Government...to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.”

To create these conditions, it is imperative that BOEM plays a role in ensuring that the positive impacts of offshore wind projects are maximized and delivered equitably while using the best available science and data to establish measures to avoid, minimize, mitigate, and monitor environmental and wildlife impacts as well as their social implications. This will require that all offshore wind lease contracts and permitting activities ensure the application of high-road employment practices, community benefits agreements, best management practices, and other means to ensure that projects are developed in an environmentally responsible manner and that benefits are maximized and equitable distributed.

Comment Number: BOEM-2023-0037-0125-0019

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: BOEM should also ensure that all impacted tribes are properly consulted, including state- recognized tribes, and non-federally recognized tribes in a geographic analysis area that is representative of their historical presence in the region. Robust consultation with tribes should be extended to Project activities that take place out of the state or region. Ensuring the consultation of tribes and ensuring the preservation of cultural resources is critical for advancing the environmental justice goals set by the Biden-Harris Administration

Comment Number: BOEM-2023-0037-0128-0003

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: To facilitate coordination and BOEM's evaluation of potential impacts to the State, [Bold: NYSDOS and NYSDEC respectfully request to serve as NEPA cooperating agencies] and look forward to working alongside BOEM and other federal, state, and tribal partners in completing this environmental review.

Comment Number: BOEM-2023-0037-0128-0103

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify Coordination Process with State Agencies, Local Governments, Stakeholders, and New York State Technical Working Groups (TWGs).

Comment Number: BOEM-2023-0037-0128-0105

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Citizen Participation• To ensure meaningful involvement, the Agencies urge BOEM to consult with local communities and organizations on inclusive methods to share information and receive community feedback.

- The EIS should address increasing public participation in agency activities and subsequent activities.

Comment Number: BOEM-2023-0037-0130-0012

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: Second, BOEM must comply with NEPA in permitting this Project. As an “action-forcing” statute, NEPA is designed to ensure that the public and decision-makers are provided with the information they need to make a considered decision about the best path forward. The statute is also designed to ensure that the agency has carefully and fully contemplated the environmental effects of its proposed action. [Footnote 5: 40 C.F.R. § 1502.1; N.C. Wildlife Fed’n v. N.C. Dep’t of Transp., 677 F.3d 596, 601 (4th Cir. 2012) (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989))] In other words, NEPA requires that federal agencies take a “hard look” at the environmental consequences of a proposed action. [Footnote 6: Citizens Against Burlington v. Busey, 938 F.2d 190 (D.C. Cir. 1991), cert. denied, 502 U.S. 994 (1992)] As an island community with an economy that is seasonal and tourism driven, the Town has a stake in ensuring that the ecological integrity of the area is maintained, and expects BOEM to work closely with consulting parties in making its decision.

Comment Number: BOEM-2023-0037-0131-0001

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: In addition to coordination with affected states and local communities, we recommend that BOEM continue to work closely with federal agencies and tribes with relevant air, water and natural resource responsibilities and interests during the development of the EIS. This coordination will be even more critical given the phased nature of the development.

Comment Number: BOEM-2023-0037-0131-0040

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: BOEM should develop communications written in plain language that can be understood by all affected community members. Readability should not exceed 7th to 8th grade level, which is considered the lower end of the estimated average reading level of the U.S. population. BOEM should offer technical assistance to help community members better understand the proposed action and its impacts.

Comment Number: BOEM-2023-0037-0131-0041
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: BOEM should determine if any linguistically isolated populations live in the vicinity of the onshore areas of the project and provide appropriate translation and interpretive services to ensure meaningful engagement. Public meetings should be accessible to all and scheduled at times that accommodate the greatest number of participants. BOEM should include an inventory of outreach efforts to date and develop a forward-looking outreach plan.

Comment Number: BOEM-2023-0037-0131-0042
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: BOEM's outreach to impacted communities should include information about the effects of construction described in the COP and whether the project will result in any benefits for communities with EJ concerns.

Comment Number: BOEM-2023-0037-0133-0004
Commenter: Lisa Quattrocki Knight
Organization: Green Oceans
Commenter Type: Organization

Comment Except Text: Please provide evidence for all conclusions: In past environmental impact assessments, BOEM offers no evidence for its conclusions that the impacts on wildlife and the environment will be minor or moderate, nor do they adequately define direct, indirect, and cumulative impacts. The authors use language such as "small" and large" and "minor" and "moderate" without providing percentages, or other quantitative specifications. This does not constitute a meaningful definition or criteria for either a scientific understanding or for the public's general ability to appreciate the consequences. These vague descriptors leave the public with no objective bounds within which to evaluate the potential impacts of the project.

Comment Number: BOEM-2023-0037-0133-0006
Commenter: Lisa Quattrocki Knight
Organization: Green Oceans
Commenter Type: Organization

Comment Except Text: Please require complete transparency: The environmental impact assessment must be transparent, articulating how impacts are quantitatively or qualitatively assessed. The public must have access to ALL technical reports. Prior impact studies have used the excuse of "industry secrets" to avoid Freedom of Information Requests. Given that public funds will be partially financing these projects and that public resources are being utilized, the project developers and BOEM has a GREATER responsibility to be transparent to the public. If a developer does not want to comply with this transparency, they should forfeit their lease and forgo the project. No permission can be legally granted if the public does not have access to all appendices.

Comment Number: BOEM-2023-0037-0133-0034

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Decommissioning: BOEM must require the DEIS to evaluate the impact of decommissioning on CO2 costs as well as the environmental costs. BOEM cannot approve a project, state that it insists on decommissioning, and then not include this in the DEIS. Because decommissioning might harm the environment and will cost an extraordinary amount of money, it is crucial to include the specifics in the DEIS. Given that the impact assessments depend on decommissioning, unless BOEM understands the environmental impact and is certain that decommissioning will take place from both a financial and environmental standpoint, it cannot legally approve a project based on a DEIS that omits this crucial aspect of the environmental assessment.

Comment Number: BOEM-2023-0037-0133-0036

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Practical recommendations to enhance the public's ability to read and appreciate the impact assessments:

Do not use abbreviations, unless the abbreviations are generally recognized and understood.

Provide page numbers and hyperlinks

Do not use colors to depict overall impact, use words. Colors are not always easily reproduced and cannot be quoted.

Do not refer to an appendix without providing a hyperlink

Do not use type that is smaller than 10 points.

Under NO circumstances should BOEM allow developers to give a range of impacts without percentages, probabilities, and, most importantly, a final overall impact assessment determination.

Comment Number: BOEM-2023-0037-0146-0001

Commenter: Kate Will

Commenter Type: Individual

Comment Except Text: Next time, please host a New Bedford-related outreach event in New Bedford [& on an bus route]. Getting to the event was tricky. There were multiple Dining Halls that came up when the venue was typed in Google maps.

Comment Number: BOEM-2023-0037-0146-0002

Commenter: Kate Will

Commenter Type: Individual

Comment Except Text: Glad that Equinor had a wide range of languages for their materials. Would be helpful to have BOEM contact/public comment info in local languages too.

Comment Number: BOEM-2023-0037-0146-0003

Commenter: Kate Will

Commenter Type: Individual

Comment Except Text: Glad to have the chance to meet folds in person & ask questions 1:1.

Comment Number: BOEM-2023-0037-0151-0006

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The Beacon Wind proposal includes a project design envelope (PDE) approach, which allows a project proponent the option to submit a reasonable range of design parameters within its permit application. The NEPA document should evaluate a reasonable PDE that reflects a project that is feasible for construction. We expect that as the project moves forward through the regulatory process, the PDE may be refined or modified to reflect environmental and technical feasibility or to respond to agency and stakeholder feedback, reduce impacts to our trust resources, and/or more accurately align the proposed action with the developer's intended project (i.e., what is technically feasible and likely to be implemented). We recommend any changes to the PDE be communicated to cooperating agencies in a timely manner, to reduce delays and maintain efficiencies in the process.

Comment Number: BOEM-2023-0037-0151-0007

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Changes to the proposed project in later stages, particularly after the DEIS has been published, while necessary, may require supplemental NEPA review, modifications to the MMPA LOA application and/or consultation documents. These steps are likely to affect the project schedule. We recommend coordination with our agency on the Beacon Wind project occur at all stages of this process, as this project may be considering newer technologies and includes a phased approach, with two projects (Beacon Wind 1 and 2) considered under one Construction and Operations Plan (COP). We understand new suction bucket technology may be considered for this project and that Beacon Wind intends to conduct testing of this technology and incorporate testing outcomes into the project design and impact analysis before the DEIS is published. We encourage coordination with our agency throughout this process, and recommend that any new information which may substantially affect alternatives and project design be incorporated into the NEPA document prior to cooperating agency review of the DEIS. As such, it will be important to ensure this work is conducted within a timeframe that would allow for results and refinements of the project to be incorporated into the NEPA, ESA, and EFH documents.

Comment Number: BOEM-2023-0037-0151-0008

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We note that Beacon Wind 1 has a Power Purchase Agreement (PPA) with the State of New York and has a timeline for development tied to that PPA. However,

Beacon Wind 2 is considerably less well defined and has no PPA. The uncertainty regarding the project parameters and timeframe for development of Beacon Wind 2 will create challenges for both development of the EIS and for our consultation processes. We recommend further coordination with us on how BOEM plans to consider and evaluate impacts of Beacon Wind 2 in both the NEPA document and consultation documents. Modifications to the proposed action after consultation has been initiated may lead to delays in the project timeline, as these changes may affect our analyses in any consultations that are underway, including potential changes to EFH conservation recommendations and/or terms and conditions or reasonable and prudent measures being considered in the ESA consultation.

Comment Number: BOEM-2023-0037-0151-0030

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The “Affected Environment” section of the EIS should cover a sufficient geographic area to fully examine the impacts of the proposed project and support an analysis of the cumulative effects. It is important that the geographic area encompass all project related activities, including the lease area, cable corridors, landing sites, and the use of ports outside of the immediate project area. This analysis should also include any necessary landside facilities and the staging locations of materials to be used in construction. BOEM should ensure that findings for each effect/species are supported by the best available information and recent references where possible and in context of the proposed project to allow for a well-reasoned and defensible document.

Comment Number: BOEM-2023-0037-0151-0033

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The “Affected Environment” section should also include all of the biological, cultural, and socioeconomic issues related to fisheries and marine resources that may be affected by this project, including species that live within, or seasonally use, the immediate project area and adjacent locations.

Comment Number: BOEM-2023-0037-0151-0038

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The “Environmental Consequences” section of the EIS must consider impacts resulting from the construction, operation and maintenance, and decommissioning of the proposed facility, including survey and monitoring activities that are anticipated to occur following approval of a COP. Impact descriptions should include both magnitude (negligible, minor, moderate, major) and direction (beneficial or adverse) of impacts and, where applicable, duration (short-term, long-term, permanent). This section should consider all of the individual, direct, and indirect effects of the project, including those impacts that may occur offsite as a result of the proposed project, such as construction of landside facilities necessary to construct and support operations of the Beacon Wind project. Impact producing factors from each phase of development should be considered, including site exploration, construction, operation and maintenance, and decommissioning.

Comment Number: BOEM-2023-0037-0151-0039

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: All activities included in construction of the project should be considered, including the deposition of fill material, dredging, water withdrawals and associated egg/larval entrainment/impingement, pile driving, increased vessel traffic, anchoring, high-resolution geophysical surveys, seafloor preparation including handling of any unexploded ordnance detected in the area and boulder relocation, and transmission cable installation. All relevant impact producing factors affecting marine resources should be evaluated, including, but not limited to, elevated noise levels, increased vessel traffic, turbidity and sedimentation, EMF, habitat alteration, presence of structures (WTGs, substations, and cables), and near-field and far-field changes in currents and other oceanic conditions (e.g. primary production, temperature stratification, sediment plumes). The document should also evaluate the potential impacts of chemical emission, including the release of chemical residues from wind farm operating materials and corrosion protection systems. The ecological impacts resulting from the loss of seabed and the associated benthic communities and forage base and changes to predator/prey relationships should be evaluated. This should include a discussion of the ecological and economic impacts associated with habitat conversion from WTG installation, offshore substations, cable installation, and scour and cable protection. This analysis should also include site-specific benthic data collection and an evaluation of impacts of the project on different habitat types and fisheries resources that rely on them. Impacts associated with decommissioning of the project should also be included, with details on how decommissioning would occur and the environmental consequences associated with project removal. Further, the assessment should include a robust analysis of the effects of any ongoing or planned surveys or monitoring of fisheries resources by the developer and the effects of those surveys on protected species (e.g., potential for entanglement of ESA listed whales, sea turtles, and Atlantic sturgeon in gillnet surveys). The assessment of these impacts should be completed at scales relevant to each impact type to enable meaningful comparisons between alternatives.

Comment Number: BOEM-2023-0037-0151-0040

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: It is important that the analysis provides a sufficient evaluation of baseline conditions and uses the best available information to evaluate the alternatives and support the analysis of effects. Any conclusions related to the magnitude and direction of project impacts should be fully supported by the analysis in the EIS and be consistent with impact definitions identified in the EIS. Impact definitions should be appropriate for the resource being considered, and allow for a meaningful understanding of and differentiation between degrees of impact. We recommend BOEM use resource-specific significance criteria for our trust resources, such as those developed previously with NMFS. As we have stated in the past, to the extent that any conclusions are based on inclusion of mitigation measures, those measures must be clearly defined and include an indication as to whether the measure is considered part of the proposed action and will be required upon approval, or an option that may be implemented by the developer at their own discretion. In preparation of the NEPA document for Beacon Wind, we recommend you review and incorporate comments we have made on previous BOEM documents to facilitate efficiencies in the regulatory process.

Comment Number: BOEM-2023-0037-0151-0042

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Short-term, long-term, and permanent direct and indirect impacts to water quality, protected species, habitats, and fisheries (ecological and economic) throughout construction, operation, and decommissioning should be addressed in the EIS. The EIS should analyze temporary effects and anticipated recovery times for marine resources within the impacts analysis. The temporal classification (e.g., short-term, long-term, or permanent) should be appropriate for the species, habitat types and impacts considered and should be clearly and consistently defined.

Comment Number: BOEM-2023-0037-0151-0048

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Rather than prepare a separate NEPA document, NMFS, consistent with the CEQ regulations at 40 CFR 1506.3, intends to adopt BOEM's Final EIS to support its decision to grant or deny Beacon Wind's request for an ITA pursuant to section 101(a)(5)(A) or (D) of the MMPA. NOAA may adopt all or portions (e.g., specific analyses, appendices, or specific sections) of a NEPA document prepared by another federal agency if the action addressed in the adopted document (or portion) is substantially the same as that being considered or proposed by NOAA, and NOAA determines the document (or portion) satisfies 40 CFR 1506.3.

Comment Number: BOEM-2023-0037-0151-0049

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: When we serve as a Cooperating Agency and we are adopting another agency's EIS, we ensure all resources under our jurisdiction by law and over which we have special expertise are properly described and the effects sufficiently evaluated, documented, and considered in the lead agency's EIS. Of particular importance is that the Draft and Final EIS address comments and incorporate edits NMFS provides during document development and Cooperating Agency review. As a Cooperating Agency per 40 CFR 1501.8, we must determine that the Final EIS properly addresses our comments and input in order for NMFS to determine the EIS is suitable and legally defensible for adoption, per 40 CFR 1506.3 and NOAA's NEPA procedures, and subsequent issuance of an ITA.

Comment Number: BOEM-2023-0037-0151-0050

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: As such, the document body must contain the following items: the purpose and need of NMFS' action (following template language previously agreed upon through interagency cooperation), a clear description of NMFS' roles and responsibilities as

both a cooperating and adopting agency (as described in the Ocean Wind 1 FEIS Appendix A), and a range of alternatives which incorporate a description of NMFS' action, to include the No Action alternative.

A summarized list of NOAA's adoption requirements is below, and more information can be found in NOAA's NEPA Companion Manual available at <https://www.nepa.noaa.gov/docs/NOAA-NAO-216-6A-Companion-Manual-01132017.pdf>.

- The other agency EIS (or portion thereof) fully covers the scope of our proposed action and alternatives and environmental impacts;
- An adequate evaluation of the direct, indirect, and cumulative impacts on marine mammals and the marine environment, including species listed under the ESA;
- An adequate discussion of the MMPA authorization process necessary to support implementation of the action;
- A reasonable range and evaluation of alternatives to the proposed action, including a no action alternative and alternatives to mitigate adverse effects to marine mammals, including species listed under the ESA;
- There is a thorough description of the affected environment including the status of all marine mammals species likely to be affected;
- There is a thorough description of the environmental impacts of the proposed action and alternatives, including direct, indirect, and cumulative impacts on marine mammals and projected estimate of incidental take;
- Identification and evaluation of reasonable mitigation measures to avoid or minimize adverse impacts to marine mammals, including species listed under the ESA; and
- The listing of agencies consulted.

Comment Number: BOEM-2023-0037-0151-0087

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The Beacon Wind COP includes both the Beacon Wind 1 and the Beacon Wind 2 projects. As such, it appears that BOEM would request ESA and EFH consultation on both projects. However, as the Beacon Wind 2 project is less refined than Beacon Wind 1, has no power purchase agreement/offtake agreement, and the development timeline is unclear, we encourage BOEM to meet with us to discuss how this project will be addressed in the ESA and EFH consultations.

Comment Number: BOEM-2023-0037-0151-0089

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Under section 7(a)(2) of the ESA, each Federal agency is required to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species. Because the activities that are reasonably certain to occur following the proposed approval of the Beacon Wind COP (including surveys, construction, operation, and decommissioning) may affect ESA-listed species and/or designated critical habitat, section 7 consultation is required. It is our understanding that BOEM will be the lead Federal agency for this consultation, and that you will coordinate with any other Federal agencies that may be issuing permits or authorizations for this project, as necessary, so that we can carry out one consultation that considers the effects of all relevant Federal actions (e.g., issuance of permits by the U.S. Army Corps of Engineers and/or the U.S. Environmental

Protection Agency and issuance of any MMPA take authorization by NOAA's National Marine Fisheries Service (NMFS)) regarding any wind energy facility proposed in the lease area. Given the extremely tight timelines proposed for this project, it is critical that we receive a draft Biological Assessment (BA) with the Cooperating Agency draft of the DEIS. This BA must reflect all activities associated with the full scope of the Beacon Wind project including clearly defined mitigation and monitoring measures that BOEM considers as part of the proposed action. Further, the BA must reflect any and all proposed survey or monitoring activities proposed for any stage of the project, including surveys of fisheries resources. We encourage you to use the ESA Information Needs Checklist when developing the BA. We would welcome a meeting with BOEM and/or the contractors preparing the BA before drafting begins to facilitate development of the BA and address initial questions.

Comment Number: BOEM-2023-0037-0151-0092
Commenter: Michael Pentony
Organization: National Marine Fisheries Service
Commenter Type: Federal Agency

Comment Except Text: The EFH expanded consultation process allows the maximum opportunity for NMFS and the Federal action agency, in this case BOEM, to work together to review the action's impacts on EFH and federally managed species, and for our agency to develop EFH conservation recommendations (EFH CRs) to avoid, minimize or otherwise offset adverse effects to EFH and federally managed species. Although the EFH consultation is a separate review mandated pursuant to the MSA, our EFH regulations encourage the consolidation of the EFH consultation with other interagency consultation, coordination, and environmental review procedures required by other statutes, such as NEPA, where appropriate. Because the information contained within the EIS is needed to support a complete EFH Assessment and offshore wind projects are operating under very tight timelines, it is important for us to receive a draft EFH assessment with the Cooperating Agency draft of the DEIS.

Comment Number: BOEM-2023-0037-0151-0094
Commenter: Michael Pentony
Organization: National Marine Fisheries Service
Commenter Type: Federal Agency

Comment Except Text: As a result, our FWCA recommendations must be given full consideration by federal action agencies. Your consultation with us under the FWCA may occur concurrently with the EFH consultation under the MSA.

Comment Number: BOEM-2023-0037-0152-0045
Commenter: Alena Walters
Organization: Sea Life Conservation, Inc.
Commenter Type: Organization

Comment Except Text: The Bureau of Ocean Energy Management and the public understand that the Outer Continental Shelf Lands Act provides the legal framework for the management, leasing, and regulation of natural resources on the outer continental shelf. It balances the goals of resource development, environmental protection, and benefit sharing while promoting safety and science. The act has facilitated the exploration and production of energy resources, while also incorporating measures to mitigate environmental impacts and ensure the sustainable use of the outer continental shelf. It is concerned with the management of OCS and the use and development of the resources of the OCS in the wisest manner including environmental

responsibility so that future generations inherit its legacy (bounty of life-sustaining food, safe navigation, sights and sounds that are healing and regenerative to the human body and psyche, mitigate climate change by its capacity to absorb dissolved inorganic carbon buffering changes to atmospheric gaseous CO₂, oxygenation of our biosphere, physical contact with clean ocean water sun and sand which protects and improves the body and mind, and soothing and fascinating encounters with coastal wildlife and marine life that enriches us). All of these should be considered in the NEPA review when considering the impacts to the human environment, defined in 40 CFR 1508.14 to include the natural and physical environment and the relationship of people with that environment.

A.2.2 Purpose and Need

Comment Number: BOEM-2023-0037-0002-0002

Commenter: Sara Gronim

Commenter Type: Individual

Comment Except Text: The CLCPA recognizes the centrality of building offshore wind to increasing our renewable sources for electricity. Among other things, the CLCPA requires a minimum of 9,000 megawatts of electricity by 2035. Should the Beacon Wind project be built on time and in full, it will provide 1,230 megawatts of electricity by 2028, or 14% of this total. Clearly, the Beacon Wind is a key project for achieving New York State's goals.

Comment Number: BOEM-2023-0037-0004-0003

Commenter: Marc Schmied

Commenter Type: Individual

Comment Except Text: New York State, with the approval of voters, has passed the Climate Leadership and Community Protection Act - without Beacon Wind, we will not reach our reduced emissions targets.

Comment Number: BOEM-2023-0037-0010-0002

Commenter: Zoë Kaplan-Lewis

Commenter Type: Individual

Comment Except Text: The Climate Leadership and Community Protection Act was signed into law on July 18, 2019 and it states in section 9(E) that at minimum, New York must be able to achieve 9 gigawatts of offshore wind capacity by 2035. Therefore, we are obligated to begin wind power projects. I would be extremely proud to know that my city is replacing its out-of-date and leaky oil pipelines with new, clean connections to provide efficient, effective, and environmentally conservative power.

Comment Number: BOEM-2023-0037-0022-0002

Commenter: Nivo Rovedo

Commenter Type: Individual

Comment Except Text: Beacon Wind will help New York meet its ambitious climate goals. NYS's Climate Leadership and Community Protection Act requires the state to reach 70% renewable electricity by 2030 and 100% zero-emissions electricity by 2040. This would be wonderful; we would lead by example and show it can be done. It must be done, and replicated throughout the globe, to avoid all the catastrophic effects we have inflicted on ourselves by burning fossil fuels for our power needs. Along with other off-shore wind projects in the New

York bight, Beacon Wind will be a crucial contributor to NYS's 2035 goal of having 9 GW of offshore wind generating renewable power for New Yorkers, advancing NY's shift to electrification.

Comment Number: BOEM-2023-0037-0024-0001

Commenter: Don Porter

Commenter Type: Individual

Comment Except Text: We desperately need this and similar projects to succeed to maintain progress toward the CLCPA climate goals. The New York Independent System Operators reported this week that plans to retire fossil fueled generation facilities are endangered by insufficient renewable energy development. The Executive Summary of the NYISO report includes: To achieve the mandates of the CLCPA, new emission-free supply with the necessary reliability services will be needed to replace the capabilities of today's generation. Such new supply is not yet available on a commercial scale. The Beacon Wind Project is required in order to avoid the backsliding this report threatens.

Comment Number: BOEM-2023-0037-0026-0003

Commenter: Robert Heinemann

Commenter Type: Individual

Comment Except Text: Beacon Wind will help New York meet its ambitious and necessary climate goals. NYS's Climate Leadership and Community Protection Act requires the state to reach 70% renewable electricity by 2030 and 100% zero-emissions electricity by 2040. The Beacon Wind project is a crucial step toward meeting those goals.

Comment Number: BOEM-2023-0037-0048-0002

Commenter: Johnathon Campbell

Commenter Type: Individual

Comment Except Text: The Beacon Wind project is critical to meeting New York State's renewable energy goals given its capacity of 1,230MW. NYS has mandated that 70% of the electricity supply be renewable by 2030, that 100% be renewable by 2040, and that 9,000MW of offshore wind be added to the grid by 2035. Development must proceed as efficiently as possible given these rapid timelines.

Comment Number: BOEM-2023-0037-0061-0017

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Alternatives that meet / do not meet existing state procurements have been referenced as feasible / infeasible in past EIS documents. As we have stated in many past comment letters on other wind projects, the purpose and need as defined in the EIS should not be structured such that only projects which can meet existing procurements, procurement goals, or other goals of the developer will be considered. This grants too much deference to the wind project developers and limits BOEM's ability to consider ways to reduce the potential negative impacts, including protecting biodiversity and ocean co-use. BOEM should also state how a project that has not been procured will be evaluated against the purpose and need.

Comment Number: BOEM-2023-0037-0062-0003

Commenter: Jason Dragseth

Commenter Type: Individual

Comment Except Text: Unfortunately, due to decades of reliance on dirty, fossil fuel energy it is no longer an option to avoid a project such as Beacon Wind. Fossil fuel emissions are destroying our planet, and if we don't develop clean energy projects like Beacon Wind, then we'll continue relying on dirty, fossil fuel energy and eventually turn the earth into a cinder destroying every living thing along the way. We cannot continue down that path and clean, renewable energy projects like Beacon Wind should be the focus going forward.

Comment Number: BOEM-2023-0037-0066-0002

Commenter: Annabella Cockerell

Organization: Mothers Out Front

Commenter Type: Organization

Comment Except Text: Offshore wind energy is a clean, renewable resource that can help reduce greenhouse gas emissions and combat climate change. The Beacon Wind Project, with its capacity to provide 1,230 MW of clean power, can significantly contribute to meeting New York State's Climate Leadership and Community Protection Act requirements.

Comment Number: BOEM-2023-0037-0070-0002

Commenter: Joseph P. Dragone

Organization: Capital Region BOCES

Commenter Type: Organization

Comment Except Text: By 2035, New York State's goal is to have 9 GW of offshore wind generating renewable power for New Yorkers, and Equinor's offshore wind portfolio is a crucial contributor to New York's shift to electrification. Collectively, Beacon Wind 1, along with Empire Wind 1 and 2, will generate 3.3 gigawatts (GW) of offshore wind power, enough wind power to electrify over 2 million New York homes and contribute over one-third of the power needed for New York to reach its goals. The ambition of New York State's Climate Leadership and Community Protection Act and these associated intermittent goals cannot be realized without the completion of existing offshore wind projects, and Equinor's support in the development of a skilled workforce that drives this industry will help bring New York's vision to a reality.

Comment Number: BOEM-2023-0037-0108-0001

Commenter: Katie Cubina

Organization: Mystic Aquarium

Commenter Type: Organization

Comment Except Text: We also support the national goal of creating 30 MW of electricity from offshore wind by 2030 and the Connecticut State goal to contract 2,000 MW of offshore wind by 2030.

Comment Number: BOEM-2023-0037-0115-0005

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: All offshore development projects should be subject to the highest standards of independent review. The purpose and need as stated in this NOI references Presidential Executive Order 14008, which mandates full deployment of renewable energy resources to combat climate change, while conserving our lands, waters, and biodiversity. This raises a number of questions regarding BOEM's approach to conducting reviews of OSW projects. RODA's large body of comments discuss the major gaps in our knowledge of the impacts of OSW on our marine ecosystems. BOEM is processing with rapid deployment of OSW to address a major global issue but is not considering the environmental effects sufficiently.

Comment Number: BOEM-2023-0037-0115-0017

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: An appropriate purpose and need statement for this action would lead BOEM to prioritize OCSLA and NEPA's focus on environmental safeguards and eliminating damage to the environment. It would not be based on achieving states' OSW goals or the profit goals of a utility company determined outside of the NEPA process, as those would predispose the outcome of environmental review. The NEPA environmental analysis should inform OSW planning and decision making, not the inverse.

Comment Number: BOEM-2023-0037-0148-0003

Commenter: Richard Khuzami

Organization: Old Astoria Neighborhood Association

Commenter Type: Organization

Comment Except Text: We recognize and commend the offshore wind commitments set forth by the Biden- Harris administration, the Hochul Administration, and the New York State Legislature. It will require great efficiency to reach the state's goal mandating 9,000 MW of offshore wind be contracted by 2035. Beacon Wind's expertise in the region, focus on safe operations, and continued engagement with local communities, academic institutions, business associations, and environmental justice organizations positions them as an industry leader with the ability to help lead New York state's clean energy future.

Comment Number: BOEM-2023-0037-0151-0009

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Since NMFS is an action agency and anticipating a request for incidental take authorization under the MMPA, we need our Purpose and Need for the action to be clearly stated in the EIS. While BOEM did provide cooperating agencies an opportunity to coordinate on development of the Purpose and Need for the EIS before publication of the NOI, corrections provided by NMFS were not incorporated in the Purpose and Need statement

included in the NOI. Some of the edits made by BOEM are additional deviations from previously agreed upon language. We recommend this be corrected in the DEIS by incorporating previously provided revisions for Beacon Wind and following template language developed through extensive interagency cooperation in 2022, including for the NMFS-specific purpose and need. We welcome the opportunity to work with you to ensure the Purpose and Need accurately reflects the agreed upon language and NMFS' action.

Comment Number: BOEM-2023-0037-0152-0001

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Making the statement of purpose ludicrously specific and identical to the description of the project proposed by the developer forecloses consideration of alternatives clearly intended by the National Environmental Policy Act to be required. Action alternatives are supposed to be different and mutually exclusive propositions, or different courses of action. This is what NEPA requires. Equating the purpose with the project description extinguishes the entire universe of 'action' alternatives except for the one full, specific, envisioned buildout envisaged by the developer and its doppelgangers, as nothing else satisfies the project purpose”.

[Footnote 1: Doppelgangers are also known as ringers]

Need is an identified problem to be solved. A purpose is a broad set of objectives that once adopted, will substantially fulfill the need.

The project need should be “to reduce the GHG emissions per terawatt-hour relative to the weighted mix of energy types from which power is currently made. using a 10-year lookback”. The project purpose should be to reduce the GHG emissions per TWh [Footnote: 2 TWh, is a unit of energy representing one trillion watt hours. It is an expression of a specific amount of energy, rather than a rate of transfer/creation/usage of energy.] created, relative to the weighted (10-year lookback) mix of energy types used today to generate power. Obtaining a certain amount of electrical power from renewable sources for a specified period of time is not a reasonable substitute.

Helping to hit renewable energy targets is a terrible aim of an offshore wind project. It is unreasonable to express project aims in such a way because it disjoins the project from GHG emissions reduction objectives. Doing so means that quantification of GHG emissions [Footnote 3: Full lifecycle of the project including materials sourcing and materials production needed to supply materials for the manufacture and formation of infrastructure components] is not only no longer centrally important, but unnecessary to determine whether the project fulfills its purpose.

Comment Number: BOEM-2023-0037-0152-0042

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Repeated throughout the COP is a statement by the developer that full build-out of the leased area is needed due to the amount of developable area being limited, renewable energy benchmark targets, and expected new leases. Inherent in this statement is that because the OCS is a limited resource with which to power can be generated by use of its submerged lands, the entirety of it should be used. The OCS is a limited resource also for fisheries, is a limited resource also of animal migratory space, is a limited resource also of foraging space for cetaceans, also of elevated ocean productivity (and dissolved carbon absorption) relative to ocean waters on our planet not sitting over outer continental shelves. The fact that OCS is a limited resource does not automatically equate to the conclusion that use of

the entirety of its feasible submerged land for power generation via the construction and operation of wind- turbine power plants is required or desirable. Indeed, it is a giant leap.

Comment Number: BOEM-2023-0037-0152-0043

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Divorcing or untethering the greenhouse gas (GHG) emission reduction (in CO2 emissions equivalent measure) from the project need [Footnote 58: as BOEM and the offshore wind developers have done] , and instead substituting renewable energy production is not appropriate and is inexcusable in our current (urgent) need to abate climate change. Such a bait and switch – namely, making the project need reflect helping to achieve a renewable energy benchmark rather than to help achieve GHG reduction in power production means :• A project proposal that worsens or does not substantially reduce GHG emissions will not be rejectable for its failure to fulfill or for its failure to substantially aid in the fulfillment of the need to reduce greenhouse gas emissions. • Range of project alternatives to be given detailed consideration for approval and implementation is obviously shaped by the stated need and purpose. The selection of renewable energy benchmarking as a need means that any project that produces energy from wind it is helping serve the purpose regardless of its net effect on GHG emissions per unit energy (TWh) produced. This results in the rendering of examination of such a net effect as nonessential when in reality it is among the most essential.

It is also not appropriate and is inexcusable—in our current (urgent) need to abate profound decline in habitat loss, degradation, and fragmentation—to allow the project purpose to be equated to a specific description of the project detailed in the COP in an effort to make it such that all reasonable alternatives which prevent effective habitat loss become discarded for not meeting the project purpose.

Comment Number: BOEM-2023-0037-0152-0044

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: BOEM must not define the objectives of the action so narrowly that only one alternative would really accomplish the goals of the action. Considering that a whale buffer has been proposed to mitigate effects on endangered species, and considering the potential of the project to affect currents, sea strata (and front) mixing, to impair essential migration processes, to redistribute aquatic life, and make lasting changes to marine habitats, the Sea Life Conservation does not consider alternate cable routes for same wind-turbine power plant buildout to provide meaningful alternatives that would avoid or mitigate these effects which are caused by the turbine/substation infrastructure.

A.2.3 Proposed Action/Project Design Envelope

Comment Number: BOEM-2023-0037-0011-0001

Organization: EConcrete

Commenter Type: Organization

Comment Except Text: Ecological design elements should be incorporated into the offshore wind infrastructure, specifically for scour and cable protection where benthic habitat could be maximized. Using nature-based design elements significantly increases species settlement,

richness, and abundance. Nature-based design elements allow the structure to actively provide carbon sequestration, decrease the magnitude and frequency of maintenance leading to increased structural lifespan. Using ecological concrete as a mitigation measure and design alternative supports compliance with strict environmental regulations. The term “ecological concrete is an alternative to traditional concrete that’s material composition enhances or encourages the growth of flora or fauna when placed in the marine environment. Ecological concrete may include recycled materials, such as recycled or reclaimed concrete, resulting in reduced greenhouse gas emissions compared to traditional concrete. The COP specifies “the scour locations, the type of protection, and the amount placed around each foundation will be based on a variety of factors, including foundation type, water flow, and substrate type, and will be informed by hydrodynamic scour modeling. Descriptions of potential scour protection types are: Rock: the installation of crushed rock or boulders around a structure; Rock Bags: pre-filled bags containing crushed rock to be placed around a structure; Mattresses: the installation of purpose built mattresses around a structure; and continued evaluation of new scour protection systems under development...Cable protection is proposed to be installed along portions of the submarine export cables and interarray cables, in the event target burial depths cannot be achieved or where other subsea assets have to be crossed (e.g., cables and pipelines)...Descriptions of the cable protection types proposed are...Concrete Mattresses: concrete blocks, or mats, connected via rope or cable..”. Given the aforementioned details above, all concrete materials should solely be fabricated from ecological concrete, including all cable and scour protection, in order to minimize negligible impacts and create marine habitat opportunities. Furthermore, the species that settle and grow on the ecological concrete mattress and cable protection would create a living layer providing bioprotection which hardens the structure. In a recent technical report, The Nature Conservancy (TNC) recommended nature-based designs for cable protection and scour protection. Ecological concrete technology is also featured in the Wind Energy Monitoring & Mitigation Technologies Tool developed by the International Energy Agency Wind Task 34 (WREN), the Pacific Northwest National Laboratory, and the National Renewable Energy Laboratory.

Comment Number: BOEM-2023-0037-0035-0010

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: They told us they have to construct a cable to bring the electricity from the wind turbines under the ocean floor for 15-20 miles through the ocean and then all through the land from Brooklyn and Queens and throughout Nassau County stretching all the way out to Montauk Point. These (insulated) cables will be 3 feet underground within feet of homes and businesses throughout Long Island. The residents are rightly concerned about the health and cancer risks of exposure to these electric cables carrying high amounts of voltage past their homes and children and through our ground water.

Comment Number: BOEM-2023-0037-0035-0015

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: What will happen in the dead of winter when it snows and/or precipitates freezing rain? There are already known areas where the turbines stop due to ice accumulation and produce nothing.

Comment Number: BOEM-2023-0037-0061-0002

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The EIS should clarify how the two-project approach works in terms of BOEM's approval process and if/how lessons learned from one project will inform the second project.

Comment Number: BOEM-2023-0037-0061-0010

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Beacon Wind is the fourth combined, two-stage Northeast U.S. offshore wind project to undergo environmental review and permitting. The EIS should describe how the two-project approach works in terms of BOEM's approval process. The concept of adaptive management is raised frequently in relation to U.S. offshore wind development. Because power that will be generated from BW2 has not yet been procured, the timeline for construction remains uncertain, and development may follow several years after BW1. There will likely be lessons learned during that time that might inform and help mitigate negative effects during construction of BW2. Will permit issuance, terms and conditions, and mitigation measures identified via the federal consistency process be adaptive such that lessons learned during BW1 can be applied to BW2?

Comment Number: BOEM-2023-0037-0061-0013

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The EIS should also explain what is meant by assessing "the possibility of cable linkage between BW1 and BW2" if both projects connect to the New York Independence System Operator (NY ISO) (COP Volume 1 Section 1.2) given the projects are considered electrically independent. Is this different than sharing a cable corridor?

Comment Number: BOEM-2023-0037-0061-0032

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The COP states that "target burial depth is anticipated to be 3-6 ft...in areas not under federal management (i.e., outside of navigational channels and anchorages) and 15 ft ... below the authorized depth within federally-managed areas" and the developer "may implement an additional target burial depth where appropriate" (Volume 2E, Section 8.7.2.4). For example, 3-6 ft burial is identified as potentially appropriate for clam dredging activities. BOEM's draft fisheries mitigation guidance states "All static cables should be buried to a minimum depth of 6 feet below the seabed where technically feasible." The Councils have not endorsed a specific cable burial depth, but rather have recommended depths that are adequate "to reduce conflicts with other ocean uses, including fishing operations and fishery surveys, and to minimize effects of heat and electromagnetic field emissions" (from the BOEM Draft Fisheries

Mitigation Guidance). Assuming a depth of 6 feet is sufficient to address these objectives, we recommend the EIS include this target burial depth as the minimum end of the range. We also recommend explaining more details on the type and frequency of monitoring for burial depth.

Comment Number: BOEM-2023-0037-0061-0033

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The COP states that a Cable Burial Risk Assessment will “identify any needs for additional cable protections.” It is important to note that cable armoring is of concern due to the potential to affect commercial fishing operations which use mobile bottom tending gear. The EIS should clearly document the fraction of the cables where armoring is likely to be required and identify where these areas are located. The New England Council’s submarine cables policy [Link: https://s3.amazonaws.com/nefmc.org/NEFMC-Submarine-Cables-Policy-1-Dec-2020_201221_095243.pdf] recommends that when cable burial is not possible, cables should be protected with materials that mimic natural, nearby habitats. It would be helpful to identify the characteristics of any cable protection materials, should burial depths of 3-6 feet not be achieved, because these materials contribute to the net amount of complex habitat that would exist in the area once the project is constructed.

Comment Number: BOEM-2023-0037-0115-0035

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: RODA has concerns over the ability of the turbines to operate safely year-round based on local environmental conditions. RODA has raised, in previous comment letters, the topic that turbines are known to ice over and create safety hazards. Developer representatives have indicated that they do not believe icing is not an issue in this region, raising doubt whether they are likely to investigate the best available de-icing technology. Icing is a major safety concern for the fishing industry as they do not want to be put at risk from ice falling off turbines while operating near them (depending on whether conditions allow that). It is not clear in the COP what de-icing technologies are available and whether they would be incorporated into the project design envelope.

Comment Number: BOEM-2023-0037-0122-0016

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: The COP states that where the Beacon export cables cross existing out-of-service cables, sections of those out-of-service cables may be removed in order to facilitate appropriate burial of new cables. We request that these cables be specifically identified, on NOAA nautical charts, in the DEIS, along with appropriate cable Alternatives, BOEM require this procedure for all wind farm cables.

Comment Number: BOEM-2023-0037-0122-0028

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We are aware that HV cables can only be buried to a certain depth or risk the chance of the cables overheating. What depth is the maximum depth that HV cables of the Beacon Wind voltage can be buried without overheating? This is an important question, since if cables cannot be buried too deep in order to prevent overheating, then that means the cables at the optimal burial depth are radiating heat. Please quantify in the DEIS. Studies on these impacts “show that in order to increase the load capacity of the submarine cable and reduce the thermal strain of the submarine cable, the heat dissipation of the submarine current should be increased, so the buried depth should be appropriately reduced.” [Footnote 46: Huang et al., “Study on the influence of the current on 500 kV AC marine cable based on numerical simulation” AIP Advances, 2021 at 085023_1_online.pdf (silverchair.com).]

Comment Number: BOEM-2023-0037-0127-0009

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: B. Handling of Significant New Information During Long Construction Schedules

About half of the Project’s capacity (1,230 megawatts) and the first phase of the Project (BW1) has a purchaser (a 25-year offtake agreement with the New York State Energy Research and Development Authority or NYSERDA). [Footnote 21: 88 FR at 42387.] The second phase of the Project, BW2, does not have an offtake agreement and it is unclear when it will. [Footnote 22: Id.] This raises questions regarding how this will affect the timing or evaluation of the Project, particularly BW2. Currently, the construction schedule has BW1 starting approximately one year before BW2, with both projects being complete by Q2 of 2029. [Footnote 23: BW COP at 1-26, Fig. 1.2-8.] However, absent a power purchaser for BW2, it is questionable whether that phase of Project will proceed as anticipated, particularly if an offtake agreement is not procured in a timely manner.

Construction delays could result in the need for further review. For instance, in that interim period, other offshore wind developments may be constructed and begin operating. These projects may provide new and significant information regarding how offshore wind projects impact a variety of resources and communities. Further, ocean conditions may have significantly changed, as well as the conservation status or behavior patterns of key species. New technologies may be developed that could significantly affect impact mitigation strategies. These factors have the potential to create “significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts,” which could necessitate the preparation of a supplemental environmental analysis under NEPA regulations. [Footnote 24: 40 C.F.R. § 1502.9(d).] BOEM should assess under what circumstances the Project would require the preparation of a supplemental environmental analysis.

Comment Number: BOEM-2023-0037-0128-0064

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Consider reliability of electric facilities.

- Consider public safety and facility compatibility with existing utility infrastructure including those documented in NYSEDA's Offshore Wind Cable Corridor Constraints Assessment.

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Comment Number: BOEM-2023-0037-0128-0070

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify emergency preparedness for severe storm events.

Comment Number: BOEM-2023-0037-0128-0091

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify emergency preparedness for severe storm events.

Comment Number: BOEM-2023-0037-0128-0093

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Review proposed Horizontal Directional Drilling (HDD) installation methods, including the potential for inadvertent returns and impacts associated with cofferdam installation(s).

- Evaluate installation methodologies that allow simultaneous trenching and cable lay to minimize impacts to water quality and benthic habitat.
 - Evaluate a range of seabed preparation techniques during construction to ensure the least impact to water quality and benthic habitats practicable.
-

Comment Number: BOEM-2023-0037-0128-0104

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Permits and Approvals • In the New York State review pursuant to Article VII of the Public Service Law, the New York State Department of Public Service will be reviewing conformance of the proposed facility design with the criteria adopted by the Public

Service Commission for EMF levels at right-of-way edge.

- NYS holds title to the bed of numerous bodies of water in trust for the People of the State of New York under the jurisdiction of NYS Office of General Services (NYSOGS). Installation of transmission cables on State-owned lands underwater requires an easement from NYSOGS (subdivision 2 of section 3 of the Public Lands Law [PLL] and 9 NYCRR Part 271). Easements for cables are for 25 years and the standard width is 30 feet. The easement fee (\$26.12 for 2023) is determined by using a rate per lineal foot, which is adjusted annually on April 1st based on the United States Department of Labor consumer price index (CPI-W). Applicants will coordinate with NYSOGS on State ownership boundaries during the Article VII process. Once Article VII process is complete (see above) and they receive approval of plans and permits from all other agencies including the U.S. Army Corps of Engineers authorizations, they can submit their application for an easement to NYSOGS. After review and approval, NYSOGS will issue a permit for construction and collect half of the estimated fee for the easement. After construction, an as-built survey and legal description is completed by the applicant and approved by NYSOGS. The applicant submits the remaining fee based on the as-built survey and the easement is finalized and recorded.

Comment Number: BOEM-2023-0037-0128-0108

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Decommissioning• Provide additional information on anticipated decommissioning of cable protection and scour protection areas, particularly since the reef-like habitat that would form over the course of the facility's operation would be significantly disturbed. The Agencies support BOEM's requirement for removing generation and transmission infrastructure during decommissioning, provided measures are taken to monitor water quality and minimized resuspension of sediment in areas of known or potential contamination.

Comment Number: BOEM-2023-0037-0131-0004

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The discussion should present sufficient information regarding both phases of the proposed project to allow the reader to understand how the project is designed to avoid or minimize impacts associated with the installation and operation of WTGs and associated cables. Project phasing should not limit or delay the presentation of key impact information for the entire project in the EIS as the analysis will help inform state and federal permitting for the project.

Comment Number: BOEM-2023-0037-0134-0003

Commenter: Bonnie Brady

Organization: Long Island Commercial Fishing Association

Commenter Type: Organization

Comment Except Text: Additionally we would like to see an analysis as to how much of the 202 nm. mile long transmission export cable is intended, both the high and low estimate, not purely an average, to be armored with rock, and/or scour protection within state and federal waters, and we would like an analysis of the exact types of scour protection, including sizes and

weights of all rock/boulder or scour protection to be used on monopile foundations, and transmission export cables, both in the lease area and throughout the federal export cable route.

Comment Number: BOEM-2023-0037-0135-0001

Commenter: Michelle Bachman

Organization: New England Fishery Management Council

Commenter Type: Organization

Comment Except Text: So specifically today just a couple of issues I wanted to raise, we are looking at the COP, we noticed that, this is was mentioned in the presentation that Beacon Wind is considering the use of three different foundation types, monopile, pile jacket and suction bucket jacket. We have made this kind of comment before but it's really important for the EIS to identify the different impacts of the different foundation types.

One that we are really curious to see some detailed discussion on is the suction bucket jacket foundations, we are a bit less familiar with those, they haven't been permitted for use in any offshore wind projects to date and so we feel it's important to look carefully at the impacts of those compared to others.

We also kind of really would like to see a clear description of why those foundation types are being considered and our guess would be that it's due to the ecological conditions at the site.

Comment Number: BOEM-2023-0037-0136-0005

Commenter: Meghan Lapp

Organization: Sea Freeze

Commenter Type: Organization

Comment Except Text: I also request that BOEM would analyze the percentage of electrical loss through the Beacon Wind cable, again it's going off all the way off the coast of Massachusetts to New York City. Because of previous issues we actually had with Equinor's other project Empire Wind, we as well as the State of Rhode Island, National Marine Fisheries Service and two U.S. Senators requested the Empire lease be relocated due to its interference with fishing vessels. Some of the reasoning we got from BOEM and the developer back, if we move the project at all we will lose too much power because the cable will be longer. We will lose too much electricity through the cable and so the project will no longer be viable and no longer produce enough electricity.

That project is only about 14 miles off the coast of New York, this project is like 165 off the coast of New York and the export cable, you know, I really have questions if that is true, if BOEM and Equinor were telling the truth before, then the percentage of electrical loss through this from cable will be astronomical and I request that those percentages be publicly available in the DEIS calculated so we can comment on them because that is an issue if it is true and that was BOEM's rational for refusing to accommodate commercial fishing vessels with Empire Wind and Equinor's previous projects.

Comment Number: BOEM-2023-0037-0138-0003

Commenter: Matt Gove

Organization: Surf Rider Foundation

Commenter Type: Organization

Comment Except Text: we want Equinor to take a hard look at suction bucket technology that will, if we can use suction buckets, that would take a huge impact from these projects which is the pile driving of the turbines which is very loud into the substrate

Comment Number: BOEM-2023-0037-0138-0004

Commenter: Matt Gove

Organization: Surf Rider Foundation

Commenter Type: Organization

Comment Except Text: And the second thing would be if DC powered cables are being used which I believe they are, we really would request that Equinor use closed loop cooling offshore but that would also eliminate another impact from these projects

Comment Number: BOEM-2023-0037-0151-0043

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The time of year that construction activities occur is also an important factor in evaluating potential biological, economic, and social impacts of the project and should be clearly specified for each project activity to the extent possible. It will be particularly important to evaluate how construction timing overlaps with the presence of protected species and sensitive life stages of fish in the project area, and evaluate measures to avoid and minimize impacts, as discussed in the mitigation measures section above.

Comment Number: BOEM-2023-0037-0151-0088

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We understand the BA, EFH assessment and the NEPA document are likely to evaluate effects of activities consistent with a project design envelope (PDE) and may take a “maximum impact scenario” approach to assessing project impacts. We encourage early coordination with us to determine which impact-producing factors should be analyzed based on a “worst case” or “maximum impact” scenario and which parts of the design envelope would need to be narrowed to carry out a reasonable analysis that would support your request for ESA and EFH consultation. As we have stated in the past, a maximum impact scenario-based analysis is inappropriate for the EFH consultation as it is inconsistent with the EFH regulations because it does not allow for a clear description of the proposed action and its site-specific effects on EFH and measures that can be taken to avoid, minimize, or offset such effects. The description of the proposed action should essentially deconstruct the project into all of its individual components and fully describe what will be constructed or installed, as well as where and by what means, including both temporary and permanent elements. The proposed action as defined for these consultations should reflect a realistic scenario that incorporates any revisions to the Project Design Envelope that have been made as well as any technical or logistical constraints on project design and layout that have been identified (e.g. glauconite soils). In an effort to expedite the regulatory process, we recommend coordination with us as you prepare the BA and EFH assessment to help ensure the draft assessments are as close to complete as possible. Below we provide additional information related to consultations with our agency.

Comment Number: BOEM-2023-0037-0152-0055

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Developers for Beacon Wind maintain that underwater horizontal drilling noise will be less than 102 dB at 1 meter from the drill. The developer should be required to cite sources and state whether this value was the result of empirical measurement or derived from a model of sound transmission Loss – and if the latter, state what log scale is assumed in the model.

A.2.4 Alternatives

Comment Number: BOEM-2023-0037-0061-0003

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The DEIS should document which portions of the lease area can be developed based upon the seabed conditions (e.g., presence of glauconite) before developing a range of alternatives. The DEIS should also specifically explain if and to what extent seabed conditions dictate turbine and offshore substation foundation type.

Comment Number: BOEM-2023-0037-0061-0004

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: For alternating to direct current conversion, closed-cycle systems should be considered to minimize entrainment of larva.

Comment Number: BOEM-2023-0037-0061-0011

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Volume 2a of the COP references the presence of glauconite sands in the project area. From our review of Equinor's Empire Wind project and response to questions during the public hearing for this project, we understand that this may render portions of the lease area unsuitable for construction, at least using monopiles or piled jacket foundations. The EIS should clearly document which portions of the lease are suitable for development using each type of foundation. It is important to collect the necessary data and make these determinations prior to developing the range of alternatives under consideration in the DEIS. The size of the project (based on state procurements) combined with the specific positions used and turbine size (which governs the number of positions needed) will affect the magnitude of project impacts.

Comment Number: BOEM-2023-0037-0061-0012

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The export cable for BW1 is planned to run the full length of Long Island Sound, making landfall in Queens, NY. The export cable for BW2 will either use the same route, or make landfall in Waterford, CT. The EIS should thoroughly explain how this route and the alternate cable route versions shown in Figure 2.1-7 and described in Section 2.1.3.2.1 of the COP were determined and which stakeholders were consulted and which current spatial plans were considered, including the Long Island Sound Blue Plan [Link: https://portal.ct.gov/-/media/DEEP/coastal-resources/LIS_blue_plan/BluePlanExecutiveSummary.pdf].

Comment Number: BOEM-2023-0037-0061-0015

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The project design envelope for both projects does not specify turbine nameplate capacity “because turbine suppliers have demonstrated an ability to modify generating capacity without changing physical dimensions” and the capacity “will be selected during the procurement process and is expected to be the most technologically advanced and efficient model available at that time” (COP Volume 1 3-4). It is difficult to comment on layout alternatives absent turbine capacity information. The EIS should specify both dimensions and capacity. A discussion of whether specific turbine capacities are feasible given market or other conditions would be appropriate to include in the DEIS. For example, the Revolution Wind DEIS considered an alternative for larger turbines, but the FEIS discusses that larger capacity generators are not feasible due to having dimensions that exceed the PDE or because GE Haliade turbines cannot be used in U.S. projects. While it is reasonable to analyze additional alternatives in the DEIS recognizing that conditions can change, the realistic constraints associated with different alternatives should be clearly communicated.

Comment Number: BOEM-2023-0037-0061-0016

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The alternatives descriptions in the EIS should outline various layout options for each project, depending on the size of turbines selected and the amount of power to be generated by BW2. It will be important to clearly outline a wide range of possible scenarios for BW2 if the project size is unknown at the time of EIS completion.

Comment Number: BOEM-2023-0037-0061-0018

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We recommend that BOEM develop a habitat minimization alternative to evaluate export cable routing options that will minimize impacts to sensitive habitats including SAV, hard bottom, and complex topography. Our concerns about habitat impacts are discussed

in greater detail in the following section.

Comment Number: BOEM-2023-0037-0061-0019

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We also recommend that BOEM develop an alternative based on removing turbines in close proximity to Nantucket Shoals, similar to SouthCoast's DEIS Alternative D. Nantucket Shoals is a highly productive area that is important for cod spawning, several foraging species, North Atlantic Right Whales, etc. Developing an alternative that removes turbine and offshore substation placement positions in the northwestern portion of the Lease Area, closest to Nantucket Shoals would help reduce any potential impacts on this important habitat.

Comment Number: BOEM-2023-0037-0061-0020

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: BW1 and BW2 consider the use of monopile, piled jacket, and suction bucket jacket turbine foundations and piled jacket and suction bucket jackets for offshore substations. The different impacts associated with the various types of foundations should be clearly identified in the EIS, particularly suction bucket jacket foundations which readers may be less familiar with. The EIS should explain if suction bucket jacket foundations can be used in areas where sediments are unsuitable for monopiles or piled jackets, perhaps because of the presence of glauconite. Given this foundation type is not in widespread use and has not yet been approved for any U.S. projects, will there be pilot testing of these structures? If so, we assume that a separate NEPA analysis would be required.

Comment Number: BOEM-2023-0037-0061-0021

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Section 2.2.3 of the COP states: "Each offshore substation facility will include a cooling system to regulate the temperature of the electrical converter equipment. Beacon Wind has evaluated both closed-cycle and once-through cooling water systems using seawater for the Project.

Closed-cycle cooling designs for use in offshore applications are not commercially mature, and based on evaluations up to this point, would not be technically or commercially feasible for the Project. Beacon Wind is conducting ongoing evaluations to determine potential future viability of closed-cycle systems. Once-through systems are carried forward as the maximum design scenario in the PDE." As we have stated in previous letters, we are very concerned about the impacts of larval entrainment in cooling stations. Closed-cycle systems can help mitigate these concerns. We were pleased to see such systems considered in the Atlantic Shores South DEIS. We hope closed-cycle systems will be considered for Beacon Wind as well, especially given that technological advances may occur between now and finalization of the Beacon Wind EIS, and because the second stage of the project might be developed later. The DEIS should document the feasibility of closed-cycle systems as compared to once-through systems so readers understand their likelihood of adoption.

Comment Number: BOEM-2023-0037-0065-0005

Commenter: Anne Conway

Commenter Type: Individual

Comment Except Text: Why aren't you using the plains where no food can grow for the wind turbines?

Comment Number: BOEM-2023-0037-0086-0014

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The project will be a private enterprise conducted on shared public waters and as such, the EIS must include alternatives to require all phases of the project to subscribe to the highest level of transparency, including frequent reporting to federal agencies, requirements to report all visual and acoustic detections of NARWs and any dead, injured, or entangled marine mammals to NMFS or the Coast Guard as soon as possible and no later than the end of the Protected Species Observer shift.

Comment Number: BOEM-2023-0037-0086-0015

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: To foster stakeholder relationships and allow public engagement and oversight of the permitting, construction, and operation of the project the EIS must include alternatives to require all reports and data related to the project and its monitoring programs to be accessible on a publicly available website.

Separate from the overarching requirements described above, Oceana encourages BOEM to include alternatives specific to each phase of the project (siting, construction, operation, and decommissioning) to ensure the environmental effects of the project are avoided and if not avoided then mitigated or minimized.

Comment Number: BOEM-2023-0037-0086-0017

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The NARWs travel from Canada to Florida on a regular basis. The NARW calves are born in southern U.S. waters and they travel north to feed, aggregate, socialize and grow in seasonally important areas including Cape Cod Bay, the Great South Channel, and more recently the Gulf of St. Lawrence. Predicting NARW abundance and presence is the subject of considerable research but remains difficult. Regardless, the agencies must include alternatives in the EIS to avoid known or predicted NARW habitats, not just in seasonal construction mitigation but outright avoidance of the area.

Comment Number: BOEM-2023-0037-0086-0020

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The need for a conservation buffer was also presented in NMFS' comments on the Draft Environmental Impact Statement (DEIS) for the SouthCoast Wind Project. [Footnote 17: National Marine Fisheries Service, Comment Letter on Environmental Impact Statements; Availability, etc.: SouthCoast Wind Energy, LLC's (formerly Mayflower Wind Energy, LLC) Proposed Wind Energy Facility Offshore Massachusetts (April 18,2023), <https://www.regulations.gov/comment/BOEM-2023-0011-0185>.] NMFS stated that BOEM should, "...assess the impacts of the presence of structures and operation of wind turbine generators (WTGs) on ecological conditions that support right whale foraging in Southern New England and to develop measures to avoid and minimize these effects from the SouthCoast Wind project." [Footnote 18: Id.] NMFS also discussed that they had previously recommended an alternative that would have precluded development of WTGs within a 20-km buffer of the Nantucket Shoals 30- meter isobath, but it was not carried forward by BOEM based on the determination that it was not economically feasible.

Comment Number: BOEM-2023-0037-0086-0021

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: As with the SouthCoast Wind project, this conservation buffer overlaps partially with the Beacon Wind project. However, the conservation buffer would cover only a small portion of the Beacon Wind project area and therefore may have less of a negative economic impact than for the SouthCoast Wind project. To avoid potential detrimental impacts on NARWs, the EIS must fully investigate the conservation buffer as an alternative within the EIS.

Comment Number: BOEM-2023-0037-0086-0022

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The EIS should include alternatives to avoid development of offshore wind in 1) Seasonal Management Areas and 2) in areas where persistent or long-duration DMAs are established and extended for more than three months in any one year of the most recent five.

Comment Number: BOEM-2023-0037-0086-0024

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: High resolution geophysical (HRG) surveys are an essential part of offshore wind development but have noted environmental effects on the marine ecosystem. As such, the EIS should include a range of alternatives to prohibit HRG surveys during seasons when protected species are known to be present in the project area, in addition to any dynamic

restrictions due to the presence of NARW or other endangered species.

Comment Number: BOEM-2023-0037-0086-0025
Commenter: Gib Brogan
Organization: Oceana
Commenter Type: Organization

Comment Except Text: Additionally, the EIS should include alternatives that require clearance zones for NARWs that extend at least 1,000 meters with requirements for HRG survey vessels to use Protected Species Observers (PSOs) and Passive Acoustic Monitoring (PAM) to establish and monitor these zones and to cease surveys if a NARW enters the clearance zone. When safe to begin, HRG surveys should use a soft start, ramp-up procedure to encourage any nearby marine life to leave the area.

Comment Number: BOEM-2023-0037-0086-0026
Commenter: Gib Brogan
Organization: Oceana
Commenter Type: Organization

Comment Except Text: The EIS must include alternatives to schedule and complete construction activities to minimize interactions with migratory species, spawning, feeding aggregations and breeding activity and specific seasonal and reactive restrictions on construction activity during times when NARWs and other protected species may be present.

Comment Number: BOEM-2023-0037-0086-0027
Commenter: Gib Brogan
Organization: Oceana
Commenter Type: Organization

Comment Except Text: Offshore wind farm construction may include both driven piles and piles installed using vibratory techniques. Each of these produces disruptive noise in and around the project area and BOEM should include clear requirements on these activities to minimize the effects of the project. Specifically, the EIS should include a range of alternatives to prohibit pile driving during seasons when protected species are known to be present or migrating in the project area, in addition to any dynamic shutdown restrictions due to the presence of NARW or other endangered species.

Comment Number: BOEM-2023-0037-0086-0028
Commenter: Gib Brogan
Organization: Oceana
Commenter Type: Organization

Comment Except Text: If and when piling installation is permitted the EIS must include alternatives to require both acoustic and visual clearance zones to ensure protected species are not in the affected area. Oceana suggests that the EIS include an acoustic clearance zone that extends at least 5,000m in all directions from the location of the driven pile, including a visual clearance zone that extend at least 5,000m in all directions from the location of the driven pile and an acoustic exclusion zone of at least 2,000 meters from the location of the driven pile.

Comment Number: BOEM-2023-0037-0086-0029

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The EIS should include alternatives to specify the means by which these zones will be monitored and enforced including:

Acoustic monitoring Acoustic monitoring should be undertaken using near real-time PAM, assuming a detection range of at least 10,000m, should be undertaken from a vessel other than the pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by construction related noise. PAM should be used during impact pile driving, vibratory pile driving installation of the cofferdam, and HRG surveys.

Visual monitoring Visual monitoring should use PSOs stationed at the pile driving site and on additional vessels, as appropriate, to enable monitoring of the entire clearance zone.

Each vessel should have a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon per pile driving locations. Similar to the requirements for vessel monitoring, the EIS should also explore requirements to supplement human observer with IR technology and drones, where appropriate.

Timing and Prohibitions on Pile Driving Acoustic and visual monitoring should begin at least 60 minutes prior to the commencement or resumption of pile driving and should be conducted throughout the duration of pile driving activity. Visual observation of the Visual Clearance Zone should continue until 30 minutes after pile driving

Because avoidance of protected species is critical, the EIS should include a prohibition on initiating pile driving within 1.5 hours of civil sunset or in times of low visibility when the visual clearance zone cannot be monitored. Oceana understands that in rare circumstances pile driving must proceed after dark for safety reasons. If this occurs the project must notify NMFS with reasons and explanation for exemption and a summary of the frequency of these exceptions must be publicly available to ensure that these are the exception rather than the norm for the project.

Shutdown Requirements Despite the best information informing seasonal restriction on construction, it is likely interactions with NARWs will occur in and around the project site. The EIS must include alternatives to use effective reactive restrictions on construction that are triggered by visual or acoustic presence or other means of detection for protected species before or during piling installation. These alternatives should include:

- A prohibition on initiating pile driving if a NARW or other protected species is detected by visual or acoustic surveys within the acoustic or visual clearance zones.
- A shutdown requirement if a NARW or other protected species is detected in the clearance zones, unless continued pile driving are necessary for safety. If and when this exemption occurs the project must immediately notify NMFS with reasons and explanation for exemption and a summary of the frequency of these exceptions must be publicly available to ensure that these are the exception rather than the norm for the project.
- Pile driving may resume after the lead PSO confirms that no NARW or other protected species have been detected within the acoustical and visual clearance zones.

Noise Reduction The EIS should include alternatives to use best commercially available technology and methods to minimize sound levels from pile driving coupled with a robust monitoring and reporting program to ensure compliance.

The EIS should include alternatives to require noise reduction technologies such as bubble curtains, noise mitigation systems, or sound dampeners. The projects shall achieve no less than 10dB (SEL) in combined noise reduction and attenuation, taking as a baseline, projections from

prior noise measurements of unmitigated piles from Europe and North America. Compliance with these requirements is critically important and the EIS should include alternatives to require field measurements to be taken throughout the construction process including on the first pile installed. These compliance measurements should be taken by independent evaluators at intervals established to reduce observer bias and ensure full compliance with noise reduction requirements.

Decommissioning Offshore energy projects will install hundreds of pilings and thousands of miles of cable in public waters. All offshore wind projects have a finite duration and will ultimately need to be decommissioned and removed from the ocean. The EIS must include alternatives to ensure decommissioning, removal and mitigation of the site occurs regardless of economic, political, or environmental factors. The EIS must therefore include alternatives to make developers explicitly responsible for removing offshore wind equipment when their project ends and further include alternatives to require offshore wind developers and operators to place adequate resources in trust to ensure that decommissioning will occur regardless of bankruptcy, change of ownership or lack of profitability. American taxpayers should not be responsible for decommissioning of this or any offshore wind project.

Comment Number: BOEM-2023-0037-0086-0031

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: NMFS identified an area of concern along the western edge of Nantucket Shoals due to the importance of the area to NARWs and other protected species. Oceana strongly recommends that BOEM include the conservation buffer recommended by NMFS in the range of alternatives. This proposal would support construction of the project while giving whales the space they need. Oceana has presented these scoping comments to inform the range of issues that need to be explored in the upcoming EIS to ensure adequate protections are in place for critically endangered North Atlantic right whales that use the proposed project site as year-round core habitat for feeding, socializing and other important purposes.

Comment Number: BOEM-2023-0037-0115-0003

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: One clear indicator of the ineffectiveness of this approach is that fundamental Beacon Wind project decisions are already being made and discussed at the local, state, and business levels, which entirely narrow the range of alternatives that BOEM will consider in this EIS. Yet, reading the NOI, most members of the public would incorrectly assume that the project is still in a high-level planning phase with the COP being a mere proposal for which BOEM would consider many options to modify. Regardless of the private plans being made by the project applicant, we again urge BOEM to develop a comprehensive planning process, remove segmentation that serves to marginalize fisheries, and consider OSW planning options from an impartial standpoint.

Comment Number: BOEM-2023-0037-0115-0023

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: If BOEM proceeds to prepare an EIS for this project, a detailed list of mitigation measures that should be included as alternatives to the proposed action is provided in the final section of this letter. Applicants should identify design options that they anticipate may be of concern to co-located fisheries. These should include a reasonable range of options encompassing various operations and mitigation scenarios, not only those that maximize electricity generation or are narrowly tailored to meet the conditions of power purchase contracts signed prior to environmental review. Certain regions are already seeing fish stocks shift in response to changing ocean conditions. Applicants should also incorporate fisheries that are reasonably foreseeable to become co-located within the project area during the project's lifespan.

Comment Number: BOEM-2023-0037-0115-0024

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: RODA, and our members, have repeatedly raised concerns regarding the ability of vessels to safely navigate throughout the multiple areas identified and sold to offshore wind developers by BOEM. The EIS must include an alternative for reasonable transit lanes as consistently requested by fisheries operators since long before the submission of this COP, and BOEM must fully evaluate such transit lanes cumulatively across the Southern New England OSW lease areas. As the agency in charge of offshore wind permitting, leasing, and sales, BOEM has the authority, and responsibility, to fulfill this mandate and ensure the safety of all vessels operating in and around the WEAs. For the commercial fishing gear types found in the Beacon Wind project area, 1x1 nautical mile (nm) spacing between turbines is too narrowly spaced for most fishing operations. Thus, if spacing remains prohibitive, resulting in full (or even majority) functional fishing closures, access to viable and safe transit options becomes the single most important mitigating factor to the project design.

BOEM's responsibility does not end once the sale is completed or a COP is approved, and it must consider a developer's proposed layout as only that—a proposal. To be clear, fisheries operators and experts neither requested nor agreed to the New England developers' proposed 1x1 nm turbine spacing without additional transit corridors laid out in the joint developer's "agreement" for the entire MA/RI lease block.

Comment Number: BOEM-2023-0037-0115-0028

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: BOEM must adequately analyze navigational safety in all EISs. This includes alternative turbine spacings beyond the uniform 1x1 nm spacing design supported by OSW developers for other WEAs. The MARIPARS is insufficient, as outlined above, and should not be solely relied upon for the determination of safety and navigation measures. The 1x1 nm supported by BOEM and the USCG was proposed by offshore wind developers and suggests a clear bias to the developers. The absence of any defensible analysis of layouts proposed by the

fishing industry based on expertise in fishing operations (vessel turning capabilities, gear functions, etc.) further supports this appearance and raises serious conflict of interest concerns about whether BOEM can maintain objectivity in OSW permitting decisions.

Comment Number: BOEM-2023-0037-0115-0029

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The EIS should evaluate a range of burial depths and monitoring techniques. Array design and spacing between turbines are fundamental determinants of the future, or lack thereof, of commercial fishing operations within wind development areas. It is extremely important that interarray and export cables are buried to sufficient depths to reduce the risk of fishing gear interactions. The fishing industry has consistently requested this to be a minimum of 8-10 ft. to avoid interactions; if a shallower depth is permitted, it must be paired with remote monitoring to ensure the cable remains sufficiently buried at all times. BOEM must provide clear standards as to what this depth is, how it is determined, and monitoring protocols to ensure there are no future interactions. Moreover, the project layout should be designed to minimize instances where cables transect fishing tow areas.

Comment Number: BOEM-2023-0037-0115-0036

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: RODA strongly urges BOEM to reconsider the sequencing of the site assessment, COP approval, and NEPA initiation for OSW projects, as information about geological constraints of the site may result in Proposed Alternatives of a DEIS that may not be possible given technical constraints or could be improved with more information. If the site assessment is fully complete prior to the COP approval and initiation of the NEPA analyses, a more realistic Proposed Action would be presented and analyzed. A compression of these different analyses and permitting actions means the public is not adequately informed of the expected project design and again demonstrates why alternatives should be fully analyzed and compared against each other - not solely to the Proposed Action. We strongly urge BOEM to require geological information, which may drastically change a project design in light of fisheries impacts, be more readily available early on in the process.

Comment Number: BOEM-2023-0037-0115-0051

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The EIS must also consider a range of alternatives including all reasonable mitigation options to avoid impingement and entrainment of all marine species, so that BOEM may meet the statutory obligation to ensure the "location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact."

Comment Number: BOEM-2023-0037-0121-0002

Commenter: Delia Kulukundis

Commenter Type: Individual

Comment Except Text: I urge BOEM to pay special attention to the harms that would result from the Beacon Wind project being halted or delayed (the harms resulting from a “no action alternative” in the Environmental Impact Statement), especially in terms of air quality and workforce development.

Comment Number: BOEM-2023-0037-0121-0004

Commenter: Delia Kulukundis

Commenter Type: Individual

Comment Except Text: I encourage BOEM to be thorough in inventorying the harms that would result from the project’s delay or cancellation (the “no action alternative”). Those harms include air quality improvements not made, jobs not created, and even artificial reefs not created on the base of the turbine platforms.

Comment Number: BOEM-2023-0037-0122-0001

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request that BOEM conduct two fully separate Alternatives in the DEIS for No Action and Cumulative Impacts. As we have commented many times before, including the Cumulative Impacts analysis as part of the No Action Alternative is inappropriate. It degrades impacts from the immediate project at hand, makes analysis between various Alternatives indistinguishable, and is a violation of the requirements and intent of NEPA.

Comment Number: BOEM-2023-0037-0122-0002

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We also request that “future climate change” not be included in any baseline conditions. As we have commented previously, future climate change projects are not a baseline. Historic and current conditions are the baseline. The future is not a baseline. It is a forecast. Furthermore, wind farms imitate the effects of climate change and warm both air and water temperatures. Therefore, if wind farm warming effects were attributed to “future climate change” and not project induced effects, not only would this be untrue but also would make DIES Alternatives indistinguishable from “baseline” conditions. This is inappropriate and intellectually dishonest.

Comment Number: BOEM-2023-0037-0122-0004

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request that BOEM depart from its June 22, 2022 NEPA screening criteria to allow for full consideration of an Alternative B/conservation buffer zone for NARW in

the DEIS, as currently BOEM's NEPA Alternative screening criteria would exclude consideration of Alternatives that would make the project infeasible for the developer to meet its goals of fulfilling power purchase agreements (PPAs) or state energy targets.

Comment Number: BOEM-2023-0037-0122-0005

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: If the project has been proposed in the COP in such a way as to make the project tailored to fill a PPA or state renewable energy mandate, then in reality the DEIS cannot review any Alternatives that would create no build zones, either as conservation buffer zones for NARW or for any other consideration. This limits the "reasonable range of alternatives" mandated by NEPA and constrains any meaningful compliance with OCSLA and BOEM regulations. A true NEPA analysis for this project necessarily requires a turbine exclusion zone that may not allow the developer to meet its contracts or goals. However, BOEM's job is not to approve a developer's COP or to ensure that a developer meets its contracts/goals. BOEM's job is to analyze all potential impacts and weigh those impacts against the benchmarks created by federal legislation, including OSCLA, NEPA and the ESA, all of which should take precedence over an internal policy document created by BOEM without public or Congressional review.

Comment Number: BOEM-2023-0037-0122-0009

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request that the DEIS detail the areas of glauconite sand in the DEIS and overlap this with the turbine proposed locations. The developer states that its mitigation strategy is to "assess the effect of glauconite sands on foundation installation such as pile driving and follow avoidance strategy if necessary." However, the developer already knows what this strategy will be. It has already- after COP submission and DEIS release- encountered glauconite in its Empire Wind project and asserted that pile driving in glauconite areas will be precluded. This led to the same developer submitting, as part of public comment in the DEIS period, a statement that certain DEIS Alternatives would make their project infeasible, requesting that only a particular Alternative be accepted, to the detriment of other reasonable uses of the ocean. [Footnote 19: See Equinor comment on Empire Wind DEIS at Regulations.gov] This is not acceptable and renders BOEM's "reasonable range of alternatives" per NEPA completely worthless. Should BOEM approve the only Empire Wind Alternative proposed by Equinor as "feasible" due to its lack of glauconite analysis prior to DEIS release, it will have essentially voided NEPA in favor of developer "feasibility". As Appendix G for the Beacon Wind project, which most likely contains the information on glauconite presence, is unavailable to the public for review, we request that all glauconite sediment areas and information be included in the DEIS.

Comment Number: BOEM-2023-0037-0122-0010

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: Additionally, BOEM may not preclude analysis of a conservation buffer

zone for NARW Alternative simply because if, when combined with the glauconite analysis, it would potentially make the project “infeasible”.

Comment Number: BOEM-2023-0037-0122-0011

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request that the DEIS analyze an Alternative using closed loop systems also. The cumulative impact of multiple projects, particularly adjacent projects such as South Coast Wind which proposed 5 such stations but modeled only one, must be analyzed as far as heated effluent as well as quantitative estimates of both impingement and entrainment of fish larvae, shellfish larvae, as well as the primary productivity of zooplankton and phytoplankton that make the lease area and adjacent areas ecologically productive and a primary foraging ground for whales and other species.

Comment Number: BOEM-2023-0037-0127-0007

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: A. BOEM Should Design and Incentivize Alternatives Using Quiet Foundations We are encouraged that Beacon Wind includes a foundation option, suction bucket jackets, in the project design envelope (PDE) that can avoid significant noise associated with foundation installation. Following the mitigation hierarchy, we believe BOEM should prioritize impact avoidance and include Action alternatives that use this quiet foundation technology that avoids pile driving noise entirely and significantly reduces noise impacts to marine mammals and other marine life overall. Quiet foundation types can afford developers significant flexibility in the construction schedule, including potentially year- round and 24-hour construction in some areas. In our view, these incentives should be fully explored by BOEM and industry and be reflected in the Draft EIS (see further discussion in Section II.F.1).

We note that Beacon Wind has concluded that gravity-based foundations, another alternative that can mitigate noise, are not appropriate for this project. While we appreciate that the COP shared information on this decision-making, BOEM should conduct its own analysis to determine whether or not gravity-based foundations are a reasonable alternative and what the impacts, beneficial and negative, of using such an alternative would be. We request BOEM consider and ultimately choose an alternative with a quiet foundation to significantly lessen construction impacts on marine wildlife and habitats, and particularly the North Atlantic right whale, for all or as much of the Project as is feasible.

Comment Number: BOEM-2023-0037-0127-0030

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: In lieu of the scientific findings of the National Academies committee, we are supportive of alternatives that avoid or minimize potential hydrodynamic impacts to Nantucket Shoals, an area of outsized importance for the critically endangered North Atlantic right whale. For the SouthCoast Wind project, BOEM is considering an alternative that would eliminate several turbine positions that are closest to Nantucket Shoals. Similarly, here, BOEM should consider alternatives that would reduce hydrodynamic effects. In particular, BOEM

should consider alternatives that would reduce the number of turbines located in the 20-km buffer of the Nantucket Shoals 30-meter isobath, which NEFSC has asserted is a buffer that should be established to reduce hydrodynamic impacts to zooplankton—that provide prey for marine mammal species—from offshore wind projects. [Footnote 127: See Letter to BOEM, NOAA (May, 2022), https://docs.google.com/viewerng/viewer?url=https://newbedfordlight.org/wp-content/uploads/2022/11/UR1-2023-000009_10_17_2022.pdf.] BOEM should include analyses in the Draft EIS indicating what level of turbine removal would maximize environmental benefits to North Atlantic right whales without compromising project viability. BOEM should also present a robust discussion of the 20- km buffer area, which NEFSC recommends for reducing the potential for negative consequences for right whale prey and, in turn, the right whale population. [Footnote 128: Id.]

Comment Number: BOEM-2023-0037-0127-0033

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Pile driving noise during the construction phases has been identified as a stressor of high concern for marine mammals. Potential impacts of unmitigated exposure to pile driving noise include physical injury, hearing impairment, disruption of vital behaviors such as feeding, breeding, and communication, habitat displacement, stress, and other health effects. Suction bucket jacket foundations, as proposed by Beacon Wind in the PDE, do not require pile driving and thus avoid the noise impacts stemming from this activity. Due to the different level of impact posed to marine mammals from suction bucket foundations relative to pile-driven foundations, we present two sets of mitigation recommendations for North Atlantic right whales below, one for suction bucket/gravity based foundations, and the other for pile-driven foundations that includes seasonal restrictions on pile driving and larger clearance and exclusion zones.

While suction bucket jacket foundations avoid the impacts of pile driving noise, their installation is not necessarily noise free, and the potential use of dynamic positioning systems and other noise related to installation vessels may still lead to some level of behavioral disturbance. Like all offshore wind technologies, these foundations are new to U.S. waters and so it will be important to monitor the levels of noise emitted during installation at the source and model the level of potential noise exposure to large whales and other marine mammals to inform the most appropriate mitigation approaches for future offshore wind energy projects for which suction bucket foundations are used.

Comment Number: BOEM-2023-0037-0127-0067

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: BOEM should also assess the extent to which mitigation measures can be developed to mitigate any impacts from the open loop cooling system. As a condition of project approval, BOEM should require Beacon Wind to locate the converter station outside of the 10-km buffer of the 30-meter isobath from Nantucket Shoals, which is an area of high productivity and foraging value for several marine species. [Footnote 281: For the SouthCoast Wind project, the developer has proposed locating the offshore conversion station outside of the 10- kilometer buffer of the 30-meter isobath from Nantucket Shoals. See SouthCoast Wind COP Version E, Vol I at 3-9.] BOEM should also consider whether requiring Beacon Wind to locate

the converter station at a distance greater than the 10-km buffer from Nantucket Shoals is feasible and would further mitigate impacts to finfish and invertebrates in the lease area. Specifically, BOEM should consider the possibility of requiring Beacon Wind to locate the converter station outside a 20-km buffer from Nantucket Shoals, which NEFSC has asserted is a preferable buffer that should be established to reduce impingement, entrainment, and hydrodynamic impacts to zooplankton—that provide prey for marine mammal species— from offshore wind projects. [Footnote 282: See Letter to BOEM, NOAA (May, 2022), https://docs.google.com/viewerng/viewer?url=https://newbedfordlight.org/wp-content/uploads/2022/11/UR1-2023-000009_10_17_2022.pdf.]

Comment Number: BOEM-2023-0037-0128-0004

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Alternatives: NYS proposes one (1) alternative to the Proposed Action that may reasonably reduce environmental impacts to ocean and coastal habitats and uses. The proposed fisheries habitat impact minimization alternative is consistent with past BOEM EISs and would proscribe measures to minimize fragmentation and long-term impacts to sensitive habitats.

Comment Number: BOEM-2023-0037-0128-0005

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Fisheries habitat impact minimization: The Agencies support an alternative to minimize permanent impacts to sensitive fisheries habitats associated with the turbine and submarine cable installations. Such sensitive habitat types include hard and complex bottom substrates, sand ridges and troughs, cold water corals, and SAV. This alternative would prioritize avoiding contiguous areas of sensitive fisheries habitats throughout the Project area. In addition to offshore habitats, this alternative should also minimize impacts along the export cable route resulting from habitat fragmentation, cable unbundling, and drill and blasting or similar techniques. Long Island Sound is an Estuary of National Significance (33 U.S.C. 1330) with rich fisheries, abundant waterfowl, diverse wildlife, productive marshes, scenic beaches, and myriad of recreational opportunities. Many sensitive resources are concentrated in Eastern Long Island Sound, which includes rare habitats in New York State characterized by deep, turbulent waters and shoals that generate productive and diverse habitats for marine fishes and is an important migratory corridor. Data supporting Long Island Sound ecological resources are summarized in this recent publication: https://portal.ct.gov/-/media/DEEP/coastal-resources/LIS_blue_plan/BluePlanEcologicalCharacterizationSummary.pdf.

Comment Number: BOEM-2023-0037-0128-0071

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify and evaluate methods of cable installation that would avoid resuspension of anoxic sediments in already low oxygen areas (western basin and western central basin of LIS).

Comment Number: BOEM-2023-0037-0128-0080

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Site Design and Layout• Evaluate site design and layout considerations to avoid, minimize and mitigate impacts to fishing, vessel traffic, fisheries, recreational water/shoreline use, benthic resources, migration routes, wading bird nesting and foraging habitat, etc.

Comment Number: BOEM-2023-0037-0128-0083

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Evaluate foundation types and installation methods that maximize annual energy production in a responsible manner while addressing the potential presence of geotechnical considerations, including glauconite sediments, in prospective pile driving areas. Early consultation with BOEM and other cooperating agencies regarding glauconite soils (see <https://eps.rutgers.edu/news/notes-from-the-field/notes-from-the-field/1224-coastal-plain-glauconite>) is recommended to identify technically and economically feasible mitigation measures.

Comment Number: BOEM-2023-0037-0128-0089

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Refer to NYSERDA Offshore Wind Cable Corridor Constraints Assessment for an assessment of baseline conditions for Long Island Sound. Source: page 108https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwj4r64sl6AAxXJ4kEHVVD74QFnoECA8QAQ&url=https%3A%2F%2Fwww.nys.erd.ny.gov%2F-%2Fmedia%2FProject%2FNyserda%2FFiles%2FPrograms%2FOffshore-Wind%2F2306-Offshore-Wind-Cable-Corridor-Constraints-Assessment--completeacc.pdf&usg=AOvVaw2z06EltkR3qVvv_vwvFkwi&opi=89978449

• Refer to Long Island Sound Blue Plan for an inventory of the natural resources and uses of Connecticut's Long Island Sound which was prepared in consultation with NYS. Source: <https://portal.ct.gov/DEEP/Coastal-Resources/LIS-Blue-Plan/Long-Island-Sound-Blue-Plan-Home>

Comment Number: BOEM-2023-0037-0128-0098

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Evaluate cable layouts and installation types that minimize navigation safety risks in designated and common practice anchorage areas and through the highly trafficked East River area.

Comment Number: BOEM-2023-0037-0130-0007

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: BOEM should consider avoidance measures to include removal of turbine rows closest to the Town's islands to eliminate the visual blight that Beacon Wind is expected to cause from its proposed 155 turbines and two offshore substations.

Comment Number: BOEM-2023-0037-0131-0003

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: We strongly encourage BOEM to take the necessary time to develop and present complete information in the EIS that fully describes existing conditions and supports a discussion of the likely impacts of each alternative.

Comment Number: BOEM-2023-0037-0131-0006

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Because there is no power purchase agreement in place for Phase 2 of the Beacon Wind project elements of the project are not yet defined (such as a landfall location and export cable routing). The lack of project design details highlights the need for consideration of a broad range of potential project alternatives for Beacon Phase 2 in the EIS. We strongly encourage BOEM to develop the Phase 2 alternatives in conjunction with affected states, local communities and federal agencies with relevant air, water, and natural resource responsibilities. EPA would appreciate the opportunity to participate in those discussions.

Comment Number: BOEM-2023-0037-0131-0007

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: EPA encourages BOEM to incorporate sufficient information in the EIS to fully describe existing conditions and support a discussion of the potential impacts of each alternative. The discussion should detail any micro-siting efforts for Wind Turbine Generators (WTGs) and cable routes in sufficient detail to ensure the public understands where specific changes to the project design are being recommended to avoid or minimize impacts.

Comment Number: BOEM-2023-0037-0131-0008

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: We also recommend that BOEM evaluate a reasonable range of alternatives for various elements of the project including the offshore export cables, inter-array cables and potential configurations of the wind farm within the lease area to avoid impacts. The alternatives need to be developed such that they meet the project purpose and need while

avoiding, minimizing, and offsetting impacts to the environment and the public.

Comment Number: BOEM-2023-0037-0131-0009

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: We also recommend that the EIS present clear detailed comparisons of the potential impacts from alternatives and include a discussion as appropriate to explain why alternatives were not advanced for detailed analysis in the EIS.

Comment Number: BOEM-2023-0037-0131-0010

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: We recommend that the EIS contain a thorough analysis of alternative route options (and associated impacts) for the proposed submarine export cables which will cover over 200 miles. The COP explains that the final landfall location for phase 2 of the Beacon Wind project has not been finalized. The resulting uncertainty highlights the need for full consideration of a sufficiently broad range of routing and landfall alternatives in the EIS.

Comment Number: BOEM-2023-0037-0131-0029

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Other offshore wind projects in the vicinity of the Beacon Wind lease area have recently encountered construction issues related to monopile refusal in Glauconite soils. The EIS should explain whether these soils, or other geologic formations, present barriers to construction of the Beacon Wind project or the use of portions of the lease area due to unsuitable conditions.

Comment Number: BOEM-2023-0037-0131-0044

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: EPA recommends that best available technology would warrant consideration of available switchgears that are SF6-free (“clean-air”).

Comment Number: BOEM-2023-0037-0131-0051

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: EPA Region 1 is the permitting authority responsible for developing National Pollutant Discharge Elimination System (NPDES) permit limits and conditions. EPA’s work will be informed by the Phase I CWA Section 316(b) regulations. On page 2-41 of the COP, the applicant acknowledges that “Beacon Wind has evaluated both closed-cycle and once-through cooling water systems using seawater for the Project [but that] [c]losed-cycle

cooling designs for use in offshore applications are not commercially mature, and based on evaluations up to this point, would not be technically or commercially feasible for the Project.” The EIS should include the complete analysis and more detailed explanation of why a closed cycle cooling system, including subsea heat exchangers, are not currently available and/or technically feasible at the project location or within the next two years (before construction commences). The analysis should incorporate the results of a subsea heat exchange pilot study expected in September 2023 (see the COOLWIND project’s patented subsea cooler FSCC® (Future Subsea Controllable Cooler) by the Norwegian company, Future Technology). BOEM discusses this technology and others in its April 2022 white paper titled “Supporting National Environmental Policy Act Documentation for Offshore Wind Energy Development Related to High Voltage Direct Current Cooling Systems.” The use of a closed cycle cooling system would avoid all entrainment, impingement and discharge impacts of the project and should be carefully considered. EPA will rely on this assessment in part to support the development of a NPDES permit for each Beacon Wind converter station.

Comment Number: BOEM-2023-0037-0133-0002

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Please use adequate alternatives in the assessment: Given the states’ mandates to adopt renewable energy, BOEM must require the developers to examine alternatives that include other renewable energy sources including modular nuclear options. The comparison should include an alternative that avoids complex hard-bottom habitat and other renewable energy options such as small-scale nuclear and solar. Without such alternatives, the DEIS does not offer a meaningful analysis.

Comment Number: BOEM-2023-0037-0135-0002

Commenter: Michelle Bachman

Organization: New England Fishery Management Council

Commenter Type: Organization

Comment Except Text: I think Ms. Lapp from Sea Freeze earlier mentioned issues that we are aware of in terms of potential for glauconite sands occurring at the lease site and we know in the context of the Empire Wind project that that came up and changed the way that the alternatives looked and which alternatives were reasonable kind of through the process and after the DEIS was released, that makes it really challenging to provide public comments on the likely alternatives and the preferred alternative of the developer so we would agree it’s really important to understand the geology of the area before drafting the specific alternatives for the project, to the extent that those alternatives and the layouts for projects are going to be dependent on that.

Comment Number: BOEM-2023-0037-0135-0003

Commenter: Michelle Bachman

Organization: New England Fishery Management Council

Commenter Type: Organization

Comment Except Text: We also, you know, have seen in some other NEPA documents for wind projects that there is a pretty limited area over which the inner array cable corridors are surveyed and that I think precludes some flexibility in terms of reconfiguring the project if turbine locations are dropped, so we just recommend it’s really important to understand the geology

and the benthic conditions throughout the lease area so there is flexibility in kind of siting the project.

Comment Number: BOEM-2023-0037-0135-0006

Commenter: Michelle Bachman

Organization: New England Fishery Management Council

Commenter Type: Organization

Comment Except Text: We are aware of the Long Island Sound blueprint effort and don't know if that's something that's already been considered, working with that group to understand what they know of the Sound and the impacts of this particular siting, and just as a small comment, it would be much easier to follow the alternatives in the DEIS if the position locations were actually numbered and that you can comment on individual locations in terms of potential conflicts rather than having a grid layout and not being able to reference those specifically. So the more clear the alternatives can be laid out in terms of their written descriptions and charts depicting them in the DEIS, the easier it is to provide feedback.

Comment Number: BOEM-2023-0037-0136-0001

Commenter: Meghan Lapp

Organization: Sea Freeze

Commenter Type: Organization

Comment Except Text: I have a lot of concerns with this project. Equinor had stated earlier that it has done its due diligence with preconstruction surveys. I have reason to question this because of our experience with other projects, particularly with the presence of glauconite in the lease areas. The COP says there is glauconite in this lease area and I have a concern with the Empire Wind project of Equinor's.

The DEIS was out to the public, the public was commenting on various alternatives put forward by BOEM, but after it was put out for public comment, Equinor discovered glauconite in their lease and then said many of the alternatives we were commenting on were no longer viable for their project and they recommended something totally different, and so before this particular DEIS goes out to public comment, I would request that Equinor do all the due diligence, find out exactly where the glauconite is and find where things are beforehand and BOEM needs to present the information to the public because otherwise the public is disenfranchised from actually commenting on the project.

Comment Number: BOEM-2023-0037-0151-0003

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Beacon Wind's COP (Figure 3.1-1) identifies planned turbine locations throughout the entirety of the lease area. However, consistent with the draft BOEM-NMFS Right Whale Strategy, developers should avoid proposing development in areas that may impact high-value habitat and/or high-use areas used for important life history functions such as North Atlantic right whale foraging, migrating, mating, or calving. Portions of the Beacon Wind lease area, particularly the area within 20 km of the 30-meter isobath, are high-use areas and development may impact this high-value habitat. As such, we recommend BOEM and Beacon Wind avoid development in this area (i.e., within 20 km of the 30-meter isobath) altogether and that avoidance be built into all project alternatives carried forward for evaluation. If the project is developed as described in the COP (i.e., WTG placement throughout the full extent of the lease

area) it may present concerns for reaching a “no jeopardy” conclusion under the eventual ESA section 7 consultation for this project. The rationale supporting the consideration of avoiding development within 20 km of the 30-meter isobath is included in Attachment A. We also recommend that BOEM require robust mitigation measures designed to avoid and minimize impacts to right whales; we have identified a number of measures in Attachment A.

Comment Number: BOEM-2023-0037-0151-0010

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Consistent with the requirements of NEPA, the “Alternatives” section of the EIS should consider and evaluate the full range of reasonable alternatives to the proposed action, including those that would minimize damage to the environment. The analysis must include development of one or more reasonable alternatives to avoid or minimize adverse effects to environmental resources, including NMFS trust resources. The regulations published by the Council on Environmental Quality provide: “[t]he primary purpose of an environmental impact statement prepared pursuant to section 102(2)(C) of NEPA is to ensure agencies consider the environmental impacts of their actions in decision making. It shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment (emphasis added).” When signing the Record of Decision (ROD), BOEM and NMFS will have a duty to identify an environmentally preferable alternative recognizing that agencies can develop alternatives that meet the purpose and need while avoiding and minimizing adverse environmental impacts. Indeed, the fundamental purpose of NEPA as implemented by the CEQ regulations is to fully and fairly discuss and disclose, to both the public and decision-makers, means and measures, including alternatives, to avoid and minimize adverse impacts. Compensating for unavoidable adverse impacts through development of compensatory mitigation measures should be viewed as mitigation of last resort. Avoidance and minimization must be considered and fully and fairly evaluated through the alternatives development process before reaching that point. BOEM’s purpose and need statement and screening criteria cannot be so narrowly focused to eliminate from full consideration reasonable alternatives that also minimize and avoid adverse effects.

Comment Number: BOEM-2023-0037-0151-0011

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Consistent with the draft BOEM-NMFS Right Whale Strategy, developers should avoid proposing development in areas that may impact high-value habitat and/or high-use areas used for important life history functions such as North Atlantic right whale foraging, migrating, mating, or calving. Portions of the Beacon Wind lease area, particularly the area within 20 km of the 30 m isobath, are high-use areas and development may impact high-value habitat for right whales. As such, we recommend BOEM and Beacon Wind avoid development in this area (i.e., within 20 km of the 30m isobath) altogether and that avoidance be built into all project alternatives carried forward for evaluation. If the project is developed as described in the COP (i.e., wind turbine generator (WTG) placement throughout the full extent of the lease area) it may present concerns for reaching a “no jeopardy” conclusion under the eventual ESA section 7 consultation for this project. We also recommend that BOEM require robust mitigation measures designed to avoid and minimize impacts to right whales; we have

identified a number of measures below.

Comment Number: BOEM-2023-0037-0151-0015
Commenter: Michael Pentony
Organization: National Marine Fisheries Service
Commenter Type: Federal Agency

Comment Except Text: Given the potential for the Beacon Wind project to have considerable effects on the ecology of Nantucket Shoals and resultant consequences to North Atlantic right whales and other species that prey on planktonic organisms, we recommend BOEM and Beacon Wind avoid development in the portion of the lease closest to Nantucket Shoals (i.e., within 20 km of the 30m isobath) and that avoidance be built into all project alternatives carried forward for evaluation. The tidal front associated with the bathymetry defining the edge of Nantucket Shoals aligns with right whale foraging observations. This frontal region typically spans approximately 10-20 km (Potter and Lough 1987, Lough and Manning 2001, Ullman and Cornillon 2001, White and Veit 2020), with its strength and cross-isobath flow potentially influenced by regional winds (Ullman and Cornillon 2001). The estimated location of this front varies from the 50 m isobath to inshore of the 30 m isobath (Ullman and Cornillon 2001, Wilkin 2006). The area to avoid identified here (extending 20 km from the 30 m isobath), corresponds with the predicted location of tidal mixing fronts in this region (Simpson and Hunter 1974, Wilkin 2006). This area to be avoided also corresponds to the extent of the strongest impacts to depth-averaged velocity, salinity, and sea-surface elevation changes as observed in the North Sea, where the largest observed impacts extended 20-30 km, noting that the turbines observed in the North Sea were much smaller than those identified in the Beacon Wind COP (Christiansen et al. 2022). As noted above, this recommendation is consistent with the Right Whale Strategy that is in the process of being finalized by NMFS and BOEM. While we are highlighting right whales here, avoidance of development within this area would avoid negative consequences to a variety of species including endangered leatherback sea turtles.

Comment Number: BOEM-2023-0037-0151-0016
Commenter: Michael Pentony
Organization: National Marine Fisheries Service
Commenter Type: Federal Agency

Comment Except Text: While we recommend that all alternatives include a “no build” area within 20 km of the 30m isobath of Nantucket Shoals, we encourage BOEM to also evaluate additional alternatives with larger and smaller no build areas to evaluate and compare the degree to which they would avoid and minimize near-field and far-field effects of the presence of in-water structures and the operations of WTGs. This should include an evaluation of any differences in anticipated effects from the range of foundation types being considered by Beacon Wind and consideration of the location of the offshore substation and any HVDC converters that would involve open cycle cooling.

Comment Number: BOEM-2023-0037-0151-0017
Commenter: Michael Pentony
Organization: National Marine Fisheries Service
Commenter Type: Federal Agency

Comment Except Text: In addition to considering how different no build areas would avoid or minimize effects of the presence and operation of project structures, the EIS should include consideration of other impacts to resources of concern, including the potential for no build areas

to avoid and minimize effects of construction noise and how such areas may change the risk of vessel strike by avoiding vessel traffic in the areas of high densities for both right whales and leatherback sea turtles. The EIS should also evaluate how different no build areas would reduce impacts to other marine resources, including spawning Atlantic cod, longfin squid, and other fish and protected species that feed along the tidal front adjacent to Nantucket Shoals. We look forward to working with you to identify the size of the “no build” areas evaluated in the EIS, the environmental effects to be considered, and how different areas can be meaningfully assessed.

Comment Number: BOEM-2023-0037-0151-0018

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The proposed Beacon Wind project overlaps with a diversity of habitats in the lease area and along the two submarine export cable routes, including but not limited to complex hard bottom, soft bottom and Habitat Areas of Particular Concern (HAPC) that are designated essential fish habitat (EFH) for a number of managed fish species and trust resources for which NMFS has conservation responsibilities. Although the lease area appears to be dominated by soft-bottom habitats, substantial portions of both proposed cable routes overlap with complex habitats, including submerged aquatic vegetation (SAV) and rocky hard habitats. Of particular concern are the proposed cable routes through the Long Island Sound, an estuary that supports important nursery habitats for several federally managed species, including rocky complex habitats, SAV, subtidal and intertidal flats (including mudflats) and shellfish beds. Estuaries and embayments are particularly vulnerable to disturbance because of the concentration of sensitive resources, and the important ecological functions they provide, coupled with existing anthropogenic stresses. Therefore, an alternative that entirely avoids estuaries/embayments and their sensitive habitats should be developed.

Comment Number: BOEM-2023-0037-0151-0019

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Although the minimization of impacts should be considered in the development of all alternatives, given the complexity of habitats within the cable corridors and the importance of these habitats to NOAA trust resources, it will be critical for BOEM to consider a discrete alternative specific to minimizing impacts from export cable construction and operation, particularly in the Long Island Sound. NMFS suggests a Habitat Impact Minimization Alternative for the export cable that analyzes 1) a land-based OECC alternative which avoids or minimizes impacts to Long Island Sound by routing export cables on shore rather than through the entire length of the Sound; 2) the use of a shared cable corridor for this and future adjacent projects proposing to enter Long Island Sound; and 3) an export cable route which further avoids and minimizes impacts to sensitive and complex habitats through Block Island and Long Island Sound. We recommend this be analyzed as one comprehensive alternative that considers and evaluates all of these components to ensure impacts to habitats are minimized to the greatest extent practicable along the export cable route. It is important to note that we expect there to be far more hard habitats along the entrance and eastern portions of Long Island Sound than is currently mapped and publicly available. Site specific habitat mapping data will be necessary to develop a cable route that minimizes impact to sensitive habitats as part of this alternative. While we have participated in discussions with Beacon Wind related to benthic surveys in 2020 and 2021, we were not provided the data to help inform the routing process and

we do not currently have access to the habitat data. We recommend BOEM provide us with the available habitat data in a viewable format so we can assist BOEM with development of this alternative.

Comment Number: BOEM-2023-0037-0152-0011

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Seriously evaluate as an alternative considered in detail, a reduced build-out respecting the 20km whale buffer to help protect NARW essential winter feeding habitat (between the 30-meter isobaths and extending 20 km southwest), as suggested by Sean Hayes and other NOAA-Fisheries Scientists [Footnote 36: In a letter, exposed by Bloomberg News Service, dated May 13, 2022 signed by Sean A. Hayes, PhD, Chief of Protected Species NOAA NEFSC Addressed to Brian R. Hooker, Lead Biologist of the Bureau of Ocean Energy Management at the Office of Renewable Energy Management] , regardless of whether or not less power is generated by such an alternative. The purpose of NEPA is to understand tradeoffs of environmental protection/harm with economic and other benefits.

Comment Number: BOEM-2023-0037-0152-0048

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: The preferred cable route for the action alternative of the Beacon Wind LLC wind turbine power plant high voltage transmission cable is an ocean approach, making landfall west of the Bannister Bay entrance channel (to avoid estuary and marshland), and traversing underground northward on already- compromised areas of Queens, entering a flushing, Queens waterway and then westbound on that portion of the East River that is south of Riker's Island to reach the power station.

The route will follow beneath Nassau Expressway exiting land at Johnson Road Lawrence at or near the sites of Seville and Costco and crossing the Head Of Bay waterway, and entering the JFK airport property.

[Image]

Seville Mix Plant at Lawrence/Inwood [Internet Source: google maps]

Then, travelling under the JFK airport and running alongside the southwest side of the "building 254 impound":

[Image]

The cable will then run along the dirt path that runs on the south side of Rockaway Blvd, on Rockaway Blvd for 1600 feet until it passes the Springfield auto impound, Then:• Under the median between Nassau Expwy and N Boundary Rd., continuing west until it reaches the VanWick-BeltPkw mega cloverleaf, at which point it will cross the belt either on the underside of the VanWick overpass, or underground. • From there, the cable route should follow the Van Wick, then exit at the NYCDOT Harper Street Plant and enter the water where Flushing Creek meets Flushing Bay. • From there, it can be routed in the water to curve around the north-most runway entrance of LGA airport into Riker's Island Channel. • And follow the east river for a short distance to the receiving power station areas.

This route utilizes areas that are already environmentally compromised, i.e. land areas already extremely heavily disturbed and devoid ("AEHDD") of vegetation/wildlife (land within and between the Seville Central Mix and Costco properties in Lawrence/Inwood), land areas that have already extremely heavy noise disturbance ("AEHND") including property within and

adjacent to two airports), water areas whose ecology has already been permanently harmed by extremely heavy noise burdens (LGA runway) AEHND. The damage to the natural environment is already severe in these areas, and the environment-damaging uses are expected to continue for the foreseeable future. Thus, if excavation and cable laying were to occur at these sites, the net damage to natural environments would be nominal.

Although the traffic disturbance on the Van Wick will be large, it will be temporary. The resulting cable would be routed through areas which already have a high amount of highway noise and the additional noise from installation along most of the route would be marginal.

Comment Number: BOEM-2023-0037-0152-0053

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: In addition to avoiding damage to the Long Island Sound, this route also greatly mitigates disturbance to the Brothers' Islands. North Brother and South Brother Island are lush [Hyperlink: <https://www.youtube.com/watch?v=C2GDU9wdNoA>] wildlife refuges in an otherwise extremely developed area.

North Brother had been dedicated as sanctuaries for water birds for some time. In 2007 through the Coastal and Estuarine Land Conservation Program, and with the help of NOAA, Congressman Jose E. Serrano of the Bronx was instrumental in securing federal funding to protect the property.

To minimize disturbance during installation and local benthic effects of magnetic field to fisheries important to birds, the cable should not be routed between these islands.

Comment Number: BOEM-2023-0037-0152-0054

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: The Long Island Sound Alternative that should be considered (if a Long Island Sound alternative is at all considered) is one in which the cable should be routed through Rikers channel which runs between Rikers' Island and the Airport runway start – i.e. it passes through the waters already heavily disturbed by runway noise OR snugly along the west coast of Rikers' Island to reach the substation.

[Image]

Proposed alternate route to the power station, avoiding the Brothers' Islands. This route (shown in red) is not preferred over the ocean approach with traverse over land already severely environmentally degraded, because this route does not spare the Long Island Sound from further harm. However, like the preferred approach, this route does avoid Brothers' Islands for the area near the destination power station, and utilizes a portion of waterway already heavily perturbed by airport traffic noise.

Comment Number: BOEM-2023-0037-0152-0056

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: The submarine export cable route south of Long Island with sub-street land route across Queens, without use of lands held in trust for public recreation, would be the least environmentally-harmful route. Street corridors in Queens, even with existing utility

(electric, telecom, pipelines) have substantial room for the cables which are only five inches in diameter. The developer complains it would have constrained space to route new duct banks. A duct bank protects and groups cables. The cables are bundled in PVC pipes or conduits and the bundle is protected by steel or other casing on the outside, "duct bank". Although the space within which to install duct banks is "constrained" it is not insufficient.

The Construction and Operations Plan for Beacon wind expresses that the sub street cable access route across queens was ruled out as infeasible because of cost. The developer should be required to state the cost difference between (a) an ocean approach with Horizontal Drilling at the landfall point, with subsequent traverse sub-street over land as described and (b) the aquatic route through Long Island Sound that traverses the entire length of the Long Island Sound and passes Rikers Island. The developer or BOEM should then state what percentage of the overall power plant project the difference represents in cost.

Comment Number: BOEM-2023-0037-0154-0001

Commenter: Laurie Aron

Organization: Sierra Club

Commenter Type: Organization

Comment Except Text: Interestingly not addressed in any environmental analysis of offshore wind is the environmental impact of not going ahead with offshore wind as a key part of the energy transition.

Comment Number: BOEM-2023-0037-0166-0001

Commenter: Sara Gronim

Organization: 350 Brooklyn

Commenter Type: Organization

Comment Except Text: The benefits of Beacon Wind are enormous. Geography and history have lead to a downstate New York electric grid and is largely isolated from mainland electric grids. While Upstate New York has significant hydroelectric resources and the available land to build utilities scale solar downstate New York has no such hydroelectric capacity. And its population density allows for only limited solar installations.

A.2.5 Connected Actions, Planned Activities Scenario, and Cumulative Impacts

Comment Number: BOEM-2023-0037-0061-0030

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Fishing effort can change based on management actions such as a change in access areas, or updated state quota allocations for a target species like black sea bass. It is important to account for the dynamic nature of fishing effort over time when evaluating impacts to fishermen and fishing communities. This is an area of the EIS where cumulative considerations are especially critical and these two projects cannot be considered in a vacuum; many other wind farms are proposed within the Southern New England wind energy areas, and fishing will be affected over a large area if all these projects are installed.

Comment Number: BOEM-2023-0037-0061-0040

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We continue to have significant concerns about the cumulative impacts of offshore wind development on fishery independent surveys. Major negative impacts to these surveys would translate into greater uncertainty in stock assessments, the potential for more conservative fisheries management measures, and resulting impacts on fishery participants and communities. We are encouraged by BOEM's commitment to working with NOAA on long term solutions to this challenge through the regional, programmatic, Federal Survey Mitigation Program, described in the Records of Decision for the Vineyard Wind 1, South Fork, and Ocean Wind 1 projects.

Comment Number: BOEM-2023-0037-0086-0004

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The project must include current, robust analysis of the effects of the project on species listed under the ESA and MMPA. This analysis must include a complete evaluation of the immediate and cumulative effects of the proposed project as well as the effects of all proposed and potential wind development in the region. Separating the effects of a group of actions that have significant effects into a series of smaller discrete actions that may individually not be significant is unacceptable and the government must recognize the cumulative effects of all of the proposed projects in the area.

Comment Number: BOEM-2023-0037-0086-0013

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The EIS must also include a detailed plan to respond to unintended and unforeseen effects on the marine environment and marine wildlife. This response plan must include thresholds for modification of the project's scope and duration if these conditions are met. There must also be a threshold for possible decommissioning if the project has unexpected effects.

Comment Number: BOEM-2023-0037-0115-0015

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: BOEM must clarify its intent to present the public with an understanding of the cumulative impact of a potential 3,000 turbines, of which the agency is "streamlining" installation into the seabed between MA and VA in the next nine years (with another 5,000 thereafter). It must provide explicit information as to how it will approach cumulative impacts reviews for this and future projects.

Comment Number: BOEM-2023-0037-0115-0016

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: BOEM and OSW developers provide inconsistent approaches to whether projects should be considered on an individual or cumulative level, seemingly based on whichever is more beneficial for the developer and the issue in question. It is unclear how BOEM decides which projects are included in an EIS. For several of the earliest projects (Vineyard Wind 1, South Fork, and Ocean Wind 1) BOEM's NEPA review focuses on a single proposed project with a Power Purchase Agreement (PPA) in place and defined the range of alternatives by the terms of the PPA. More recently, BOEM has stated it will prepare an EIS for the Coastal Virginia Offshore Wind- C without the project having a PPA, and it will conduct one analysis for Phase 1 and 2 (both with PPAs) of Empire Wind. For the Sunrise Wind and Vineyard Wind South NOIs, BOEM has combined EISs for one phase with a PPA and a later phase that will, ambiguously, provide some more energy. For Beacon Wind, project 1 has a power procurement of 1230MW landing in Queens, and project 2 has no PPA in place. There is evidently no standard protocol for when BOEM will conduct a project's EIS, and inconsistency is increased when analyses are conducted piecemeal for each phase versus across an entire lease area. The current approach makes it nearly impossible to conduct any cumulative analysis as there is no appropriate time in the federal process to do so.

Comment Number: BOEM-2023-0037-0115-0037

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: RODA, other fishing industry representatives, marine scientists, fishery management councils, the environmental community, and others have consistently requested BOEM take a cumulative approach to offshore wind leasing. BOEM is doing the public and the environment a disservice by failing to adequately assess the cumulative impacts from large scale build out along the entire coast.

Comment Number: BOEM-2023-0037-0115-0038

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: Cumulative impacts need to be thoroughly evaluated to consider the changes in fishing activity that will be forced on the industry. The alteration of benthic habitat, predator/prey interactions, increased pressure and conflicts from recreational users, relocation of the fishing activity to other productive areas will realize an increase in gear loss due to strike from shipping traffic from the concentration of vessel traffic and the cumulative effects of increased effort.

Comment Number: BOEM-2023-0037-0115-0039

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The expected impacts under NEPA review should include any cumulative measures, such as species that will interact with various build outs along the eastern seaboard due to migration patterns, vessel traffic and navigation considerations along the coast, long-standing scientific surveys and environmental monitoring, and job opportunities—both potentially lost employment in one industry and limitations of permanent jobs in another.

Comment Number: BOEM-2023-0037-0115-0040

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: It is difficult to imagine that it would not also benefit developers, transmission interests, and the public for BOEM to clarify its approach to cumulative effects review and at a minimum implement regional planning processes as robust as those it employs for oil and gas leasing. Solely “fast tracking” the large number of projects based on existing (arbitrary) OSW energy production targets may leave us with no recourse to reverse any biological or ecological impacts and a hollow offshore construction industry without longevity.

Comment Number: BOEM-2023-0037-0115-0044

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: RODA and its members are extremely concerned about ongoing impacts to fishing and the marine environment from the significant number of OSW survey activities in the U.S. Atlantic occurring over the past several years. To be clear, this is an enormous amount of activity, occurring round the clock, across a huge range of the Atlantic Outer Continental Shelf and inshore environments. BOEM must take immediate action to address ongoing impacts from unregulated OSW surveys, and complete a Programmatic Environmental Impact Statement evaluating the cumulative impacts of all reasonably foreseeable OSW survey efforts prior to additional activity. Project-specific Environmental Assessments have not analyzed the readily conspicuous size and scale of these surveys’ environmental, economic, and cumulative impacts.

Comment Number: BOEM-2023-0037-0115-0049

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: In the urgency to combat climate change with renewable energy, there is a hesitancy to admit that long-term negative impacts to the environment are likely to result from OSW. This is reflected in all the environmental review documents to date, especially the recently published NY Bight Environmental Assessment [Footnote 25: Absent from Federal Register; press release linked at <https://www.boem.gov/renewable-energy/state-activities/new-york-bight>.] where the impacts analysis of the proposed action illogically ignored all other OSW

development and was considered to have positive, or at least less negative impacts, compared to not developing in the NY Bight. The COP and Fisheries Mitigation Plan (FMP) for Beacon Wind perpetuate these shortcomings.

Comment Number: BOEM-2023-0037-0117-0001

Organization: New Bedford Port Authority

Commenter Type: State Agency

Comment Except Text: It is imperative that BOEM takes a holistic and flexible approach utilizing the best available research, data and information and applying it to the combined development and impact of all projects.

Comment Number: BOEM-2023-0037-0117-0004

Organization: New Bedford Port Authority

Commenter Type: State Agency

Comment Except Text: In every final EIS issued thus far by BOEM in connection with offshore wind in the Atlantic, BOEM has listed the No-Build Alternative as having virtually the same impact on commercial fishing as the final build alternative ultimately permitted. In support of this conclusion, BOEM presents a “No Action” scenario that includes considerations of the buildout of all future projects, including proposed but not yet approved offshore wind projects. Using this approach has the effect of minimizing the impacts analysis by overstating the impacts of No Action and thereby diluting the actual impacts of the project. As has been noted by other observers, including NOAA, this approach confuses an evaluation of all possible options with a cumulative impacts analysis. BOEM has resisted taking any steps to measure and address or mitigate the cumulative impacts of all approved and proposed projects in the context of any EIS. The message has been consistently that each project must be considered individually when looking at the impact on commercial fishing. It is internally inconsistent and a flaw in the NEPA analysis for BOEM to consider the impact of other projects when looking at the alternatives analysis but not to consider any cumulative impact when addressing impact or mitigation in an approved EIS.

Comment Number: BOEM-2023-0037-0122-0015

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request that all pre-existing cables and planned wind farm cables be analyzed in a cumulative impacts assessment along with the Beacon Wind export cable route, and what impacts that will have on existing reasonable uses of the ocean, such as commercial fishing. The cumulative impact of the SFWF export cable, Sunrise Wind export cable, and Beacon Wind export cable as well as existing telecommunications cables will create a maze of cable crossings and associated cable armoring in existing commercial trawl fishing grounds. We request that these impacts be analyzed both at a project level as well as cumulatively.

Comment Number: BOEM-2023-0037-0122-0029

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request a detailed analysis in the DEIS of the heat emitted by the interarray HVAC cables as well as export cables, as well as cumulative analysis of the heat emitted by project cables combined with the cumulative analysis of the multiple cooling water intake systems heated effluent mentioned previously. Essentially, in the Beacon Wind area, the surrounding seafloor and water will be experiencing the oceanic equivalent of radiant heat as well as forced hot air heat. This must be analyzed in a cumulative manner in order to examine impacts to primary productivity, as well as associated marine species impacts. Expected changes in overall thermal habitat must be quantified, including Beacon Wind specific impacts but also cumulative impacts from adjacent projects which also plan cables and multiple open cooling water intake systems.

Comment Number: BOEM-2023-0037-0122-0030

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request that this “double” cumulative impacts analysis be combined with the warming caused by the wind wake effects expected from the project, for a true and wholistic cumulative impacts analysis on the ocean warming that is to be expected in the area, which then should be measured against species specific impacts. Wind farms, due to the wind wake affect, already mimic climate change at their locations (which we will note poses problems for using expected future climate change as a baseline condition for the No Action or other DEIS Alternatives). They have been the cause for increase in temperature by 0.5 degrees C at hub height even as far as 60 km of the wind farm, causing atmospheric warming, [Footnote 48: Akhtar, et al. “Accelerating deployment of offshore wind energy alter wind climate and reduce future power generation potentials”, Scientific Reports, Nature.com, 2021.] and “coherent patterns of increasing mean sea surface temperature are present in areas of wind farm development...large-scale surface heating of up to 0.1 degrees C imitates the effects of climate change”. [Footnote 49: Christiansen et al, “Emergence of Large-Scale Hydrodynamic Structures Due to Atmospheric Offshore Wind Farm Wakes”, Frontiers in Marine Scieince, 2022, p. 12.] This must be taken into account, combined with cable caused heat emissions and cooling water intake system heated effluent emissions. We request that the DEIS include such an analysis. The DEIS should examine whether the ocean and atmospheric warming caused by the project would outweigh any measurable “benefits” to climate change purported by BOEM. This analysis should quantify and objectively measure estimated impacts, not be merely a qualitative passing statement.

Comment Number: BOEM-2023-0037-0127-0006

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The Federal Register notice for the Notice of Intent states that BOEM will identify potential effects that are reasonably foreseeable and “have a reasonably close causal relationship to the Proposed Action and the alternatives.” [Footnote 14: 88 FR 42388

(June 30, 2023).] This scope of impacts is too restrictive. Neither NEPA regulations nor the statute require that impacts have a “close causal connection” to the Proposed Action or the alternatives. As described above, BOEM should evaluate all direct, indirect, and cumulative impacts that are reasonably foreseeable in conducting the EIS for the Project.

Comment Number: BOEM-2023-0037-0127-0010

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: We are concerned about the inconsistencies in the cumulative impacts analyses across Atlantic offshore wind projects in previous Draft EISs. While these cumulative impact analyses generally include the same list of anticipated offshore wind projects, we find significant variability in the cumulative impacts by resource, even for the no action alternatives. For example, the cumulative effects of the no action alternative in adjacent SouthCoast Wind’s Draft EIS on demographics are minor adverse, minor beneficial. For environmental justice, the cumulative effects of the no action alternative are minor adverse, minor beneficial. These are not aligned with the relatively nearby Revolution Wind’s Draft EIS, which found cumulative effects of the no action alternative to be moderate to major adverse and minor to moderate beneficial on demographics and major adverse and negligible to moderate beneficial on environmental justice. [Footnote 25: See SouthCoast Wind DEIS at ES-2 and Revolution Wind DEIS at Table ES-2.] Similarly, cumulative impacts of the no action alternative on marine mammals are considered moderate to major adverse, minor beneficial in SouthCoast’s Draft EIS but moderate to major adverse for the no action alternative of the Coastal Virginia Offshore Wind Commercial Project (CVOW-C). [Footnote 26: See SouthCoast Wind DEIS at Table ES-2 and CVOW-C DEIS at Table S-2.] Similar inconsistencies exist for the cumulative impact analyses for the Proposed Alternatives (e.g., SouthCoast Wind’s Draft EIS finds moderate adverse impacts in environmental justice where New England Wind’s Draft EIS finds minor adverse, minor beneficial cumulative impacts on environmental justice for the Proposed Actions; SouthCoast Wind’s Draft EIS finds negligible to major adverse, minor beneficial cumulative impacts on marine mammals whereas CVOW-C finds moderate to major adverse impacts for the Proposed Actions). [Footnote 27: See SouthCoast Wind DEIS at Table ES-2 Revolution Wind DEIS at Table ES-2, CVOW-C DEIS at Table S-2.]

Comment Number: BOEM-2023-0037-0127-0011

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: We note that inconsistencies are also found for the geographic analysis areas for cumulative impacts. For example, the geographic analysis areas for birds and bats vary from 0.5 mi inland (Sunrise Wind for birds and bats, [Footnote 28: Sunrise Wind DEIS, Appendix D at D-1 and D-2.] SouthCoast Wind for birds [Footnote 29: SouthCoast Wind at Fig. 3.5.3-1, p. 3.5.3-2.]), 5 mi inland (SouthCoast Wind for bats [Footnote 30: Id. at Fig. 3.5.1-2, p. 3.5.3-2] and several other Draft EISs for both birds and bats), to 100 mi inland (Vineyard Wind 1 for both birds and bats [Footnote 31: Vineyard Wind Final EIS, Table A-1 at A-10.]). BOEM should improve its analyses to ensure a high standard and consistency for their cumulative impact analyses for offshore wind projects. We also urge BOEM to ensure that in evaluating impacts to species, the agency considers potential changes in range and seasonal use due to various anticipated levels of warming and climate change. Finally, we remind BOEM that it must now account for the potential negative impacts of a no action alternative, which

almost certainly includes the climate risks of not mitigating emissions through the development of the Project and offshore wind development.

Comment Number: BOEM-2023-0037-0128-0002

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: The Agencies also seek to ensure that the interests of affected NYS stakeholders, including its fishermen, maritime industries, recreational businesses, indigenous communities, disadvantaged communities, and coastal communities, are understood by evaluating a range of alternatives and undertaking a robust and efficient cumulative impact analysis.

Comment Number: BOEM-2023-0037-0128-0074

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Cumulative Impacts

- Undertake a cumulative impacts analysis in an appropriate geographic area including: The potential for additive impacts and opportunities to minimize and mitigate significant cumulative impacts of offshore wind development to fishing access and landings, navigational safety, migratory pathways, and ecological processes. Construction impacts associated with the southern New England lease areas are expected to significantly overlap in time and space and should consider, in particular, sequencing of port uses, overlapping vessel routes, habitat disturbance, and offshore noise impacts. Long-term effects should reflect the magnitude of change anticipated in the region occurring over a relatively short time horizon and the ability of habitats, species, and users to adapt over time. Finally, both construction and operations will occur within the broader landscape of offshore wind development on the east coast, and the analysis should include currently leased areas, proposed transmission projects, as well as long-term planning efforts such as New York State's Offshore Wind Master Plan 2.0: Deepwater.

Comment Number: BOEM-2023-0037-0128-0076

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Potential cumulative effects resulting from construction and sequencing of multiple projects at the Astoria complex (e.g., Champlain Hudson Power Express, Clean Path).

Comment Number: BOEM-2023-0037-0128-0077

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Growth-inducing effects from use of new and existing ports and new O&M facilities.

Comment Number: BOEM-2023-0037-0128-0079

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Consider capacity of the onshore cable corridor for accepting additional power. Note: If additional energy capacity is included as part of the proposed onshore cable corridor, then the possibility of potential future build-out and expansion should be made clear and any related, planned expansion should be discussed.

Comment Number: BOEM-2023-0037-0130-0017

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: BOEM also must consider the significant cumulative impacts involved in permitting this Project. In specifically requiring cumulative impacts analyses, NEPA and NHPA recognize the significant effects that projects can have on the surrounding landscape beyond the scope of a single development. Several wind farms are in development off the coast of Nantucket, including several projects by Vineyard Wind, South Coast Wind, South Fork Wind, Revolution Wind, and Sunrise Wind. These offshore wind projects will have both separate and cumulative adverse visual impacts upon historic properties, sites, and districts listed or eligible for listing in the National Register of Historic Places. This Project, and how it is evaluated and permitted, will set a precedent for upcoming projects in the area and along the entire Atlantic Coast. Therefore, it is essential to apply consistent criteria to this Project and subsequent future development sites. Due to the significant historic resources on Nantucket, BOEM must establish and implement best practices. The COP should be amended to reflect—and the DEIS should include—a complete assessment of all impacts to historic and cultural properties and include additional visual simulations for the Project area so that consulting parties can understand all adverse effects and offer meaningful comments.

Comment Number: BOEM-2023-0037-0133-0003

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Cumulative Impacts: The DEIS must include a programmatic cumulative impacts analysis. This should include interactions between multiple pressures. A recent review of the literature stresses the significance of this gap in our knowledge (Galparsoro, 2022). BOEM needs to prepare a programmatic EIS to examine the entire wind development of the outer continental shelf, including all interactions. Individual stressors do not act in isolation and can have a negative synergistic effect that can accumulate and exponentially increase environmental damage. Given that BOEM plans to develop 22 million acres of the Outer Continental Shelf (BOEM, Draft strategy for the NARW, p. 3), an assessment that considers interactions seems particularly important. No further developments should occur until a cumulative impact assessment includes a complete programmatic review and a full assessment of interactions.

Comment Number: BOEM-2023-0037-0133-0030

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Please assess the cumulative impacts on ocean currents: The DEIS needs to consider the global implications of the project's effect on ocean currents, considering the new evidence for the potential collapse of the Atlantic Meridional Overturning Circulation (AMOC) (Ditlevsen, 2023). BOEM knows that these offshore wind projects will decrease wave height, diminish current strength, and alter temperature stratification from its hydrodynamic modeling study (HDM, BOEM_2021-049). These effects on both the Atlantic Meridional Overturning Circulation (AMOC) and the Gulfstream MUST be evaluated. Because any decrease in the Gulfstream or the AMOC can have dramatic effects on sea-level rises (Goddard, 2015), and global weather patterns (Carrington, 2021), BOEM MUST have a full understanding of the hydrodynamic changes from the offshore wind developments and consider these in a global context, as the executive order implies.

Comment Number: BOEM-2023-0037-0134-0005

Commenter: Bonnie Brady

Organization: Long Island Commercial Fishing Association

Commenter Type: Organization

Comment Except Text: We would like a full analysis of the environmental and cumulative impacts to the air and water quality and benthic habitat of constructing and operating a 400kv HVDC transmission cable, whether one or two cables, bundled or separate in a "cable transmission corridor," within federal and state waters. Including in that analysis, but not limited to, should be analyses of the cable's effect on seabed disturbance damage/disturbance of organisms, sand waves and benthic effect of sand wave levelling, re-suspension of contaminants, armoring, scour protection in all formats, visual disturbance, noise, transit pathways, and emissions and wastes from offshore wind survey boats, supply boats, construction boats, PSO and hydrophone boats, security boats, and any and all other vessels employed by Equinor or a contractor of Equinor.

Comment Number: BOEM-2023-0037-0136-0004

Commenter: Meghan Lapp

Organization: Sea Freeze

Commenter Type: Organization

Comment Except Text: There is no logical or orderly planning of cable routes and that is a huge problem, I have asked BOEM for many years now for a complete NOAA nautical chart for planned cables as well as approved cables and the preexisting cables in the ocean so we can look at the cumulative effects of cable placements and interference for our vessels and so I would request again that that part be a part of the DEIS when it goes out to the public.

Comment Number: BOEM-2023-0037-0143-0001

Commenter: Bonnie Brady

Organization: Long Island Commercial Fishing Association

Commenter Type: Organization

Comment Except Text: I was not sure at first about the amount of cooling water intake

systems that are going to be utilized by Beacon Wind offshore. For those of you on this who are not familiar with what that is, we know from another recent offshore wind lease area that that usually entails something along the lines of 8.1 million gallons of sea water that is being sucked into a converter station to turn the inner array cable alternating current into DC current to make the 151 mile trek east -- excuse me west into the New York City region. That 8.1 million gallons per day winds up being released is something around 90 degree effluent. So if you have got several converter stations throughout that areas in some of the most pristine waters prior to the turbines being put in where ever they may be, that is going to have a huge effect on the environment of everything, and so I am very concerned as to how many of those are going to exist. Doesn't seem to make sense if you are trying to decrease sea surface temperature warming what dumping 90 degree effluent will due to it especially at the scale of all of those stations.

Comment Number: BOEM-2023-0037-0149-0011

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: NPS notes that several offshore wind projects are currently proposed in the vicinity of the Beacon Wind project, and likely to result in cumulative impacts to the same resources and values. In order for the public and other stakeholders to have an accurate understanding of the proposed project and its impacts, NPS recommends BOEM address the other current and likely potential future proposals through its NEPA review. We note that views of the Beacon Wind Project from the NHLs will be visible in the background of other offshore projects.

Comment Number: BOEM-2023-0037-0151-0044

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EIS should include a complete analysis of the cumulative impacts of the project. This analysis should describe the effects of the proposed project, which in combination with any past, present, and reasonably foreseeable future actions, may result in cumulative impacts on the ecosystem and human environment. This analysis should include a broad view of all reasonably foreseeable activities, including but not limited to, energy infrastructure (including future wind energy projects), port infrastructure, sand mining, aquaculture, vessel activity, fisheries management actions, disposal sites, and other development projects. Consideration of impacts from the construction and operation of multiple projects both within the Southern New England region and through the OCS is important, particularly for migrating species of marine mammals, sea turtles, fish, and invertebrates that may use or transit multiple proposed project areas.

Comment Number: BOEM-2023-0037-0151-0045

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: For all resources and IPFs, it is also important that the EIS separately identify the impacts of the No Action alternative (i.e. existing baseline condition of resources in the context of past and ongoing activities), as well as how the No Action impacts compare to the

impacts of the action alternatives. This analysis should be distinct from the consideration of Cumulative Effects. While a cumulative effects analysis should consider all reasonably foreseeable future wind projects across the region, the No Action alternative impacts should include only those wind projects which have already completed environmental review and have been permitted. We recommend that the structure and content of the analysis be developed consistent with the agreed upon approach taken to this issue in the Ocean Wind 1 EIS.

Comment Number: BOEM-2023-0037-0151-0046

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EIS should evaluate, in detail, the cumulative impacts on protected species and fisheries resources associated with overlapping construction activity of adjacent projects, including elevated noise levels, displaced fishing effort, cable routing and burial, and changes in species abundance, among other impacts. Specific information related to the timing of the construction activity and the expected number of proposed construction seasons is important, particularly for evaluating cumulative impacts to marine mammals, sea turtles, and spawning activity of fish and invertebrates. Vessel strikes are a documented threat to a number of protected species including Atlantic sturgeon, sea turtles, and large whales, including critically endangered North Atlantic right whales. The EIS should evaluate, in detail, the cumulative effects of increased vessel traffic during all phases of the project.

Comment Number: BOEM-2023-0037-0151-0047

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: An assessment of cumulative impacts of existing and proposed transmission cables should also be considered in the EIS. Based on the proposed wind development projects in this region, there is the potential for substantial additive impacts associated with the number of required cables. In addition, the cumulative analysis of transmission cables should include a discrete analysis on cumulative estuarine impacts from export cables. Specifically, the EIS should assess cumulative impacts of multiple cables entering Long Island Sound. The EIS should analyze how multiple projects connecting to available substations in estuarine environments may impact these important areas. Estuaries provide critical nursery grounds for many marine species that rely on these areas for growth, feeding, breeding, and protection. The cumulative impacts of multiple projects impacting estuarine environments over several consecutive seasons should be analyzed in detail. As part of the cumulative effects analysis, measures to minimize the additive impacts should be considered, including the evaluation of land-based alternatives as well as facility and infrastructure upgrades for cables that may be routed through estuaries; and designated cable routes and coordination and consolidation with adjacent projects in marine waters to minimize cumulative impacts.

Comment Number: BOEM-2023-0037-0151-0074

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EIS should evaluate the cumulative impacts of multiple projects on

fishing operations, such as changes to time and area fished, gear type used, fisheries targeted, and landing ports. Some fishing vessels operate in multiple areas that may be subject to wind project development. While some may choose to continue to fish in these areas, others may be displaced from one or more project areas and fish in different areas outside the project areas. Therefore, it is important to evaluate how all existing and potential future wind projects could affect overall fishing operations due to effort displacement, shifts from one fishery to another, changes to gear usage and frequency, changes to fishery distribution and abundance, and increased fishing effort due to fishing in less productive areas. It is not enough to simply state that economic impacts of this project can be mitigated by fishing elsewhere without considering and addressing other factors that may impede effort displacement, including development of other wind projects in adjacent and nearby waters. The EIS should consider the socio-economic impacts on fishing communities that cannot relocate fishing activity due to cultural norms (fishing grounds claimed or used by others), cost limitations (too expensive to travel greater distances to other fishing areas), and other relevant limiting factors such as fishing regulations that limit where and when a particular vessel can fish with particular gear for a particular species. Shifts in fishing behavior, including location and timing, may result in cumulative impacts to habitat as well as target and bycatch species (both fish and protected species) that have not been previously analyzed in fishery management actions. Finally, reduced regional scientific survey access to project areas could increase uncertainty in associated stock assessments and result in more conservative quotas that would negatively impact fishery operations in all fisheries. Accordingly, the analysis should also consider cumulative impacts of all wind projects in the context of existing fisheries management measures.

Comment Number: BOEM-2023-0037-0152-0040

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Answer the question: Which species (of bird, of mammal, of fish, of bat) will see a reduction in their effective migration space? How profound will the effects be? How profound will the effects be considering cumulative impact of the U.S. Atlantic Offshore Wind program anticipated buildout in the next 12-15 years.

Comment Number: BOEM-2023-0037-0152-0046

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Upgrades and improvements by port facilities that are proposed to be utilized by Beacon Wind as construction and staging areas for the Project are not assessed even though port facilities will be modified, the Hudson River will be further dredged, and staging areas will be cleared of trees and vegetation. The environmental impacts of this must be accounted for in the NEPA review will use these facilities and because the project cannot move forward without their undertaking. To not account for the environmental impacts of such activities would be unlawful segmentation of the NEPA review. Tree- clearing is occurring along sites along the Hudson River, which New York State is preparing to have deepened (dredged) to accommodate the expected increases in large ship traffic, seeking to revive the industrialization of the River [Hyperlink: <https://www.politico.com/news/2022/09/06/new-york-hudson-river-industrial-past-offshore-wind-00054196>]
<https://www.politico.com/news/2022/09/06/new-york-hudson-river-industrial-past-offshore-wind-00054196>] It would be bad enough if all these sites were getting separate NEPA reviews (the

purpose of NEPA is to account for the total environmental impact of an undertaking) [Footnote 1: Divide and Conquer: Dividing the project into its constituent parts and examining each separately gives a misleading view of the adverse impact of the whole project.]. What is happening is even worse, no NEPA environmental review is being done before these sites are cleared. Beacon Island was cleared without a NEPA review, in preparation for an offshore wind turbine assembly compound comprised of 4 buildings with five hundred feet of hardened shoreline.

Comment Number: BOEM-2023-0037-0152-0047

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: The Beacon Wind LLC developers omit environmental impacts of the Construction-Staging facilities in their statements of expected impacts within the COP for NEPA consideration. This omission is inappropriate. Beacon Wind LLC states the reason for the omission is that permits necessary for the improvement of port and construction/staging facilities will be sought by the owners of these facilities. The Beacon Wind will conduct its activities at these sites. The sites are being modified for Beacon Wind project. The Beacon Wind Project cannot be undertaken without such sites and the preparation work that is taking place at these facilities. It is irrelevant that the Beacon Wind Project might have used a different site – if so it is that construction/staging site that should be considered in a NEPA review.

A.2.6 Mitigation and Monitoring

Comment Number: BOEM-2023-0037-0022-0004

Commenter: Nivo Rovedo

Commenter Type: Individual

Comment Except Text: Equinor has committed to investing in research that will help ensure responsible development of the offshore wind industry and support ocean health, maritime safety, marine mammals, and commercial fishing. It has committed to fund \$12 million to a partnership with the Wildlife Conservation Society and Woods Hole Oceanographic Institute, through which Equinor is funding real-time monitoring of whales and making the data publicly available; and \$25 million to support regional research projects on key commercial fish stocks and wildlife of conservation concern.

Comment Number: BOEM-2023-0037-0026-0002

Commenter: Robert Heinemann

Commenter Type: Individual

Comment Except Text: Moreover, Equinor has committed to investing in research that will ensure responsible development of offshore wind and support ocean health, maritime safety, marine mammals, and commercial fishing. This is a well thought out effort that has been collaborative by consulting with regional stakeholders and local fishing industry partners across the Northeast. The layout of the Beacon Wind project will preserve existing fishing agreements and allow for navigation through, and within, the Beacon Wind and adjacent lease areas. Beacon Wind also has committed to fund \$12 million in partnership with the Wildlife Conservation Society and Woods Hole Oceanographic Institute through the real-time monitoring of whales, and will make the data publicly available. In addition, \$25 million will be available to support regional research projects on key commercial fish stocks and wildlife conservation.

Comment Number: BOEM-2023-0037-0040-0004

Commenter: Tom Helling

Commenter Type: Individual

Comment Except Text: In addition, Equinor has committed to investing in research that will help ensure responsible development of the offshore wind industry and support ocean health, maritime safety, marine mammals, and commercial fishing. It has committed to fund \$12 million to a partnership with the Wildlife Conservation Society and Woods Hole Oceanographic Institute, through which Equinor is funding real-time monitoring of whales and making the data publicly available; and \$25 million to support regional research projects on key commercial fish stocks and wildlife of conservation concern.

Comment Number: BOEM-2023-0037-0061-0022

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: For all alternatives, the EIS should be clear on which mitigation measures will be required as opposed to discretionary. Only required mitigation measures should influence the impacts determinations in the EIS.

Comment Number: BOEM-2023-0037-0065-0003

Commenter: Anne Conway

Commenter Type: Individual

Comment Except Text: How will you ensure that the land and oceans are not compromised from the construction?

Comment Number: BOEM-2023-0037-0086-0011

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Constructing an industrial facility in public federal waters will have effects on the marine environment. Some of these effects can be forecast and others are uncertain. To ensure effective oversight and administration of this project, the EIS must include a monitoring and research plan conducted transparently by NOAA or an independent party to assess and report the effects of the project on the ocean ecosystem including marine habitats, wildlife, fishery resources and protected species and changes compared to the baseline study.

Comment Number: BOEM-2023-0037-0086-0012

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: The monitoring program included in the EIS should include, but should not be limited to, chemical and sonic monitoring, assessment of physical alteration of the seafloor, currents and winds, visual and acoustic surveys for protected species, and biological/ecological surveys for plankton abundance and marine wildlife presence and abundance.

Comment Number: BOEM-2023-0037-0086-0016

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Some areas of the oceans have higher levels of protections due to their importance to fisheries, wildlife, or other reasons. Offshore wind development should not occur in marine monuments or sanctuaries; habitat areas of particular concern including areas that include deep sea corals; Seasonal Management Areas (SMAs), or persistent Dynamic Management Areas (DMAs) created to reduce risk of vessel collision with NARWs. When SMAs or persistent DMAs cannot be avoided, the most stringent mitigation measures will be required.

Comment Number: BOEM-2023-0037-0114-0001

Commenter: Daniel, Dylan Bettinger, Bust

Organization: TurbineHub

Commenter Type: Organization

Comment Except Text: The critically endangered North Atlantic right whale has intricate migration patterns that intersect with the proposed development area. These majestic creatures rely heavily on the acoustic environment to communicate, find food, and navigate. Any disturbance in their migratory routes or increased underwater noise could have potential adverse effects on their population and behavior. Recommendation: To minimize potential disruptions and reduce the risk of ship strikes, TurbineHub suggests timing the most intensive construction periods between June and November. Additionally, slow vessel speed zones and real-time monitoring of whale presence can further mitigate risks.

Comment Number: BOEM-2023-0037-0114-0003

Commenter: Daniel, Dylan Bettinger, Bust

Organization: TurbineHub

Commenter Type: Organization

Comment Except Text: • Atlantic Cod: Establish buffer zones around known spawning grounds and reroute vessel traffic to minimize disturbances during sensitive periods. • Bluefin Tuna: Introduce slow vessel speed zones during peak migratory seasons to prevent unintentional collisions and disturbances. • Basking Shark: Considering their affinity for plankton blooms, operations that could disperse these food sources should be paused during periods of high shark presence. • Atlantic Sea Scallop: Use non-invasive underwater equipment to create a minimal disturbance zone around dense scallop beds, ensuring the preservation of these crucial habitats. • Northern Shortfin Squid: Recognizing the squid's sensitivity to underwater noise and its pivotal role in the marine food chain, it's crucial to employ noise dampening techniques, such as bubble curtains, during construction activities. Additionally, disruptive activities should be delayed during the squid's peak spawning seasons, with slow vessel speeds implemented during peak squid activity to minimize potential harm.

Comment Number: BOEM-2023-0037-0115-0041

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: Once avoidance, minimization, and mitigation measures have been

exhausted through project design, impact fees to compensate for residual damage to regional seafood production must be required as a condition of any future permit. Fishing industry requests and positions regarding impact fees are well documented. Only very recently has BOEM indicated for the first time that it intends to engage the fishing community in dialogue regarding compensation on a project-specific or cumulative scale. BOEM has an ethical and scientific obligation to recognize a process for developing an impact fees framework only if it is driven by the fishing industry and fisheries science experts in a transparent and participatory manner.

Comment Number: BOEM-2023-0037-0115-0042

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: As a reminder, compensatory mitigation alone is not sufficient to meet NEPA requirements of avoiding, minimizing, and mitigating impacts to fisheries, nor does its implementation assure that an OSW project has been designed in a way that does not unreasonably interfere with fishing operations. However, customary practice supports compensatory mitigation for fisheries impacts after efforts to minimize and mitigate impacts have been fully employed. From an equity perspective, fishermen are by far the most impacted group with respect to OSW development. Despite this, financial offsets offered to fishermen pale in comparison to those invested by OSW developers, investors, and supporters to other interests. Approaches to impact fees must be developed by an independent party that is not able to be influenced by OSW advocates.

Comment Number: BOEM-2023-0037-0115-0050

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: We take to heart recent requests from BOEM and OSW developers to include specific, actionable requests for fisheries mitigation measures to be included for consideration. Thus RODA recommends, at a minimum, the following alternatives for inclusion in the EIS and anticipate requesting additional specific measures as project plans and permitting develop:

- Transit lanes of 4 nm to allow safe transit of all mariners especially in inclement weather-
- Available technologies and practices for the safety of all mariners operating in the vicinity of the WEA and for minimizing environmental impacts in the following areas:
 - o De-icingo
 - o Cable mattressingo
 - o Scour protectiono
 - o Cooling stationo
 - o Communication at seao
 - o Radar interferenceo
 - o Vessel traffic
- Range of cable burial depths-
- Performing “micrositing” of turbines, cables, substation(s), and CWIS with fishermen-
- Monitoring fisheries impacts for the life or projects, especially changes in larval populations put at risk by the CWIS-
- Requirements that would minimize the environmental impacts of project decommissioning-
- No-surface occupancy areas with the lease area, if robust scientific analysis indicates the presence of important spawning and/or habitat areas-
- Time of year restrictions during construction, operations, and decommissioning-
- No-build setbacks from any important spawning/habitat areas

Comment Number: BOEM-2023-0037-0117-0002

Organization: New Bedford Port Authority

Commenter Type: State Agency

Comment Except Text: Research, data collection & monitoring should be done throughout the life of the project. BOEM must begin to develop this data collection on a cumulative basis with all 27 active leases and counting to get a true picture of the potential negative effects to the fishing industry and supporting businesses. Proper mitigation and compensation should be a focus in any DEIS and with priority given to those ports and communities that land the most products regardless of location of the project. Mitigation & compensation should also reflect onshore businesses who rely on the commercial fishing industry.

Comment Number: BOEM-2023-0037-0117-0007

Organization: New Bedford Port Authority

Commenter Type: State Agency

Comment Except Text: One glaring omission in any EIS or any fisheries survey mitigation documents from BOEM or NOAA is any discussion of a remedy. Thanks to the recent changes in the Ocean Wind ROD, there is now language requiring survey mitigation. What is not spelled out anywhere is what happens if NOAA determines through these survey efforts that any WEA is having more of an impact on commercial fishing than originally anticipated in the EIS. There needs to be language in any EIS and survey mitigation that acknowledges authority on the part of BOEM and/or BSEE to revisit a COP or EIS if the assumptions and statements therein are proven false. Obviously, removal of a WEA is theoretically possible but not practical or realistic. There must be a focus and a commitment into what any agency is going to do if there is a far more detrimental impact on commercial fishing than is being assumed in the EIS. This includes a commitment from NOAA to be flexible in its regulations. If the only solution being proposed when there turns out to be additional impact to commercial fishing is to write a bigger mitigation check, the future of commercial fishing is in doubt.

Comment Number: BOEM-2023-0037-0117-0009

Organization: New Bedford Port Authority

Commenter Type: State Agency

Comment Except Text: We previously directed the attention of BOEM to the Synthesis of Science Report that detailed the issues and uncertainties in the science of tracking the interactions between offshore wind and commercial fishing. The statement from the Beacon COP regarding payment for research to “better understand how offshore wind energy development is potentially altering the biomass and/or distribution of these stocks” leads to the question, what if the research shows a much larger impact on commercial fishing than anticipated in the COP or EIS? BOEM has included language in the Ocean Wind ROD regarding BSEE reopening the financial mitigation. BOEM has put forward five areas of mitigation and made it abundantly clear that the position of BOEM is that the first four areas are a priority before getting to the fifth, financial compensation. As stated previously, if the sole approach of BOEM is to increase the payment to the fishermen when it turns out the other mitigation areas are not working and the WEA is having more of an impact on fishing than anticipated in the EIS, there could be major impacts on commercial fishermen and the communities they support. BOEM needs to hope for the best and plan for the worst in creating the flexibility needed in a COP, EIS or ROD to respond to unforeseen issues in the interactions between offshore wind and fishing.

Comment Number: BOEM-2023-0037-0118-0003
Organization: Massachusetts Office of Coastal Zone Management
Commenter Type: State Agency

Comment Except Text: All monitoring, reporting, and communications plans described in the EIS should include best practices for data reporting and formatting, and for rapid sharing of timely information with stakeholders.

Comment Number: BOEM-2023-0037-0122-0008
Commenter: Meghan Lapp
Organization: Seafreeze Shoreside, Seafreeze Ltd.
Commenter Type: Organization

Comment Except Text: Considering that bubble curtains are often prescribed by BOEM as a mitigation measure for construction activities of pile driving and UXO detonation, but also that BOEM has stated that low frequency sound is not reduced by bubble curtains, [Footnote 16: See BOEM presentation to the Mid Atlantic Fishery Management Council at https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/602d7bbd49ee2d06d9db12c4/1613593539206/05a_BOEM+Renewables+Program+Update+2021-02.pdf, p. 21 of 23.] and the fact that baleen whales are low frequency cetaceans and -per the developer's COP-the most prevalent type of whale in the project area, we request that BOEM analyze and require mitigation measures that are successful at reducing low frequency noise in particular in order to protect low frequency baleen whales from project impacts. We request that all such measures be described in detail in the DEIS, inclusive of peer reviewed studies and groundtruthing experiments, and included in the Marine Mammal section. If such measures do not exist, BOEM would be unable to meet its regulatory requirement to "not cause undue harm or damage to natural resources", as the most prevalent species in the project area would go unprotected by applicable mitigation measures.

Comment Number: BOEM-2023-0037-0122-0032
Commenter: Meghan Lapp
Organization: Seafreeze Shoreside, Seafreeze Ltd.
Commenter Type: Organization

Comment Except Text: BOEM has delegated all enforcement of offshore wind project parameters to BSEE. It is our understanding that BSEE does not currently have any East Coast offices, enforcement vessels, or on-site personnel. Please describe, in detail, a BSEE enforcement plan for ensuring that should the project be approved that the developer will remain inside of project parameters, including but not limited to, marine mammal protection measures and SF6 leakage monitoring.

Comment Number: BOEM-2023-0037-0127-0012
Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.
Commenter Type: Organization

Comment Except Text: Offshore wind remains a relatively nascent technology in the United States and, as such, BOEM must closely monitor the impacts of offshore wind construction and operations to guide adaptive management and future development. It is necessary to understand baseline environmental conditions prior to large-scale offshore wind development in

the United States so offshore wind impacts can be clearly understood in relation to pre-development environments. Additionally, as discussed further below, it is imperative that BOEM require robust, long-term monitoring (ideally coordinated regionally) to understand the impacts of offshore wind development on natural resources and that this monitoring data be made available to stakeholders and the public.

The Regional Wildlife Science Collaborative for Offshore Wind (RWSC) is a multi-sector collective created and defined by federal agencies, states, conservation organizations, and offshore wind developers to “collaboratively and effectively conduct and coordinate relevant, credible, and efficient regional monitoring and research of wildlife and marine ecosystems that supports the advancement of environmentally responsible and cost-efficient offshore wind power development activities in U.S. Atlantic waters.” [Footnote 32: RWSC mission statement, available at <https://rWSC.org/about/>.] We urge BOEM to continue to participate in and fund RWSC to support its science plan development and to implement the monitoring and research activities identified in the science plan.

BOEM, through RWSC and individually, must also continue to collaborate with state efforts (e.g., the New York State Energy and Research Development Authority (NYSERDA) Environmental Technical Working Group), scientists, NGOs, the wind industry, and other stakeholders to use information from monitoring and other research, and evolving practices and technology, to inform cumulative impact analyses moving forward.

In drafting the Draft EIS, we urge BOEM to require protective measures and to allow practices to evolve as monitoring informs impact assessments. Continued, robust monitoring of offshore wind projects and commitment to employ adaptive management practices will ensure that BOEM can swiftly minimize damages of unintended or unanticipated impacts to ecosystems or wildlife, as well as inform strategies for future wind projects.

Comment Number: BOEM-2023-0037-0127-0022

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: It is critical that the impact of offshore wind operations on marine wildlife and the ocean ecosystem be closely monitored. As part of this, we need an understanding of baseline environmental conditions prior to large-scale offshore wind energy development in the U.S. To this end, BOEM should coordinate with NMFS to establish and fund a robust, long-term scientific plan to monitor the effects of offshore wind energy development on marine mammals and other species before, during, and after large-scale commercial projects are constructed. Without strong baseline data collection and environmental monitoring in place, we lose the ability to detect and understand potential impacts and we risk setting an under-protective precedent for future offshore wind energy development. Such monitoring must inform and drive future mitigation as well as potential practical changes to existing operations to reduce any potential impacts to natural resources and wildlife.

Comment Number: BOEM-2023-0037-0128-0082

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Short Term Construction Related Measures• Evaluate measures taken to avoid, minimize and mitigate environmental impacts from short term construction related activities onshore and offshore, including but not limited to noise, traffic, etc.

Comment Number: BOEM-2023-0037-0128-0084

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Mobilization of the Seabed Resulting in Buried Cable Exposure• Include a robust siting analysis to avoid dynamic areas with known high seabed mobility and/or or assess the need to add additional protection in areas of high mariner use where cable may become exposed. • Include mariner notifications of shallow-buried and exposed cables and cable protection measures.

- Include methods to monitor and maintain target burial depth for the maximum possible distance and expeditiously repair/rebury cable(s).
 - Evaluate adaptive management if repeated cable exposures occur.
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Comment Number: BOEM-2023-0037-0128-0088

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Avoidance, Minimization, and Mitigation: BOEM has developed a range of minimization and mitigation measures to address unavoidable impacts associated with offshore wind development that appear to be applicable to the Proposed Action. Of particular importance are those measures addressing behavioral and physiological impacts from noise, vibrations, altered water quality, altered sediment chemistries, beneficial reuse of excavated materials where possible, foundation lighting, wind-swept area, electromagnetic/magnetic fields, cooling water intakes/discharges, and thermal impacts on biological resources. Additionally, measures that address current and future fishing practices, mariner notifications and alerts, navigational safety and risks to vessel traffic, as well as designated and common practice anchoring areas, turbine installation in complex geotechnical conditions such as glauconite sediments, and reducing risks associated with cable installation and operation due to disturbance footprints, shallow burial depth, drill and blast techniques, burial maintenance and anchoring practices should be considered.

Comment Number: BOEM-2023-0037-0128-0092

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Assess the feasibility of using turbines and other offshore wind infrastructure as scientific platforms (cameras, environmental sensors, telemetry receivers, etc.). This should include a technical assessment of needs and the potential to improve on-water safety as well (weather stations, cellular reception, etc.).

Comment Number: BOEM-2023-0037-0128-0094

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Mariner Safety• Develop a Comprehensive Mariner Communications and Notification Plan that addresses all phases of development (Surveys,

Construction, Operations, Decommissioning). The Equinor Wind US Fisheries Communications Plan (see New York Lease - Draft Fisheries Liaison Plan (beaconwind.com) should address outreach to all mariners include commercial vessel operators, recreational fishermen, recreational boaters, and divers,• Routine check-ins with the NY/NJ Harbor Safety, Navigation, and Operations Committee, appropriate Subcommittees, and other regional maritime organizations that may be affected.

Comment Number: BOEM-2023-0037-0128-0096

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Identify opportunities to address liability to vessel operators in the case of accidental incidents (e.g., anchor strike, allision).
• Identify best practices to minimize disruption to fishing from boulder relocation. • Explore the possibility of adapting mobile gears (trawls, dredges, etc.) to navigate through tighter corridors. Individuals desiring or requiring equipment upgrades should be eligible to draw from mitigation funds. • Review Fisheries Management Plans (FMPs) to determine if gear adaptations may trigger the need to amend FMPs.
• Encourage continued conversations with the fishing industry on gear adaptations and/or change-outs to allow continued fishing as they may be considering using known gear technologies that are currently prohibited (e.g., prohibited for a specific fishery, time of year, specific area).

Comment Number: BOEM-2023-0037-0128-0097

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Water Quality

• Evaluate methods to reduce mortality and entrainment of egg and larval stages. These may includeo reducing both CWIS through-screen velocity below 0.5 feet/second, which is the threshold required for new facilities defined at 40 CFR §125.84(c);o reducing both CWIS water withdrawal, when feasible, during periods of peak egg and larval abundanceo Exploring opportunities to upgrade/retrofit both CWIS to closed-cycle cooling systems if the technology becomes available during Project operations.

Comment Number: BOEM-2023-0037-0128-0099

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Assess available cable alert system technology that alerts vessel operators to the presence of project cables, which could shift horizontally and vertically over time. Such a system would be prudent to install in high traffic areas (e.g., navigation channels and other traffic lanes, in/near anchorages). Note: as cited in the aforementioned M-TWG studies, there is a history of anchor strikes occurring within Long Island Sound. These repeat incidents have resulted in the need for repeated repairs and a cable alert systems to mitigate future risks to both cables and vessels.

Comment Number: BOEM-2023-0037-0128-0100

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Evaluate pre- and post-construction monitoring.

- Incorporate nature-inclusive designs, where appropriate, and develop metrics for analyzing usage and habitat benefits of such designs. For example, selecting alternative materials that minimize or avoid the use of traditional concrete mattresses. These designs have co-benefits to fishing and shipping industries, as concrete mattresses introduce hazards to mariners.
 - Evaluate avoidance of impacts to hard bottom habitats and minimize impacts to other benthic habitats.
 - Require a vessel anchoring plan to protect sensitive habitats or other areas to be avoided and to minimize benthic habitat disturbance.
 - Evaluate measures to minimize sand wave leveling (e.g., micro-siting to avoid, selecting installation tools that can overcome sand wave heights while installing to target burial depth, avoiding the need for gravel or secondary cable protection as a result of leveling)
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Comment Number: BOEM-2023-0037-0128-0102

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Climate Mitigation Measures• Evaluate mitigation measures to reduce or eliminate identified climate impacts.

Impacts to Saltmarshes• Evaluate potential impacts from development to saltmarshes and identify avoidance, minimization and mitigation measures.

Rare, Threatened and Endangered (RTE) Species• Avoidance, minimization and mitigation of state and federal threatened and endangered species should be evaluated using the latest guidance available.

Air Emission Controls• Consider the following air emission controls:

- o Diesel generators should be Tier 4F and fire 15 parts per million (ppm) sulfur diesel.
- o Vessels shall use fuels in the hierarchy of 15 ppm sulfur diesel, low sulfur diesel, marine distillate, and marine residual instead of allowing any of those fuels to be utilized.
- o Vessels shall be the newest available, preferably meeting International Maritime Organization (IMO) Tier III emission standards.
- o Boilers that are installed on the offshore converter station shall fire the cleanest fuel available.

Operational and Maintenance Measures• Evaluate measures taken to avoid, minimize and mitigate environmental impacts from operational and maintenance activities, including but not limited to noise, traffic, etc.

Decommissioning Measures, Including Site Restoration• Evaluate measures taken to avoid, minimize and mitigate environmental impacts from site restoration and decommissioning activities, including but not limited to noise, traffic, etc.

Comment Number: BOEM-2023-0037-0128-0106

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Adaptive Management Plan• BOEM should consider requiring an adaptive management plan, whereby if environmental impacts are substantially different than

anticipated, operational modifications can be evaluated and executed. BOEM should consider whether this should include stakeholder (non-fishing) or community liaison board or individual that would relay information between the Project developer and the affected public.

- A comprehensive mariner communication plan that is routinely re-visited and refined based upon feedback and evolving needs of the maritime and fishing industries as they adapt to economic drivers, regulatory environments, and climate change, among others.

Comment Number: BOEM-2023-0037-0128-0107

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Special Management Concerns• The Agencies urge BOEM to minimize interruptions to state and federal fisheries surveys to the maximum extent possible by continuing to work with NOAA NMFS on the implementation of the NOAA Fisheries' Federal Survey Mitigation Program. These fishery resource surveys provide valuable long-term data and are critical for effective fisheries management throughout the region. Source: <https://www.fisheries.noaa.gov/feature-story/noaa-fisheries-and-bureau-ocean-energy-management-announce-efforts-mitigate-impacts>.

Comment Number: BOEM-2023-0037-0131-0015

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: EPA recommends that BOEM develop and describe measures in the EIS to mitigate NAAQS pollutants and any regulated toxic and greenhouse gas pollutants for the emissions sources described in Appendix J of the COP. EPA suggests that the EIS fully discuss best available technologies and that reasonable mitigation measures include the use of ultra-low sulfur fuels, including liquefied natural gas, inherently lower emitting and high efficiency engine designs, use of Tier 4 certified engines, use of fuel cells and marine batteries, and electric cranes and support equipment. WTGs may be equipped with a generator engine for emergency backup power. Diesel-fired engines on the WTGs are an additional source of air emissions and are subject to EPA's OCS air permit. EPA encourages BOEM to explore and describe in the EIS options to require alternate lower-emitting power sources such as battery backup or fuel cell technology to provide emergency power to the WTGs during operations.

Comment Number: BOEM-2023-0037-0131-0016

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The majority of the emissions from the project are associated with vessel engines used to construct and maintain the project. To reduce long term cumulative emissions from the vessels used for the Beacon Wind project, we recommend that BOEM require procurement of best available technology, i.e., the most efficient and lowest emitting vessels available during the vessel-contracting stage of the project (such as Tier 4 or Tier 3 certified engines or alternative fueled vessels). In addition, the EIS should evaluate the following mitigation options for the purchase of lower emitting or electrified crew vessels for ongoing operations and maintenance; anti-idling practices; retrofitting of older equipment; and add-on air pollution control devices.

Comment Number: BOEM-2023-0037-0131-0026
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: The EIS should also explain in detail the steps BOEM will take to reduce uncertainty regarding the potential for project related impacts during construction and operation. We also encourage BOEM to continue to work closely with the National Marine Fisheries Service to develop appropriate measures to avoid impacts to whale habitat and behavior during project construction and operation. These measures should include a detailed monitoring and mitigation plan that is presented in the EIS.

Comment Number: BOEM-2023-0037-0131-0034
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: The EIS should include all environmental monitoring commitments that will be used to document baseline assemblages of aquatic organisms and to assess impacts to those assemblages throughout the life of the project. In addition, the DEIS should discuss how the monitoring results will be made available to regulatory agencies and the public, preferably by using a readily accessible and easy to navigate webpage.

Comment Number: BOEM-2023-0037-0131-0035
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: The EIS should describe any measures to mitigate or minimize any negative impacts from impingement, entrainment, and discharge of heated and chlorinated effluent, including cumulative impacts of the operation of the converter stations.

Comment Number: BOEM-2023-0037-0131-0045
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: If SF6-free switchgears are determined to be technically infeasible, BOEM should consider mitigation requirements for monitoring and leak detection limiting leaks to less than 1%, especially given that there are projected to be a significant number of switchgears at each project and the switchgears will be operating in a harsh marine environment.

Comment Number: BOEM-2023-0037-0131-0048
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: Provide recommendations for practicable mitigation measures for reducing emissions of several air pollutants including GHG's, NOx, PM and others, during

construction and operation of the project, such as using energy efficient equipment and limiting idling, when possible. These measures should be considered even if predicted emissions would be below thresholds.

Comment Number: BOEM-2023-0037-0131-0049

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The EIS should expand on the brief discussion in the COP of mitigation measures being proposed for minimizing impacts from underwater noise (p.5-405-407), entanglement (p. 5-411), and vessel strike avoidance (p. 5-415).

Comment Number: BOEM-2023-0037-0138-0002

Commenter: Matt Gove

Organization: Surf Rider Foundation

Commenter Type: Organization

Comment Except Text: So we are asking for, you know, the highest levels of mitigation and monitoring. Monitoring is so critical because we need to see what impacts these projects have as they come on-line especially cumulatively to see if anything is happening that's really harming the ocean.

Comment Number: BOEM-2023-0037-0149-0008

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: Appendix Y describes the efficacy of using an Aircraft Detection Lighting System (ADLS) to reduce the total amount of time that an obstruction lighting system would be activated. By turning the aviation obstruction lights on only when aircraft enter the light activation volume, historical air traffic data suggest ADLS controlled obstruction lights would have been reduced by over 99% in system activated duration. NPS supports use of such a system and requests that Beacon Wind implement such a system for this project.

Comment Number: BOEM-2023-0037-0149-0009

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: In general, NPS recommends the following measures protective of night skies. We are of the professional opinion that they would be beneficial for this project. Security lighting should be directed downward and shielded. Some lights should have motion sensors added.

Control -- lights should be off when not needed. This applies to both the construction phase and operation phase.

Brightness -- the minimum lumen output needed should be used.

Warm color-temperature light -- use amber lights, when possible, instead of white light.

Comment Number: BOEM-2023-0037-0151-0020

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EIS must clearly identify which mitigation measures are included as part of the proposed action and thus, evaluated in the analysis, which measures are proposed as conditions of project approval, and measures that are optional and could be implemented by the developer to further reduce impacts. The EIS should address how mitigation measures are considered in the context of the definition of effects magnitude (e.g. negligible, minor, moderate, major), and how mitigation would offset the magnitude of the effect. Mitigation measures must be relevant to the impact to be mitigated and capable of actually reducing impacts (e.g., a monitoring study alone is not an effective mitigation measure as by itself it neither avoids nor minimizes effects). An analysis of the effectiveness of any proposed mitigation should also be included in the EIS. Measures to avoid and minimize impacts such as speed restrictions for project vessels, soft start procedures, noise dampening technologies, construction time of year restrictions, avoidance of sensitive habitats, construction sequencing, anchoring plans, or micro-siting should be discussed in detail, including what resources would benefit from such mitigative measures and how/when such benefits (or impact reductions) would occur.

Comment Number: BOEM-2023-0037-0151-0022

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Here, we offer an initial list of measures that we consider would avoid or minimize effects to right whales. These measures should be considered in addition to the area near Nantucket Shoals where development should be avoided. We also encourage BOEM to incorporate the measures identified in the draft BOEM/NMFS Right Whale Strategy and note that the measures identified here are consistent with that document.

- Require year-round speed limits of 10 knots or less for project vessels operating in and around the lease area, including transits of crew transit vessels from regional ports.
- Require robust time of year restrictions for pile driving including an expansion of the January - April pile driving restriction, particularly in the eastern half of the lease, to avoid pile driving in May and December.
- Limit the detonation of any unexploded ordnance/munitions of concern to June-October.
- Develop time of year restrictions for installation of suction bucket foundations and other project activities that involve the withdrawal or entrainment of water to limit the potential for loss of copepod prey.
- Require the lessee to implement state-of-the-art noise attenuation measures to reduce pile driving noise to the maximum extent practicable; this should include consideration of a double big bubble curtain plus an additional sound attenuation device.
- Limit gear types for fisheries surveys to gear that is unlikely to interact with right whales (i.e., trawls, ropeless technology for ventless trap/pot surveys).
- Require robust monitoring protocols for before and during pile driving and UXO/MEC detonation to limit the potential for exposure of right whales to noise that may affect their hearing (i.e., permanent or temporary threshold shift) or essential behaviors such as foraging.

Comment Number: BOEM-2023-0037-0151-0026

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The project area overlaps with areas with high North Atlantic right whale density and with EFH for sensitive life stages, including for species that aggregate to spawn (e.g. Atlantic cod, longfin squid), and species with demersal eggs (e.g. winter flounder, longfin squid) that may be more vulnerable to impacts of project construction. The overlap of in-water construction activities with the time of year of greatest risk for resources of concern should be fully evaluated in the EIS. Measures such as time of year restriction and construction sequencing should be implemented to minimize impacts to vulnerable resources. Here, we identify times of year when a number of important species at vulnerable life stages are expected to be located in the project area as well as the time of year when right whale density is highest. We recommend that BOEM consider mitigation measures, including time of year restrictions and construction sequencing, that reflect this information.

- North Atlantic right whale - December 1 - May 31
- Atlantic cod spawning - November 1 - March 31
- Longfin squid spawning/demersal egg presence - April - July
- Winter flounder spawning/early life stages (waters less than 20 ft)- January 15 - May 31
- Overwintering winter flounder and striped bass (in East River): November 15 - April 15
- Diadromous fish migration: March 1- June 30
- Shellfish spawning (Long Island Sound): May 1 - September 30
- Horseshoe crab (inshore beaches where spawning occurs): April 15 - July 15

Comment Number: BOEM-2023-0037-0151-0027

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We encourage BOEM to require measures that reduce noise levels during construction to the maximum extent practicable and require use of the best technology available. We encourage requiring at least a double big bubble curtain and additional noise attenuation measures to reduce impacts to all marine resources from pile driving. Noise attenuation measures should also be required for any planned UXO/MEC detonation. Additional mitigative measures such as soft start procedures and sound field verification for adaptive management should be required. The effectiveness of such noise mitigating measures should be evaluated in the EIS. The analysis in the EIS of noise impacts and mitigation measures should address protected species, their prey (see for example, Kuhn et al. 2023), and other marine resources including commercially important fish such as Atlantic cod and longfin squid.

Comment Number: BOEM-2023-0037-0151-0028

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: For more vulnerable and difficult-to-replace resources such as natural hard bottom complex substrates (particularly those with macroalgae and/or epifauna), submerged aquatic vegetation (SAV), dense faunal beds (e.g., cerianthid beds), shellfish habitat and reefs, other biogenic reefs, and prominent benthic features, mitigation measures that avoid

and minimize impacts to these habitats should be evaluated and given full consideration in the EIS. This may include measures such as re-routing or relocation of inter-array cables and/or turbines, measure to reduce construction impacts from anchoring and boulder relocation in sensitive habitats, micro-siting measures to avoid and minimize sensitive habitats, and means and methods of construction that would reduce overall indirect and direct adverse effects of the project.

Comment Number: BOEM-2023-0037-0151-0029

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: While the project should be planned and developed to avoid and minimize adverse effects to marine resources and existing uses (i.e. fisheries habitat, fishing and NMFS scientific survey operations) to the greatest extent practicable, compensatory mitigation should be proposed to offset unavoidable permanent and temporary impacts. The EIS should include discussion and evaluation of potential compensatory mitigation for unavoidable adverse impacts to fisheries habitats and the lost functions and values resulting from those impacts. Compensatory mitigation for both ecological losses as well as social and economic losses should be discussed in the EIS, and incorporate all affected entities. Compensatory mitigation for social and economic impacts from this and other projects should consider any increased operational costs (i.e., increased steaming time to search for fish or transiting around turbines) or loss of fisheries revenue (i.e., lower catch or opportunity to catch fish as a result of construction closures or gear loss) resulting from the construction and operation of the project along with associated impacts to shoreside support services and affiliated fishing communities due to lost fishing revenue. Compensatory mitigation should also consider more conservative quotas set in response to reduced scientific survey access and associated increased uncertainty in stock assessments along with any potential proposed measures to compensate for such losses. Additionally, the potential for bycatch measures resulting from protected species interactions due to shifts in fishing activity and increased uncertainty in protected species assessments should be analyzed and discussed. Details of compensation plans describing qualifying factors, time constraints, allowed claim frequency, etc. should also be included when possible, particularly if used as mitigation measures to reduce economic impacts from access loss/restriction, effort displacement, or gear damage/loss. To effectively evaluate the potential for any compensation to mitigate project-specific fishery impacts, it is critical that the details of the compensation measures be identified as part of the EIS prepared for the action. If such mitigation measures are developed after project approval and the development of the FEIS, it is impossible to conclude that such measures will effectively reduce fishery impacts. Therefore, we encourage the lessee to develop any fishery mitigation measures as part of the COP and evaluate the efficacy in the associated EIS.

Comment Number: BOEM-2023-0037-0151-0058

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: As noted above, we encourage BOEM and Beacon Wind to consider how to implement this project in a way that minimizes negative effects to ESA listed species. As such, we encourage you to incorporate the avoidance and minimization measures addressed above in the project plans and to ensure that the EIS reflects consideration of this approach. In addition to the measures identified above, we urge you to consider the avoidance and

minimization measures identified in the BOEM-NMFS Right Whale strategy, measures included as terms and conditions in NMFS Biological Opinions for offshore wind projects, and the measures submitted by NMFS for consideration in the New York Bight programmatic EIS.

Comment Number: BOEM-2023-0037-0151-0071

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We recommend that any fishery compensation measures follow BOEM's final mitigation guidance and be fully detailed and integrated into the EIS before COP approval. This will help ensure the EIS fully reflects fishery impacts and the anticipated reductions in such impacts from any mitigation measures.

Comment Number: BOEM-2023-0037-0151-0077

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Information from project-specific mitigation plans could be critical inputs to the development and implementation of any future federal survey mitigation program if they are designed to address project level or regional level impacts on federal surveys. To date, monitoring activities currently employed by wind developers have not been designed to and will not provide information that would mitigate project level impacts on NMFS scientific surveys (Methratta et al. 2023). [Footnote 35: Available at: <https://www.frontiersin.org/articles/10.3389/fmars.2023.1214949/full>]

Comment Number: BOEM-2023-0037-0151-0078

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Mitigation is necessary to offset adverse impacts to longstanding marine scientific survey operations (e.g., loss of access to project areas, changes to sampling design, habitat alterations, and reduced sampling due to increased transit time) and fisheries dependent data collections should also be considered and evaluated in the document for these regional surveys affected by this project. We recommend that BOEM ensure that project specific and regional survey mitigation measures be included as a component for Beacon Wind, and draw from recently adopted measures from other projects, consistent with the NOAA Fisheries/BOEM Federal Survey Mitigation Strategy.

Comment Number: BOEM-2023-0037-0151-0079

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: NMFS and BOEM developed a Federal Survey Mitigation Implementation Strategy (Hare et al. 2022) outlining survey mitigation responsibilities to be implemented by project proponents. [Footnote 36: Available at: <https://repository.library.noaa.gov/view/noaa/47925>] Consistent with that strategy, we highly recommend that the lessee develop a survey mitigation agreement with NMFS describing how

the lessee will: 1) mitigate the project impacts on each of the seven scientific surveys disrupted by the Beacon Wind project (see text describing project- specific contributions to the regional federal survey mitigation strategy in the Ocean Wind 1 Record of Decision) and 2) contribute to a regional level survey mitigation program.

Comment Number: BOEM-2023-0037-0151-0083

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Robust site-specific monitoring should be required to help address questions related to effects of the Beacon Wind project on marine and estuarine resources. Monitoring plans should seek to characterize changes in habitat caused by development and concomitant effects on protected species, as well as on fish and shellfish production as a result of habitat changes. To accomplish this, monitoring plans should follow the ROSA Offshore Wind Project Monitoring Framework and Guidelines and the draft Science Plan from the Regional Wildlife Science Collaborative which offers research and monitoring priorities that inform protected species research. For protected species, research and monitoring areas include, but are not limited to, assessing potential planktonic distribution and abundance changes due to the development of offshore wind structures and sea turtle tagging to assess possible changes in distribution and dive behavior. Passive acoustic monitoring (PAM) should be used and follow guidance outlined by NOAA and BOEM recommendations (Van Parijs et al. 2021). We encourage BOEM to require the deployment of archival PAM to monitor ambient noise, construction noise, and other noise sources in the lease area. The recorder should follow the deployment procedures required in recently approved offshore wind projects to maintain regional consistency. Expansion of PAM monitoring will also improve coverage for the ongoing acoustic telemetry study to help identify areas important for Atlantic cod spawning, a study we recommend be further expanded in the lease area to better inform project-specific impacts to spawning cod and potential mitigation measures. We recommend BOEM and the developer coordinate with our agency early in the process related to any potential effects of monitoring activities on NOAA trust resources, as survey or monitoring activities may require permits or authorizations from us. Please see guidance posted on our website. [Footnote 37: Available at: <https://www.fisheries.noaa.gov/s3/2023-06/NOAAFisheriesGreaterAtlanticRegionPermittingConsiderationsforFisheriesSurveysforOffshoreWindDevelopment20Jun2023.pdf>]

Comment Number: BOEM-2023-0037-0151-0084

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Monitoring plans should also align with the goals of the NMFS/BOEM Federal Federal Survey Mitigation Implementation Strategy in order to address impacts to surveys that derive from the preclusion of sampling platforms, impacts on statistical survey design, habitat alteration, and reduced sampling productivity. To accomplish this, project specific and regional survey mitigation measures should be included as a component for Beacon Wind, and draw from recently adopted measures from other projects, consistent with the NOAA Fisheries/BOEM Federal Survey Mitigation Strategy. A survey mitigation agreement with NMFS should be developed which describes how the lessee will mitigate the project impacts on each of the seven NMFS scientific surveys that will be disrupted by the Beacon Wind project. This will involve developing project-level monitoring designs and methodologies

that allow for the integration of project-level monitoring data into new and existing long-term data streams collected by NMFS for the purpose of assessing the population status of NOAA trust resources.

Comment Number: BOEM-2023-0037-0151-0085

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: To ensure monitoring plans are capable of reaching lease-wide conclusions on the impacts of offshore wind development on habitat and NOAA trust resources, all surveys proposed should include: 1) adequate temporal sampling with a minimum of three years of pre-construction baseline sampling and a minimum of five years of post-construction sampling; 2) representative spatial sampling across the diversity of habitat types identified through initial benthic surveying and habitat classification; 3) power analyses to identify the appropriate level of sampling intensity to ensure surveys are capable of detecting change across all identified response variables; 4) appropriate statistical designs that are suited to address clearly stated questions and hypotheses; 5) components to sample and target responses to specific impact producing factors resultant from offshore wind development on key species and habitats present within the lease; and 6) clear and specific data storage, access, and sharing protocols that identify the format data will be stored in and protocols for sharing and public access.

Comment Number: BOEM-2023-0037-0151-0086

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We recommend BOEM and the developer work with us as soon as possible to identify appropriate monitoring questions for the project area and to discuss methodologies for addressing those questions. Research and monitoring questions may vary depending on the details of the project and resources present in the project area, and it will be important to establish a monitoring program for the project expeditiously to allow for sufficient baseline data collection. Additionally, it will be important to clearly define the timeline for soliciting and incorporating agency feedback into the monitoring plans. To date, we often receive fisheries and benthic monitoring plans from developers on an ad hoc basis with no process to ensure our comments and concerns are being addressed; our ability to review plans at all is also inconsistent between projects. Currently there is no formal process for integrating NMFS input into the development of monitoring plans, and we would like to further discuss this with BOEM to ensure we are able to provide meaningful contributions while effectively using our staff time. We are concerned that the standard benthic and fisheries monitoring plans we review are not addressing important questions related to impacts to sensitive life stages (i.e. larval distribution) for important fish species and their prey (i.e. sand lance). Additionally, these plans often do not assess project effects (e.g. wind wake effects, operational noise, EMF) that are necessary to understand impacts to marine resources. We consider it critical to develop site specific monitoring plans that can provide an understanding of project effects and the impacts of those effects on the ecosystem. We welcome the opportunity to work with Beacon Wind and BOEM in the development of a monitoring program for this project.

Comment Number: BOEM-2023-0037-0152-0034

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Offshore wind activity, including siting via sea floor characterization, turbine and other infrastructure installation, and operation, will be accompanied by noise. Right from the launch of the first survey vessel, there will be a differential effect on the natural soundscape of the subject area. For this reason, it would be wise to immediately begin monitoring the area soundscapes. This would give us a temporal/spatial understanding of the density and activity of marine life in the area across all sound-making and sound-utilizing taxa. These passive acoustical surveys need to be broad-band, recording between 1 Hz to 100kHz to capture all acoustical niches anticipated in the area – from the largest whales to harbor porpoises. They will also capture anthropogenic noise sources including vessel traffic and surveying equipment; including but not limited to impulse signals used for geological characterization, scanning sonars used for seafloor profiling. Additionally, they will provide acoustical data that would reveal interactions between marine life and the anthropogenic noise sources to which they are being subjected. While there is already considerable anthropogenic noise in the sea due to shipping traffic, robust baselining of the proposed activity areas would assist in reveal the acoustical changes to the habitat as a consequence of the development, deployment, and operation of the turbines, and the associated ongoing support and maintenance of the infrastructure.

A.2.7 Air Quality and Climate Change

Comment Number: BOEM-2023-0037-0004-0004

Commenter: Marc Schmied

Commenter Type: Individual

Comment Except Text: The impact of Climate Change is WAAY worse than the environmental costs of this project. The impact of turbine construction, the effects on the sea bed and ocean life, and potentially hindered ocean views are minuscule concerns when compared to the catastrophic effects of our oceans heating up which will lead to mass extinctions, dangerous storms, wildfires, droughts, and the rest of the disastrous outcomes that the world's scientists have been warning us about.

Comment Number: BOEM-2023-0037-0004-0005

Commenter: Marc Schmied

Commenter Type: Individual

Comment Except Text: The sooner we can transition to clean energy sources, the sooner we can de-activate dirty fossil fuel burning facilities, which would be a big win for improving air quality in NY state.

Comment Number: BOEM-2023-0037-0010-0004

Commenter: Zoë Kaplan-Lewis

Commenter Type: Individual

Comment Except Text: If the Beacon Wind Project gets postponed, or worse, if the project gets cancelled, the alternative of no action puts our future and the future of the ocean at high

risk. The greatest threat to the ocean is warming water. Marine life dies in places that are warming at a faster pace than the average and forces their predators to hunt in new places, exposing them to new threats, like ships, and exposing humans to threats, like sharks. The greatest defense we have against warming waters is to find alternatives to fossil fuels.

Comment Number: BOEM-2023-0037-0012-0001

Commenter: Mimi Bluestone

Commenter Type: Individual

Comment Except Text: Climate change is the most serious threat to all life on earth, including marine wildlife, and wind power is essential to countering this threat. In preparing to conduct an environmental impact statement on the Beacon Wind Project, I urge you at the Bureau of Ocean Energy Management to give full weight to the risk of “no action,” because if we fail to build our renewable resources to the maximum we risk failing to meet the most serious challenge human civilization has ever faced.

Comment Number: BOEM-2023-0037-0028-0001

Commenter: Stephanie Doba

Commenter Type: Individual

Comment Except Text: As a long-time Sierra Club volunteer and New York City resident, I am deeply concerned with mitigating the climate crisis. Beacon Wind is one of the offshore wind projects that will help do that. It is key to New York achieving the emission reduction mandates of New York's 2019 climate law. Without projects like Beacon Wind in the New York offshore area, New York will not be able to transition from fossil fuels to meet its energy needs.

Comment Number: BOEM-2023-0037-0066-0003

Commenter: Annabella Cockerell

Organization: Mothers Out Front

Commenter Type: Organization

Comment Except Text: By plugging directly into New York City's grid, the Beacon Wind Project can enable the decommissioning of fracked-gas power plants in the city. This will lead to improved air quality for our communities, reducing the harmful impacts of air pollution on public health.

Comment Number: BOEM-2023-0037-0090-0001

Commenter: Vincent Valdmanis

Commenter Type: Individual

Comment Except Text: The lack of sustainable energy infrastructure in the New York metro region is alarming and must be urgently addressed if we are serious about reaching our climate goals. I am very worried about the impact of climate change and have already experienced its adverse impacts in New York City, where flooding, heat and air pollution from forest fires have fundamentally threatened the livelihoods of millions of residents. New York City is one of our nation's greenest cities in terms of per capita carbon footprint due to inherent efficiencies from its building and population density and high transit use. We must urgently green our energy supply to do our part to mitigate the climate threat and ensure the future sustainability of New York. Harnessing coastal winds is a critical part of this effort. The Beacon Wind project is thoughtfully designed at a scale commensurate with the urgency of the need. I strongly support it.

Comment Number: BOEM-2023-0037-0096-0003

Commenter: Kathleen McCarthy

Commenter Type: Individual

Comment Except Text: We need as much offshore wind as can be responsibly built to decarbonize as quickly as possible. The ocean is acidifying and heating rapidly due to the high absorbance of CO2. The food webs in the ocean will be disrupted as the shells of zooplankton and other organisms dissolve. Higher temperatures also disrupt the food webs by impacting the vital role of coral reefs and mangroves, and the impact of both increased acidity and higher temperatures was shown to produce 58% higher mortality of krill compared to current conditions.

Comment Number: BOEM-2023-0037-0100-0001

Commenter: Elyce Semeneć

Commenter Type: Individual

Comment Except Text: Switching to offshore wind helps bring clean air to our communities. Much of NYC's power comes from fracked-gas power plants, but plugging offshore wind into our NYC grid will allow us to begin decommissioning them; without offshore wind, that will be impossible. We need offshore wind plugging into the grid in order to decommission our fracked-gas infrastructure within NYC.

Comment Number: BOEM-2023-0037-0100-0002

Commenter: Elyce Semeneć

Commenter Type: Individual

Comment Except Text: Poor air quality impacts me and my neighborhood by increasing risks of asthma and other respiratory diseases, as well as poor pregnancy outcomes affecting future generations. Without offshore wind, fossil fuel-burning plants will remain in operation, harming the climate and the air we breathe.

Comment Number: BOEM-2023-0037-0115-0008

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The carbon emissions of an OSW project itself may be difficult to calculate without knowing how much of the grid will actually be in operation. It is also important to understand both what amount of GHG would be offset by these projects, as well as what additional emissions may be produced. Activities associated with renewable energy including OSW will contribute to carbon emissions and more information is needed as to the scale of this contribution. Resource-intensive activities associated with production of turbine components and batteries will have further impacts. Some available literature considers much of the carbon dioxide emissions associated with construction and operations to be mitigated by recycling of the turbines after decommissioning. However, it will be impossible to know whether components will be recycled after the Beacon Wind project is decommissioned if this information is not included in the EIS.

Comment Number: BOEM-2023-0037-0115-0009

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: Finally, a GHG analysis must evaluate the effects of a loss of seafood availability. In a recent study comparing the GHG emissions of three sources of animal protein, wild-caught seafood had the lowest impact in each of the categories of GHG emissions, energy use, air pollution, and water pollution. It is estimated that if just two people with high meat consumption replaced that meat with fish, it would save the emissions equivalent of about driving 6,000 miles over the course of a year.

Comment Number: BOEM-2023-0037-0122-0024

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: BOEM's "likely" benefits that "could" potentially result from an offshore wind project do not include the real impacts to air quality from both (1) backup power and (2) sulfur hexafluoride leakage. We request that both of these be incorporated into the DEIS analysis, including exactly what backup power and related emissions will be utilized for the majority of the time when the proposed project is not generating power- including what would be the comparable emissions were that backup source running continuously and not intermittently should that be the case- and exactly how much SF6 will be present in the project and adjacent projects, how much SF6 leakage will be expected over the life of the project, and how this will be measured/enforced.

Comment Number: BOEM-2023-0037-0122-0025

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: BOEM's simple assumption that offshore wind will replace existing fossil fuel generated power plants is not based in fact and should be reanalyzed when it comes to the Beacon Wind project. The developer of another offshore wind project currently undergoing BOEM review stated that its project would be infeasible if required to produce power at the contracted rates for 42% of the time. [Footnote 40: See Coastal Virginia Offshore Wind | Bureau of Ocean Energy Management (boem.gov) and Dominion threatens to abandon 2.6-GW offshore wind farm over performance guarantee | Utility Dive.] BOEM must also adjust its claims of project production accordingly- claiming that a project will supply power to so many homes when that claim is based off nameplate capacity rather than capacity factor is in fact misinformation. BOEM should, in its DEIS air quality analysis, rectify this inaccuracy and include specifics on backup power emissions.

Comment Number: BOEM-2023-0037-0122-0026

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: Additionally, emissions of SF6 from offshore wind infrastructure may

result in more damage to air quality than a No Action Alternative. Please conduct the appropriate DEIS analysis on this subject. SF6, a synthetic gas present in offshore wind turbines and associated electrical infrastructure, is per the EPA the most damaging greenhouse gas known to date, over 23,500 times more potent than CO2, and stays in the atmosphere for 3,200 years. [Footnote 41: Sulfur Hexafluoride (SF6) Basics | US EPA.] If the Beacon Wind turbines and/or substations would contain SF6, the DEIS should describe how much each would contain, and how much leakage would occur, including the methodology for estimating leakage. SF6 is being introduced to large offshore turbines, as well as substations, and is accumulating into the atmosphere off richer countries with more electrical infrastructure, including the UK and EU, with an almost doubling of concentration in the last two decades. [Footnote 42: Climate change: Electrical industry's 'dirty secret' boosts warming - BBC News.]

Comment Number: BOEM-2023-0037-0122-0027

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: Therefore, all SF6 usage and leakage should be included and analyzed in the DEIS as part of the air quality analysis. Please weigh in a quantitative manner the expected “CO2 savings” associated with the project as compared with the SF6 emissions, as well as backup power emissions, as part of the air quality assessment of the DEIS. Please also include a plan for prevention of SF6 leakage, as well as real time monitoring methods, and enforcement measures, as part of the DEIS analysis.

Comment Number: BOEM-2023-0037-0123-0004

Commenter: Ross Gould

Organization: Business Network for Offshore Wind

Commenter Type: Organization

Comment Except Text: Beacon Wind’s projects will contribute to the wider national and global efforts to mitigate climate change. A recent study found that immediate, rapid and large-scale reductions in greenhouse emissions are necessary to limit warming to 1.5°C or even 2°C. With every seemingly small temperature increase, changes in extremes continue to become larger. Every additional 0.5°C of warming causes increases in the intensity and frequency of hot extremes, including heatwaves, heavy precipitation and agricultural and ecological droughts in some regions, according to the Intergovernmental Panel on Climate Change (IPCC)’s “Climate Change 2021: The Physical Science Basis” report [Link: https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf]

Comment Number: BOEM-2023-0037-0123-0007

Commenter: Ross Gould

Organization: Business Network for Offshore Wind

Commenter Type: Organization

Comment Except Text: In addition, climate change leads to significant economic impacts and supply chain disruptions. More frequent and intense storms result in property damage and losses to business. Heat waves that stress electric grid infrastructure lead to power outages that close business and cause loss of inventory from spoilage and other damages. As the impacts of climate change become more prevalent as projected by the IPCC report, these damages will increase. Mitigation of climate change results in avoided damages and the associated costs to homeowners, businesses, and the government. BOEM must consider these economic impacts

from climate change as they weigh the social and economic benefits of offshore wind.

Comment Number: BOEM-2023-0037-0127-0013

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: As BOEM has done in other recent Draft EISs, its analysis should include the Project's and offshore wind's beneficial climate impacts including the social cost of greenhouse gas emissions. We also urge BOEM to pursue measures to ensure that any negative impacts to environmental justice communities are mitigated and that the many environmental and economic benefits offshore wind can provide communities are maximized. One way to do this is to ensure that project construction occurs in a manner that does not create a level of pollution at any one port that could have deleterious impacts to that community.

Comment Number: BOEM-2023-0037-0128-0008

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Air Qualityo Provide ambient air quality data and include complete National Ambient Air Quality Standards (NAAQS) for Criteria Pollutants. The Agencies recommend consultation with the U.S. Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC) when preparing the Air Quality section of the EIS to ensure accurate information is provided.

Comment Number: BOEM-2023-0037-0128-0031

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify air pollutant emissions associated with all phases of the construction, operation, and decommissioning of the Proposed Action, including quantification of emissions of all Clean Air Act criteria pollutants, greenhouse gases [Footnote 1: Greenhouse gas as defined and listed in ECL §75-0101(7)), means Carbon Dioxide, Methane, Nitrous Oxide, Hydrofluorocarbons, Perfluorocarbons, Sulfur Hexafluoride, and any other substance emitted into the air that may be reasonably anticipated to cause or contribute to anthropogenic climate change.] (GHGs) (including upstream emissions), and any hazardous air pollutant (HAP) or other air pollutants emitted by the Proposed Action. Calculations and quantifications of GHG should be in units of tons per year and carbon dioxide equivalents using the 20-year global warming potentials found in Title 6 of the New York Codes, Rules and Regulations (NYCRR) § 496.5 associated with all phases of the Proposed Action.

Comment Number: BOEM-2023-0037-0128-0032

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Describe the Proposed Action's compliance with all federal and State air emission and air quality regulations, including those related to GHG emissions.

Comment Number: BOEM-2023-0037-0128-0033

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Describe the Proposed Action's compliance with General Conformity requirements under the Clean Air Act for the New York-Northern New Jersey-Long Island, NY-NJ-CT Nonattainment area.

Comment Number: BOEM-2023-0037-0128-0034

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Perform an analysis of impacts of increased air emissions on Potential Environmental Justice Areas (PEJAs) and disadvantaged communities (DACs) and mitigation measures to address impacts of air emissions.

Comment Number: BOEM-2023-0037-0128-0067

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Climate Related Impacts• Assess the Proposed Action's consistency and alignment with state-level climate change and energy policies and laws, including but not limited to the Climate Act. This includes the State's achievement of the Climate Act's required GHG emissions reductions of 40% from 1990 levels by 2030 and 85% from 1990 levels by 2050, as well as the following requirements for the New York State's electricity generation: 70% renewable energy by 2030, 100% zero emission by 2040, 9,000 megawatts of offshore wind by 2035, and compliance with the GHG emission limits established by the Climate Act in Environmental Conservation Law (ECL) Article 75. This also includes consideration of the Proposed Action's impacts on disadvantaged communities including measures being taken to ensure GHG emissions and co-pollutants are not disproportionately burdening disadvantaged communities. Include an assessment of emissions associated with the project (next bullet), and an identification, as able, of any projected reductions in fossil-fuel generation or other GHG emissions reductions, and reductions in infrastructure adjacent to disadvantaged communities, that would result from the project.

- Evaluate, list, and describe any potential measures and methods to reduce GHG emissions associated with the Proposed Action, such as by minimizing the combustion of fossil fuels. Also include a feasibility analysis with each potential measure and method.o Identify and list all gas-insulated equipment proposed to be utilized, including the type, Sulfur hexafluoride (SF6) nameplate capacity (if applicable), and quantity of equipment.o Identify the necessary voltage capacity (kV) and short-circuit current rating (kA) for all proposed gas-insulated equipment.o Evaluate alternatives for gas-insulated equipment containing SF6.o Provide an analysis of gas-insulated equipment utilizing SF6 alternatives, including availability on the market and costs, including a cost comparison with SF6-containing equipment over the expected lifetime of the equipment.o Provide an assessment of cumulative leakage of SF6 and estimate the social cost of these emissions from the Proposed Action, using the NYSDEC Value of Carbon guidance (<https://www.dec.ny.gov/regulations/56552.html>).
 - Consider environmental impacts associated with the construction and operation of the
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Proposed Action in light of current and future changes to the environment as a result of climate change including sea-level rise, warming ocean temperatures, and increasing frequency and intensity of extreme weather events.

- Consider anticipated habitat changes and spatial shifting of marine populations due to climate change. Public and private commitments to regional research and monitoring can be used to inform long-term effects.

Comment Number: BOEM-2023-0037-0131-0011

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Large scale renewable energy projects provide significant air quality benefits through the avoided emissions otherwise largely produced by conventional fossil fuel fired electricity generation facilities. Once operational, a large-scale offshore wind farm will result in the annual avoidance of thousands of tons of CO₂ and hundreds of tons of NO_x, SO₂ and PM being emitted into New England's environment. And while there will be meaningful emissions associated with the construction and ongoing O&M of the project, it is likely the avoided emissions over the life of the project will far outstrip those. BOEM's analysis should focus on the presentation of this information and include both the emissions from construction and O&M and the avoided emissions from the operation of the wind farm for all pollutants of concern (CO₂, NO_x, SO₂, PM). Where applicable, the EIS should also address the project's contribution to individual state pollution reduction goals. EPA has tools to allow BOEM to conduct this analysis including:

- AVoided Emissions and geneRation Tool (AVERT) – www.epa.gov/avert. AVERT allows the user to calculate GHG and criteria pollutant impacts associated with different energy scenarios.
- CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool (COBRA) - www.epa.gov/cobra. This tool quantifies potential health impacts associated with clean energy development.

EPA provides user support for both AVERT and COBRA. Please contact us for support as necessary.

Comment Number: BOEM-2023-0037-0131-0012

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Section 4.3.2 and Appendix J of the COP provides anticipated air emission estimates from construction and operation activities. The COP indicates that estimated air emissions from operations and maintenance activities are not expected to have a significant impact on regional air quality. However, the COP does not indicate the anticipated impact level from construction activities. These emissions should be fully described in the EIS. Appendix J states, "...to assess overall regional impacts to air quality from the proposed Beacon Wind Project and for BOEM's NEPA process, the emissions from the Project within the U.S. were estimated." To determine air quality impacts, BOEM should consider air quality dispersion modeling be performed and analyzed with respect to relevant air quality standards and/or background concentrations. For ease of public review and understanding, we recommend that the EIS contain quantitative summary tables comparing the modeled concentrations to the NAAQS, state air quality standards, or other relevant reference measures. We also recommend that the modeling performed for the EIS locate receptors at the state seaward boundary. Locating the receptors at the state seaward boundary provides information on whether the

NAAQS are protected and allows States to meet their SIP and CZMA responsibilities. These receptors can also help demonstrate that the air quality within nearshore area is not adversely impacted by proposed construction and operation activity. EPA is available to support BOEM with its evaluation of modeling for potential air emissions impacts, and there may be some limited synergies between what is being required by EPA's OCS air permit and BOEM's analysis on air quality impacts.

Comment Number: BOEM-2023-0037-0131-0013

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Section 4.4.5 of Appendix J references vessel transit emissions that occur from the Lease Area to the primary local port and staging area that were used to allocate vessel transit emissions by geographic area. Estimated routes were measured to and from the "center" of the Lease area to the local port. EPA notes that the regulations in 40 CFR part 55 do not define emissions from OCS sources based on the centroid of the lease area. EPA recommends that BOEM caveat the use of the centroid concept when discussing EPA's OCS air permit to accurately reflect the requirements of 40 CFR part 55. In addition, the EIS should include an evaluation of the appropriateness of the use of the centroid for air emissions calculations purposes. For example, using the centroid principle may result in calculating approximately the same amount of actual emissions as trying to continuously adjust the exact point where a vessel associated with the OCS source is within 25 miles of the OCS source. By using a fixed point, it is possible that Beacon Wind will calculate vessel emissions sometimes slightly more than 25 miles from the OCS source and sometimes less, thus resulting in a slight overestimate of emissions on some days and a slight underestimate of emissions on other days. BOEM should remain aware of this when conducting the EIS air quality analysis.

Comment Number: BOEM-2023-0037-0131-0014

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Section 4.4.5 of Appendix J indicates that offshore substation facility platforms and wind turbines will be equipped with high-voltage circuit breaker switchgears that use Sulfur hexafluoride (SF6) gas as an insulating material. As noted on the epa.gov website, "Sulfur hexafluoride (SF6) is a synthetic fluorinated compound with an extremely stable molecular structure. Because of its unique dielectric properties, electric utilities rely heavily on SF6 in electric power systems for voltage electrical insulation, current interruption, and arc quenching in the transmission and distribution of electricity. Yet, it is also the most potent greenhouse gas known to-date. Over a 100-year period, SF6 is 23,500 times more effective at trapping infrared radiation than an equivalent amount of carbon dioxide (CO2). SF6 is also a very stable chemical, with an atmospheric lifetime of 3,200 years. As the gas is emitted, it accumulates in the atmosphere in an essentially un-degraded state for many centuries. Thus, a relatively small amount of SF6 can have a significant impact on global climate change."

Comment Number: BOEM-2023-0037-0131-0017

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The COP indicates the potential use of multiple ports along the Atlantic coast to support the project. Many port communities are located in areas that may have existing air quality issues and/or environmental justice concerns. EPA recommends that the EIS explore the feasibility of requiring emission reduction best practices for ports such as vessel speed reduction requirements, sulfur restrictions in fuel, chemical and waste storage/transfer, dust control or the use of marine shore power systems. In addition, the use of Tier 4 EPA certified equipment can further reduce emissions at ports. More information regarding air emissions reduction methods at ports can be accessed at Ports Initiative | US EPA.

Comment Number: BOEM-2023-0037-0131-0018

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: EPA's OCS air permit will contain, at a minimum, requirements for emissions control, emissions limitation, monitoring, testing, and reporting for OCS sources constructing and operating at the Beacon Wind project area (within the project lease). In this effort, Beacon Wind will need to provide an analysis demonstrating that ambient impacts will not affect protected Class I areas. If this information would benefit BOEM's analysis of air quality impacts for the EIS, we recommend you coordinate with EPA and the applicant to obtain the most recent ambient air impacts analysis and assessment. Please contact Patrick Bird at bird.patrick@epa.gov or 617- 918-1287 for assistance.

Comment Number: BOEM-2023-0037-0131-0019

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Include an analysis consistent with Executive Order (E.O.) 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis and the Council on Environmental Quality (CEQ) Interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. EPA recommends that BOEM consider including an assessment of the Social Cost of Carbon in the GHG analysis. The CEQ guidance states, "SC-GHG estimates can help describe the net social costs of increasing GHG emissions as well as the net social benefits of reducing such emissions." We support efforts to describe both the construction and operation period emissions as well as the benefits of avoided emissions gained during the operational life of the project. The analysis of benefits should include a summary of assumptions made about the regional energy mix applied in any calculation of avoided emissions.

Comment Number: BOEM-2023-0037-0131-0046
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: We recommend that the EIS fully disclose the switchgears to be utilized for the project, how they will be monitored for leakage, and quantify the potential release of SF6 from the project over its service life.

Comment Number: BOEM-2023-0037-0131-0047
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: Illustrate how climate change may impact the proposed action. To consider climate resilience, the EIS should consider the ongoing impacts of climate change and the foreseeable state of the environment, especially when evaluating project design, siting, and reasonable alternatives. In particular, given the potential vulnerability of the project to impacts associated with climate change (sea level rise, more frequent and intense storm events, changing metocean conditions, increased global temperatures, high winds, etc.), the EIS should include consideration of adaptive measures to enhance the project's ability to withstand these changing conditions. This discussion should address how these potential hazards may impact parts of the project including wind turbinegenerators, buried cables at all locations, foundations, offshore substation platforms, onshore stations, and ports.

Comment Number: BOEM-2023-0037-0133-0007
Commenter: Lisa Quattrocki Knight
Organization: Green Oceans
Commenter Type: Organization

Comment Except Text: Please adequately justify the projects: Anticipated future adverse impacts from climate change cannot justify known impacts to the environment now. The ends do not justify the means. The environmental impact statement cannot justify known adverse impacts based on broad, unproven anticipated future effects of climate change and increased development. They must be compared to other alternatives, including modular nuclear, distributed solar, geothermal and hydroelectric. Moreover, the most recent literature does not support the projections in planetary temperature used by current impact statements. Such impact assessments are not reasonable, legal, or scientifically defensible.

Comment Number: BOEM-2023-0037-0133-0011
Commenter: Lisa Quattrocki Knight
Organization: Green Oceans
Commenter Type: Organization

Comment Except Text: Please assess the impact on primary productivity. Given the importance of primary productivity on carbon fixation and oxygen production, the DEIS should include a complete and thorough analysis of the project's impact on primary productivity. Increased stratification and temperature changes described by the Hydrodynamic Modeling Study (Johnson, 2022) will alter both the amount and the timing of plankton blooms. This can have downstream effects on migratory species that arrive in exquisite timing with seasonal

blooms. Studies from both China and the North Sea demonstrate that offshore wind projects can reduce plankton counts (Daewel, 2022), decrease biodiversity (Wang, 2022), and alter the distribution of plankton blooms (Slavik, 2018). A mere 1% decrease in phytoplankton will cause an increase in CO₂ emissions that outweighs any possible benefit from renewable energy sources (Malerba, 2019). BOEM should insist that Beacon Wind consider the cumulative effect of the offshore buildout on plankton blooms, the interactions between primary production and other species, the impact of primary production on CO₂ emissions and O₂ production (Falkowski, 2012), and should incorporate the latest scientific findings from the North Sea and China.

Comment Number: BOEM-2023-0037-0133-0031

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Local Climate: Wind farms can increase local water and air temperatures, redistribute humidity, and alter atmospheric flow, thereby modifying local weather patterns and regional climate (Miller, 2018). Raising ambient water temperatures affects fish larvae (Moyano, 2017), ocean currents (Christiansen, 2022), and vegetation (Diffendorfer, 2022). The DEIS must consider the latest scientific findings and adequately address the effect on local climate.

Comment Number: BOEM-2023-0037-0133-0032

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Global Effects: The DEIS must consider the global (abroad) ramifications of the project in order to comply with the executive order. Climate change is a global, not a local problem. No DEIS should ignore the global environmental costs of a project. The DEIS should consider emissions from abroad, including the manufacturing, transportation, concrete production (Miller, 2020), and mining that will occur outside of the local region for the project. Given the executive order's specific inclusion of "abroad," the DEIS needs to consider the emissions from these operations and the environmental costs of these activities.

Comment Number: BOEM-2023-0037-0133-0033

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: The DEIS must analyze real-world data to demonstrate to what extent, if any, wind-generated energy replaces fossil-fuel use and reduces CO₂.

Comment Number: BOEM-2023-0037-0133-0035

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Sulfur Hexafluoride (SF₆): Significant amounts of SF₆ may be housed in the gas-insulated equipment (over 16.5 tons) and can SF₆ leak during operations. Given that every molecule of SF₆ contributes 23,500 x more than CO₂ to greenhouse warming, and

Scotland's disastrous leak of SF6 (Mavrokefaledis, 2022), BOEM should not tolerate the risk of contributing to GHG emissions in our effort to mitigate climate change, particularly in the harsh ocean environment that increases the risk of accidental leakage. BOEM should insist that the developer eliminate all components with SF6.

Comment Number: BOEM-2023-0037-0142-0002

Commenter: Mike Okoniewski

Organization: West Coast Pelagic Conservation Group

Commenter Type: Organization

Comment Except Text: I think in the case of phytoplankton, at least on the west coast, that absorbs one heck of a lot of carbon dioxide and if it were to diminish an amount or a species that it is now, then you could see a reduction in the ability to sequester carbon naturally, so I am hoping that will get some attention

Comment Number: BOEM-2023-0037-0152-0002

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Regardless of the project purpose, the costs versus benefits (including not only economic but environmental) are required to be assessed. The project benefit of mitigating climate change cannot possibly be factored into the balance of harm versus benefit without understanding how many anticipated tons of CO2 emissions equivalent per year is spared by the project, if any, relative to emissions released to produce an equivalent in electrical energy via the current weighted mix of energy sources (nuclear, solar, natural gas, coal, hydro) in a ten-year lookback. The number of tons of CO2 emissions equivalent spared per year by the project cannot possibly be reasonably estimated without enumeration of all the sources of emissions that the project undertaking, if approved, will occasion. The current [Footnote 4: Ten year lookback] weighted mix of energy sources should be used as a comparison to understand how many tons of anticipated CO2 emissions equivalent, if any, will be spared, on average, per year by the project. Comparison with fossil fuels only isn't appropriate as no service region expected to receive electricity from the project undertaking gets all its electricity from fossil fuel-burning plants alone.

Comment Number: BOEM-2023-0037-0152-0003

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: GHG emissions (expressed as CO2 emissions equivalent) for materials production needed for the infrastructure, and the mining of raw materials needs to be quantified. This cannot continue to be ignored since this type of power plant requires a much greater volume of materials to build than other types, especially relative to the quantity TWh's it will produce over its lifetime.

Comment Number: BOEM-2023-0037-0152-0005

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: For each of the raw materials needed to make construction materials, state the sum of the GHG from each of the known sources of emissions. For example, Cement is needed to make concrete. Iron ore is needed to make steel. Neodymium is needed to make the magnets inside the nacelle. Other rare earths are needed. Rare earths, because they are rare, involve much more earth moving to obtain them than do common metals. For example, 160 to 170 tons of earth need to be moved and ground to obtain just 1 ton of rare earth metal. This requires proportionally more fossil fuel burning that has to be accounted for.

Comment Number: BOEM-2023-0037-0152-0006

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: It is irrational to say the emissions during materials sourcing and production are ‘not attributable to the project’ or that they are ‘already accounted for’ as facilities emissions. The emissions caused by materials production for the project are not ‘already accounted for’ because the facilities will be making more materials to meet the demand of the project and others like it than they would otherwise produce. The emissions caused by raw materials mining and steel and concrete produced for and consumed by the project would not occur but for the project. Even if production facilities total emissions are required to be noted by the EPA, the emissions caused by production of steel for the mast and concrete for scour pads, and that is caused by the making of the large 2-ton magnet for the nacelle, and production of metals for the cables need be accounted for.

That is, even if the estimation of annual emissions of every steel production facility will, in the future, be required by the EPA to be calculated and reported, those emissions within the total that are attributable to the Beacon Wind project (and to the U.S. Atlantic offshore wind program cumulatively) should still be calculated so that the total emissions of the full lifecycle of the wind-turbine power plant proposed to operate on the lease area OCS-A-0520 can be estimated. Without this information, lifecycle emissions of the Beacon Wind project is incomplete and is misleading.

Comment Number: BOEM-2023-0037-0152-0007

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: BOEM should take into consideration that it is known that releases go unreported to governments, and also should take into consideration that the amount of fugitive SF6 empirically measured is over double of what governments report. We recommend a two-part method, the first part being a conversion of reported values to account for the known multipliers by which known atmospheric SF6 can be calculated from reported values, “Honesty-converted value”.

The total mass of SF6 needed for the project (and cumulative for the U.S. Atlantic offshore wind program), multiplied by the fraction expected to be fugitive, resulting in fugitive gas volume (for Beacon and the cumulative program). This fugitive volume should be converted to an honesty-

converted value which is reported in the EIS.

Comment Number: BOEM-2023-0037-0152-0008

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: For Sulphur Hexafluoride (SF6) collect and disclose the following information• Quantity SF6 that will be in use at the power planto Turbine total: Per turbine x No. of Turbineso Substation total: Per substation x No. of Substationso Fugitive/escape quantityo During installation, per turbine (cite sources, or state quantity unknown)o Upon maintenance, per turbine, per maintenance evento Upon repair, per turbine, per repair event x how many repair events are anticipated on the during the 35 year operation• Total effect on global heat trapping• Honesty conversion factor (see definition above), and its application to result in honesty-converted values• Reporting requirements BOEM would work with BSEE to imposeo Specific methods for detecting leakso Monitoring scheduleo Protocol for reporting leakso Penalties for non-compliance with monitoring or reporting protocolso Severe penalties for fugitive releases that are out of the bounds of developer-predicted quantitative valueso Audit schedule for mitigation (please use high specificity so that evaluation by the public can be made as to whether mitigation is likely to be substantially achieved by audits)

Comment Number: BOEM-2023-0037-0166-0002

Commenter: Sara Gronim

Organization: 350 Brooklyn, Sara Gronim

Commenter Type: Organization

Comment Except Text: While I support the Beacon Wind Project because of its direct local benefits I also speak to you today about the urgency of supporting the Beacon Wind project. In the last few weeks a number of climate records have been broken; among them are the following: The duration and intensity of heat waves in the American southwest has Phoenix Arizona suffering a record 19 days with temperature at or above 110 degrees. According to the National Oceanic and Atmospheric Administration the record for global average temperature was broken several times with July 3rd outstanding as the single hottest day on record. NOAA also records record-breaking sea surface temperatures and Antarctica is setting new records for the lack of sea ice. Clearly global heating is accelerating and with it the urgency of shifting off fossil fuels and onto renewable energy sources. Like everywhere else in the world we in New York City are experiencing the impacts of a heating world. Unprecedented wildfires in Canada have periodically made our air so dangerous to breathe that we've been warned not to go outside. Hot air holds more moisture. So our rainstorms have become dangerous. 10 days ago an ordinary Sunday thunderstorm flooded normally dry basements like mine because our storm drains simply couldn't drain the water away fast enough. And last summer 370 New Yorkers lost their lives because of excessive heat. And New York is not remarkable or even the most vulnerable.

Comment Number: BOEM-2023-0037-0169-0001

Commenter: Mike Okoniewski

Organization: West Coast Pelagic Conservation Group

Commenter Type: Organization

Comment Except Text: But the question I have -- one of them anyway -- is in the Vineyard Wind project as I read it under EIS Appendix A page 866 the statement in there "overall it is

anticipated there would be no collective impact on global warming as a result of offshore wind projects including the proposed action alone."And I'm wondering if that's a standard examination or evaluation I do in reading your EIS process to draw a conclusion or best estimate as to which -- how much contribution to climate change you know the slowing it down or some kind of estimate I guess as to what the effect would be from the project itself.

A.2.8 Water Quality

Comment Number: BOEM-2023-0037-0035-0014

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: What will happen in a hurricane and/or a Northeaster? Will some of these blades rip right off and become airborne, then pollute the ocean? Will they break apart, sending resin pieces into our oceans?

Comment Number: BOEM-2023-0037-0035-0017

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: We were told the stanchions will remain in place. They will eventually be leaking toxic chemicals, grease, cement chemicals, plastic and who knows what else into our oceans!

Comment Number: BOEM-2023-0037-0061-0037

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: In the context of both cable and turbine installation, any place where the bottom sediments will be disturbed must be evaluated for sediment contamination to understand the potential for environmental effects associated with contaminant release. Two obvious sources of contamination are dredged spoils from inshore, nearshore, or harbor maintenance and disposal of onshore materials (including waste). For many years, such disposal was not evaluated carefully and not regulated as it is today. As a result, sediments and other material with unacceptable levels of heavy metals and persistent organic pollutants (POPS) were disposed in ocean waters and may remain in locations where they could be disturbed. These sources of contamination need to be assessed and managed as part of the offshore wind development process.

Comment Number: BOEM-2023-0037-0115-0033

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The Draft EIS must fully analyze environmental impacts if an once-through cooling system will be used in the Beacon Wind project design. For DC Converter OSPs, a cooling water intake system (CWIS) will be necessary, and any impact to marine species in rebuilding plans and protected resources must be analyzed.

Comment Number: BOEM-2023-0037-0128-0007

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Physical Oceanography: o Consideration and evaluation of currents; bathymetry; microclimates (i.e., air circulation, changing sea surface temperatures, etc.); and metocean data (i.e., temperature, salinity, pH, dissolved oxygen, etc.).

Comment Number: BOEM-2023-0037-0128-0024

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Water Quality: o Provide water quality baseline levels (i.e., turbidity, nutrients, dissolved oxygen, And contaminants, especially where Class C contamination is known or has been detected in the sediment, etc.).

Comment Number: BOEM-2023-0037-0128-0027

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Evaluate air circulation changes from turbines and resulting sea surface temperature impacts.

Comment Number: BOEM-2023-0037-0128-0030

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Sediment Suspension and Deposition: o Consider actual monitoring data from installed cables and after installation, including measured deposition rates/distances and extent of generated turbidity plumes. o Assess impacts from cofferdam excavations. o Assess impacts from seafloor leveling techniques. o Evaluate alternatives to side-casting during construction and maintenance activities to minimize impacts to water quality and benthic species.

Comment Number: BOEM-2023-0037-0128-0036

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Water Quality Impacts• Consider New York State Water Quality Standards and Guidance Values, if contaminants above Class A are identified in the sediment. Conduct evaluation in accordance with the New York State Department of Environmental Conservation's Division of Water Technical & Operational Guidance Series (TOGS) 5.1.9.

Comment Number: BOEM-2023-0037-0128-0037

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Perform numerical modeling of the extent and concentration of total suspended solids (TSS) for construction activities along the proposed transmission cable route in NYS waters.

- Perform numerical modeling of the quantity of sediment deposition resulting from construction activities along the proposed transmission cable route in NYS waters
 - Model the expected contaminant (greater than Class A) concentrations in the water column and compliance with regulatory mixing zone(s) along the proposed transmission cable route in NYS waters.
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Comment Number: BOEM-2023-0037-0128-0038

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Evaluate changes to dissolved oxygen or nutrients in the overlying water column resulting from construction related activities.

Comment Number: BOEM-2023-0037-0128-0039

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Evaluate impacts of cooling water intake structures (CWIS) on circulation and temperature.

Comment Number: BOEM-2023-0037-0128-0072

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Dredged Material/Sediment Management, where applicable. An evaluation of sediment management related to both the inter array and export cable(s) for all identified alternatives, including but not limited to, method of installation such as side-casting versus dredging with direct removal, type of equipment such as manual or hydraulic, total volume of material to be removed or relocated, chemical and toxicity analysis of sediment to be removed or relocated, and proposed placement/disposal location and method. In addition to compliance with the NYSDEC's TOGS 5.1.9. for all dredging projects in NYS, the Marine Protection Research and Sanctuaries Act of 1972 (also known as the Ocean Dumping Act or ODA) applies within Long Island Sound and Fishers Island Sound for the dredging of 25,000 cubic yards or more. The 1980 Ambro Amendment to the ODA extends ODA standards into State waters and this is the only location in the country where this applies. The Clean Water Act of 1972 applies for projects proposing to dredge less than 25,000 cubic yards within the same boundaries. Open water disposal at the USEPA designated LIS disposal sites, or any in-water placement of dredged material for the purposes of disposal, is heavily discouraged by NYS for dredged material that is suitable for any type of beneficial use, such as beach

nourishment (if beach compatible), nearshore placement, or any other upland use or placement. While the EPA designated sites are located within Long Island Sound in the State of Connecticut, their use is subject to CZMA review by NYS under 15 CFR Part 930 Subpart I, and must be found to be consistent with the NYS CMP as refined by the Long Island Sound Coastal Management Program (LIS CMP).

Comment Number: BOEM-2023-0037-0131-0020

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The sediment transport analysis presented in Appendix I predicts high suspended solids loading to the water column as well as significant deposition (both in thickness and aerial extent) related to the initial “pre-sweeping” and cable lay operations. For example, the numbers in the simulated plume extent and deposition thickness provided in the COP are very high, e.g. up to 50,000 mg/L TSS and 4 inches of burial up to a mile from the centerline. These impacts should be fully discussed in the EIS along with measures that can be implemented to eliminate or reduce them during the construction period.

Comment Number: BOEM-2023-0037-0131-0021

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The DEIS should describe whether any component of the project will result in the potential release of plastics into the ocean (both macro and micro). Likely sources could be cable sheathing, the proposed use of “rock bags” around structures, and the potential use of shock tubing for any required rock blasting. If sources are identified the EIS should describe appropriate avoidance or mitigation measures to address these releases.

Comment Number: BOEM-2023-0037-0131-0027

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Bilge water often includes oil, fuel, hydraulic fluid and other pollutants that are not permitted to be discharged into the ocean in any amount. EPA regulates discharges from certain nonrecreational vessels operating within the territorial seas through the Vessel General Permit. The US Coast Guard also has standards for vessels carrying ballast water within the waters of the U.S. (extending 12 nm from shore). We recommend that the EIS include language that identifies both federal authorities regulating these discharges where applicable.

Comment Number: BOEM-2023-0037-0131-0031

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: In accordance with CWA Section 403(c) (Ocean Discharge Criteria) and implementing regulations at 40 CFR Part 125 Subpart M, the EIS should evaluate the impacts of the discharges on the marine environment consistent with determining whether the discharge will cause unreasonable degradation of the marine environment. 40 CFR § 125.122.

This evaluation should estimate the quantities and composition of pollutants to be discharged, their potential to bioaccumulate in the environment, and their potential to be transported to areas beyond the immediate point of discharge. In addition, the evaluation should assess the composition and vulnerability of the biological communities which may be exposed to such pollutants, as well as the presence of spawning sites, nursery/forage areas, migratory pathways, or other types of habitat necessary for survival and propagation of critical life stages of the organisms comprising the biological community. The evaluation should also determine the effects on any special aquatic sites (e.g., marine sanctuaries, refuges), the potential impacts to human health, and the effects on existing or potential recreational and commercial fishing. Finally, the assessment should also evaluate whether the facility can be operated consistently with the enforceable requirements of any applicable approved Coastal Zone Management Plan, and whether it will comply with applicable marine water quality criteria developed pursuant to CWA section 304(a)(1). As an example, EPA's 1986 Quality Criteria for Water ("Gold Book") includes recommended criteria for protecting marine aquatic life from thermal discharges.

Comment Number: BOEM-2023-0037-0131-0037
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: The EIS should disclose all chemicals that will be used and discharged during construction and operation of the wind turbines and offshore converter stations. At a minimum, disclosure should include the volume, frequency, concentration, and mass of each chemical discharged, including those that might spill or leak from equipment.

Comment Number: BOEM-2023-0037-0131-0038
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: The EIS should explain how stormwater exposed to industrial activities will be managed at the offshore converter platforms (i.e., how stormwater will be collected and disposed).

Comment Number: BOEM-2023-0037-0131-0039
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: Finally, the EIS should account for any changes or updates to the NPDES related information that was provided in the COP and the consequences those changes might have on the environmental impacts of the project. As an example, Beacon Wind submitted a NPDES permit application in December 2022. Consistent with the facility's COP, the company proposed that the cooling water intake flow for each substation would be greater than 10 MGD. CWA Section 316(b) Phase I regulates intake flows above 10 MGD, by requiring, among other things, facilities to reduce intake flow to a level commensurate with closed-cycle systems or to use technologies that will reduce the level of adverse environmental impact to a level comparable to closed-cycle systems. See 40 CFR 125.84(b)(1) and (d)(1). A revised NPDES application, submitted July 7, 2023, however, purports that the intake flow will be reduced to a capacity less than the 10 MGD threshold.

Comment Number: BOEM-2023-0037-0131-0050

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: We also note that the discharge of ballast water from foreign vessels could introduce non-native marine organisms into US coastal waters. The EIS should explain how vessel operations will prevent the discharge of pollutants from routine releases as well as potential releases of nonnative marine organisms through the discharge of ballast water originating from foreign ports--if such vessels will be used during the construction or maintenance of the project. The EIS should also describe how the project will be consistent with state requirements related to vessel discharges.

Comment Number: BOEM-2023-0037-0133-0012

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Analysis of Algal Blooms: Invasive species on the monopiles can decrease water oxygenation levels, as demonstrated in the North Sea (Daewel, 2022). Deoxygenation can cause fish die-offs and harmful algal blooms. The North Sea has experienced an increase in harmful and costly algal blooms in recent years. The timing coincides with offshore wind installations. Harmful algal blooms carry an approximate financial burden to the economy of over \$8 billion per year (Brown, 2019). A toxic algal bloom caused an unusual and “catastrophic” die-off of crabs and lobsters in the late fall/early winter of 2021 along England’s North Sea coast (Beament, 2022), soon after the construction of the largest offshore wind farm in the world, Hornsea 1 and 2.

Similarly, in the year after the Block Island wind farm construction, a harmful algal bloom contaminated shellfish in Narragansett Bay with the deadly neurotoxin, domoic acid. Changes in nutrient levels correlated with toxicity (Sterling, 2022). Although an association with the Block Island Wind Farm was not considered, the timing and geographic pattern of the bloom suggest invasive filter feeders on the “artificial reefs” of the wind farm may have diminished the nutrients and prompted this harmful bloom. As a result of harmful algal blooms, this project and others may violate the Seafood Safety Regulations (21 C.F.R. § 123). BOEM should require and analysis of the cost, both financial and from a public health concern, of the project’s propensity to induce harmful algal blooms.

Comment Number: BOEM-2023-0037-0133-0013

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Deoxygenation: Deoxygenation in the lower-level water layer occurs in wind farms (Daewel, 2022). Deoxygenation can cause large-scale fish die-offs. BOEM needs to require that Beacon Wind consider the impact of deoxygenation on fisheries. Without such an analysis, the project may not be consistent with the conservation of biodiversity and marine life implied in the Executive Order.

Comment Number: BOEM-2023-0037-0133-0014

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Provide core samples from all sediments. During construction and installation, jet plows, impact pile driving, and currents flowing across the underwater and benthic portion of the wind turbines will resuspend toxic heavy metals (Chen, 2022), re-introducing them into the food supply chain and threatening marine mammals (Huang, 2022). Since the time of the industrial revolution, toxic compounds and heavy metals have settled in the lease areas and where the cables will run to shore. Bioaccumulation and biomagnification can increase the potential harm these compounds can cause. As a result, Beacon Wind may violate the Clean Water Act (33 U.S.C §§ 1251 et seq.) and Seafood Safety Regulations (21 C.F.R. § 123). The BOEM must require the offshore wind developer to take core samples from the entire cable route and lease areas to test them for per- and polyfluoroalkyl substances (PFAS), known as “forever chemicals,” heavy metals, BPAs and other known toxic compounds. The DEIS should consider the implications and the significant health consequences of resuspending toxic compounds in this area. They must also incorporate the latest scientific findings cited above (Chen, 2022 and Huang, 2022).

Comment Number: BOEM-2023-0037-0133-0015

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Assess all possible water pollutants, including the leading blade erosion: The DEIS should also consider the cumulative impact of other interactions between aspects of the project that may degrade water quality. The anti-corrosive coating on the wind turbines may leach significant levels of toxic heavy metals (lead and cadmium) (Reese, 2020) into the water. Leading edge erosion emits microplastics containing Bisphenol A (BPA) and per- and polyfluoroalkyl substances (PFAS), known as “forever chemicals” into the water, which can then contaminate the marine food chain. Contaminating water in an area essential to fishing may violate the Clean Water Act (33 U.S.C §§ 1251 et seq.) and Seafood Safety Regulations (21 C.F.R. § 123). The DEIS should address this significant impact on the marine environment and on human health (https://docs.wind-watch.org/Leading-Edge-erosion-and-pollution-from-wind-turbine-blades_5_july_English.pdf).

Comment Number: BOEM-2023-0037-0151-0013

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The best available scientific information indicates that both the physical presence of foundations and the operation of WTGs, including resultant energy extraction, will have nearfield and farfield effects on oceanographic and atmospheric conditions (see list of references included in Attachment C). Results of in-situ research, and modeling and simulation studies, show that offshore wind farms can reduce wind speed and wind stress which can lead to less mixing, lower current speeds, and higher surface water temperature (Afsharian et al. 2020); increase localized vertical mixing due to the turbulence from the wakes produced from water flowing around turbine foundations (Miles, Martin, and Goddard 2017, Schultz et al.

2020); cause wind wakes that will result in detectable changes in vertical motion and/or structure in the water column (upwelling and downwelling) (Christiansen & Hasager 2005, Broström 2008, Floeter 2022); result in large scale changes in annual primary production over a broad region, with local changes up to +/- 10% (Daewel et al 2022); create upwelling and downwelling dipoles several kilometers from a wind farm (Floeter et al 2022); and result in detectable sediment wakes downstream from a wind farm due to increased turbidity (Vanhellemont and Ruddick, 2014).

Comment Number: BOEM-2023-0037-0152-0024

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Quantify the amount of heat that will be given off by the project, transferred into the ocean water, and other water bodies. o Effects on various taxa (conduct a literary review of expected effects for various taxa)

A.2.9 General Wildlife

Comment Number: BOEM-2023-0037-0128-0018

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Avian and Bats: o Identify seasonal distribution, aggregation, abundance and migration routes.

Comment Number: BOEM-2023-0037-0128-0042

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: o Identify Best Management Practices to reduce risks from extreme environmental conditions (i.e., rough seas, complex currents, and cold waters), vulnerable habitats (i.e., SAV including seagrass and other macroalgae) and at-risk species.

Comment Number: BOEM-2023-0037-0128-0043

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: o Evaluate shifting habitats from introduced structures. o Evaluate regime shifts due to changing food sources. o Evaluate changes in habitat from turbine and cable installation (including boulder relocation, boulder relocation trials, and seafloor leveling). o Evaluate impacts on plankton. o Evaluate impacts to artificial reef habitats.

Comment Number: BOEM-2023-0037-0128-0046

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Fish (Pelagic & Elasmobranchs) and Invertebrates: o Evaluate impacts from construction, pile driving, vessel traffic, and CWIS operation (e.g., entrainment and impingement). o Evaluate aggregation of fish around turbine bases.

Comment Number: BOEM-2023-0037-0128-0050

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Avians and Bats: o Evaluate behavior and physiological impacts from aviation lighting and anthropogenic noise from stationary (e.g., turbines) and other, transient sources. o Evaluate and consider the Block Island Wind Farm post-construction acoustic surveys, and vessel-based surveys on the Fugro Enterprise that were completed in 2017, or more recently available data, when assessing impacts to avians and bats. Evaluate impact on migration routes. • Evaluate impact on heron and wading bird nesting and foraging habitat, and those habitats for <https://www.nycaudubon.org/our-work/conservation/birds-of-ny-harbor/harbor-herons> Rare, Threatened and Endangered (RTE) Species: o Assess impacts to RTE species along all alternative routes, including landfall sites. o Identify avoidance of work during time periods to avoid impacts to RTE species.

Comment Number: BOEM-2023-0037-0133-0005

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Conservation Status Must Be Considered: The DEIS must examine the direct, indirect, and cumulative impacts of Beacon Wind on individual species in light of the species' particular conservation statuses. Without this species-by-species analysis, the DEIS cannot meaningfully consider the effects of Beacon Wind on the marine environment. BOEM must insist that the developer actually examine the impacts of the wind farm on a species-by-species basis using the most up-to-date models and telemetry data. BOEM must also be transparent about uncertainties and gaps in the data and adopt a precautionary approach where endangered and protected species are at risk.

Comment Number: BOEM-2023-0037-0133-0008

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Biodiversity Loss: Executive Order 14008 mandates that the federal government support renewable energy projects that "conserve our land, waters, and biodiversity." Mortality risk to endangered species, potential introduction of invasive organisms, and known, anticipated degradation of coastal marine habitat from the Project will all threaten biodiversity, violating Executive Order 14008's mandate. Any legally acceptable environmental impact statement must provide an overall assessment of biodiversity.

Comment Number: BOEM-2023-0037-0133-0009

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Given the health consequences of biodiversity loss, expansive wind farm installations could violate the internationally recognized Human Right to Health (UN, 2000). The federal government has an obligation under international human rights law to protect biodiversity as an important factor in human health (Hamley, 2022). Wind energy has documented risks to biodiversity (Voigt, 2019). BOEM must insist that the developers of offshore wind incorporate the latest scientific findings from the North Sea on biodiversity loss and address the relationship between biodiversity loss and human health. BOEM must consider biodiversity loss in evaluating the costs and benefits of the Beacon Wind project.

Comment Number: BOEM-2023-0037-0133-0010

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Assumption of Habitat Replacement: BOEM cannot minimize the impacts of the project on marine life, birds, and bats by assuming that other habitats are available elsewhere. Many species affected by Beacon Wind and other offshore wind projects exhibit high site fidelity and as a result, may be less likely to simply move elsewhere. The environmental impact analysis for Beacon Wind must identify specific alternative habitats while accounting for the cumulative impact of the other projects in the lease area and how interactions between stressors might preclude the species from utilizing the “replacement” habitat. BOEM must fully examine the impacts on wildlife that will occur from the loss of habitat, particularly on those species that exhibit high site fidelity, exhibit the location and availability of alternate habitats, and offer concrete evidence to support its assumptions that the existence of other suitable habitats relieves pressure on the species.

Comment Number: BOEM-2023-0037-0142-0001

Commenter: Mike Okoniewski

Organization: West Coast Pelagic Conservation Group

Commenter Type: Organization

Comment Except Text: But the one question, it's not really a question, it's just a concern that we have and I mentioned numerous times out here is the facts that there is a lot of talk, and I heard it again today, about marine mammals, impacts to marine mammals and avian species but the one thing nobody talks about too much that we have heard, the support system, ecological service systems that support this life itself, and it starts at the very lowest of trophic levels, for food and phytoplankton and other small organisms but we don't know or nobody at least has been able to explain to me the offshore wind may not disturb this process and also the spawning process as well as the food process that is necessary for these other upper trophic levels to survive. So I would like at least in one place or hear from somebody what is going to be done if anything to study that enough that we are sure there is not going to be any major harm to the entire ecosystem and the support system it is.

Comment Number: BOEM-2023-0037-0151-0001

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The project area is located within, and adjacent to, sensitive offshore and estuarine environments that support protected and federally managed species and productive fishing grounds. The lease area overlaps with a persistent tidal mixing frontal zone adjacent to Nantucket Shoals, which creates aggregations of small planktonic prey items where predators, including commercially and recreationally important fish species, marine mammals, and sea turtles are known to aggregate. The area is also an important foraging area for the endangered North Atlantic right whale.

Comment Number: BOEM-2023-0037-0151-0012

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Beacon Wind’s COP (Figure 3.1-1) identifies planned turbine locations throughout the entirety of the lease area. As such, the proposed Beacon Wind project would be located just off the southwestern edge of Nantucket Shoals, a bathymetric feature that supports tidal mixing fronts. These fronts are areas of sharp discontinuities in water mass characteristics driven by converging tidal forces and are important feeding locations for many species because physical forces concentrate small plankton prey items. Nantucket Shoals is a demonstrated foraging hotspot for marine mammals, sea turtles, and birds. [Footnote 1: <https://www.masscec.com/marine-mammal-and-sea-turtle-surveys>] [Footnote 2: Kraus, S.D., S. Leiter, K. Stone, B. Wikgren, C. Mayo, P. Hughes, R. D. Kenney, C. W. Clark, A. N. Rice, B. Estabrook and J. Tielens. 2016. Northeast Large Pelagic Survey Collaborative Aerial and Acoustic Surveys for Large Whales and Sea Turtles. US Department of the Interior, Bureau of Ocean Energy Management, Sterling, Virginia. OCS Study BOEM 2016-054. 117 pp. + appendices.] [Footnote 3: White, T. P., Veit, R. R., & Perry, M. C. (2009). Feeding ecology of long-tailed ducks *Clangula hyemalis* wintering on the Nantucket Shoals. *Waterbirds*, 32(2), 293-299.] In particular, the Shoals and adjacent waters, which overlap the Beacon lease area, are areas with persistent North Atlantic right whale aggregations with observations of feeding and surface active groups during most months of the year. [Footnote 4: Quintana-Rizzo, E., Leiter, S., Cole, T. V. N., Hagbloom, M. N., Knowlton, A. R., Nagelkirk, P., ... & Kraus, S. D. (2021). Residency, demographics, and movement patterns of North Atlantic right whales *Eubalaena glacialis* in an offshore wind energy development in southern New England, USA. *Endangered Species Research*, 45, 251-268.] The area is frequented by adults, juveniles, and calves, with animals sighted in all months of the year but in the highest densities during the winter and spring.

Comment Number: BOEM-2023-0037-0151-0031

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The description of the “Affected Environment” should recognize the ocean environment as dynamic, not static, and acknowledge that the environment, and species within the environment, vary over time and seasons. This section should include information on

the physical (temperature, salinity, depth, and dissolved oxygen) and biological (e.g. plankton) oceanography. It is important that the EIS discuss seasonal changes and long-term trends in the environment as well as hydrodynamic regimes and how they influence the distribution and abundance of marine resources. Within this section, the EIS should include results of on-site surveys, site-specific habitat information, and characterization of benthic and pelagic communities. Additional details should be provided related to all habitat types located within the project area with a particular focus on complex habitats, including SAV, hard bottom habitats, and Habitat Areas of Particular Concern (HAPC).

Comment Number: BOEM-2023-0037-0151-0035

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The section describing the “Affected Environment” for protected species should include information on the seasonal abundance and distribution of marine mammals, sea turtles, ESA- listed marine fish, anticipated habitat uses (e.g., foraging, migrating), threats, and the habitats and prey these species depend on throughout the area that may be directly or indirectly impacted by the project. We recommend that BOEM utilize the ESA Info Needs document to support the development of the protected species sections of the EIS, and to share this resource with their contractors. [Footnote 11: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/technical-guidance-offshore-wind-energy-projects-greater-atlantic-region>] The status of marine mammal stocks (see our stock status reports), population trends, and threats should also be identified. [Footnote 12: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>] Similar information should also be provided for all ESA-listed species (see relevant status reviews on our ESA Species Directory). [Footnote 13: Please note that NOAA Fisheries biological opinions should not be used as a reference unless referring to specific conclusions for which the particular project that the biological opinion was issued. We do not recommend relying on NOAA Fisheries Biological Opinions to support conclusions reached by BOEM for other projects that were not the subject of that Opinion.] [Footnote 14: <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>] As the EIS is developed, specificity between species groups (e.g., low frequency vs. mid frequency cetaceans) of marine mammals and sea turtles should be incorporated.

Comment Number: BOEM-2023-0037-0151-0036

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: A broad grouping approach (e.g., all marine mammals) creates uncertainty and gaps in the analysis and does not fully represent the variability of impacts amongst different taxa. As species within these taxa have different life histories, biology, hearing capabilities, behavioral and habitat use patterns, distribution, etc., project effects may not have the same degree of impact across all species. Thus, the impact conclusions (e.g., minor, moderate, major) are clearer and better supported if the document describes the degree of impacts to each species (e.g., green sea turtle vs. hawksbill) or groups of species (e.g., mysticetes, odontocetes, pinnipeds). Additionally, for some marine mammal species (e.g., harbor porpoise), data from European wind farms can be used to support each determination. This approach also allows the analysis to better identify the ability of those species or groups to compensate when exposed to stressors and better identify the benefit from mitigation and

monitoring measures. This approach would ensure the analysis reduces uncertainty and reflects the best available scientific information. Also, wherever possible, we encourage you to identify effects to individuals (e.g., injury, behavioral disturbance, disrupted foraging), as well as impacts at the population level.

Comment Number: BOEM-2023-0037-0151-0053

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The following listed species may be found in the Beacon Wind lease area: Endangered North Atlantic right (Eubalaena glacialis), fin (Balaenoptera physalus), sei (Balaenoptera borealis), and sperm (Physeter macrocephalus) whales; endangered Kemp's ridley (Lepidochelys kempii) and leatherback (Dermochelys coriacea) sea turtles; threatened North Atlantic distinct population segment (DPS) of green (Chelonia mydas) sea turtles and Northwest Atlantic DPS of loggerhead (Caretta caretta) sea turtles; and five DPSs of Atlantic sturgeon (Acipenser oxyrinchus oxyrinchus). Sea turtles are present in the lease area seasonally, with occurrence largely limited to May - November. Additionally, blue whales (Balaenoptera musculus), oceanic whitetip shark (Carcharhinus longimanus) and giant manta ray (Manta birostris) may occasionally occur in the more offshore portions of the project area. More information on these species is available on our regional ESA information site and in the ESA Info Needs document North Atlantic right whale sightings are available at our NOAA Right Whale Sightings Map page. [Footnote 23: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-critical-habitat-information-maps-greater>] [Footnote 24: <https://www.fisheries.noaa.gov/resource/map/north-atlantic-right-whale-sightings>] The latest population estimate is 338 individuals, with fewer than 70 breeding females (Hayes et al. 2023).

Comment Number: BOEM-2023-0037-0151-0054

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: There is no designated critical habitat that overlaps with the lease area. We do not have sufficient information on the project to determine if any vessel transit routes would overlap with any designated critical habitat. Depending on vessel traffic routes, additional ESA species may overlap with project activities. Please see Attachment C for a list of recommended scientific references for consideration related to the presence of ESA-listed species in or near the lease area.

Comment Number: BOEM-2023-0037-0151-0055

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We expect that any environmental documentation regarding a proposed wind facility in the lease area will fully examine all potential impacts to our listed species, the ecosystems on which they depend, and any designated critical habitat within the action area. As noted above, a robust analysis of all relevant impacts to listed species under NMFS jurisdiction should be included in the EIS. We have developed a checklist (ESA Information Needs document) to assist in the consideration of effects of wind projects on ESA-listed species and designated critical habitat and we strongly encourage BOEM and their

contractor to consult that document as the EIS is developed. [Footnote 25: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/technical-guidance-offshore-wind-energy-projects-greater-atlantic-region>] We also suggest you carefully consider the information we have provided for the past offshore wind NEPA documents, as well as the issued Biological Opinions and MMPA authorizations and to incorporate that information and analysis into this EIS as appropriate. [Footnote 26: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-biological-opinions-greater-atlantic-region>] [Footnote 27: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-other-energy-activities-renewable>]

Comment Number: BOEM-2023-0037-0151-0056

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The construction and operation of a wind energy facility and installation of subsea electrical cables have the potential to impact listed species and the ecosystems on which they depend. Potential effects of offshore wind energy development on listed species that should be considered by BOEM when making any determinations about construction and operation in the Beacon Wind project area include:

- Potential for an increased risk of vessel strike due to increases in vessel traffic and/or shifts in vessel traffic patterns due to the placement of structures;
 - Impacts of underwater noise during any geophysical and geotechnical surveys, pile driving, detonations of unexploded ordnance/munitions of concern, wind turbine operations, vessel traffic, and other activities;
 - Potential interactions, including entanglement, injury, and mortality, of listed species from proposed surveys or monitoring of fisheries resources;
 - Any activities which may displace species from preferred habitats, alter movements or feeding behaviors, increase stress, and/or result in temporary or permanent injury or mortality;
 - Disruption and conversion of habitat types that may affect the use of the area (including presence of structures and converter station water intake), alter prey assemblages, or result in the displacement of individuals during all phases of the proposed project;
 - Impacts to water quality through sediment disturbance or pollutant discharge;
 - Project lighting as a potential attractant;
 - Effects from electromagnetic fields and heat from inter-array and export cable to listed species and their prey (i.e., ability to forage, attraction, etc.); and
 - Potential changes to pelagic habitat resulting from the presence of project structures.
-

Comment Number: BOEM-2023-0037-0151-0057

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EIS should also consider how any proposed wind farm may displace or alter commercial and recreational fishing and existing vessel activity that may change the risk to listed species from interactions with fisheries or vessels either within or outside the lease area, including potential risks of interactions with recreational fishing activity around foundations and entanglement in marine debris that may become ensnared on the foundations. Additionally, the EIS should consider effects of any surveys that may occur following potential COP approval that may affect listed species (e.g., gillnet, trap/pot, trawl surveys to characterize fisheries resources), as well as any pre- or post-construction monitoring

that may affect listed species. For further information on effects to consider, please refer to the ESA Information Needs document.

Comment Number: BOEM-2023-0037-0152-0041

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Consideration of the no action alternative should include: Are alterations to marine ecosystems of offshore wind development –expected to adversely affect ocean life on the Outer Continental Shelf at a far more rapid pace than does climate change?

Is there sufficient genetic variation in the population(s) to allow for adaptation through evolutionary processes to the very rapid changes in their environment occasioned by the expected explosion, in a decade or two, of wind energy projects on the outer continental shelf (effects of sea strata and front mixing, weather changes, noise, temperature change from heat, redistribution of aquatic life, impairment of essential migration processes, migration cost changes, habitat loss and degradation, community effects) which will effect changes within 8-10 years? Is there sufficient variation in the population(s) to allow for adaptation through evolutionary processes in response to the gradual changes occasioned by climate change?

A.2.10 Birds

Comment Number: BOEM-2023-0037-0035-0008

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: They will also kill some of our sea birds, that only live out in the ocean and do not come to land unless they are injured or sick. It is already a known fact that the land wind turbines are killing our birds and bats, already endangered. (see Newsday Article “Wind Turbine Dangers Rise 5/22/2023 Page A27)

Comment Number: BOEM-2023-0037-0118-0009

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should contain a focused avian monitoring and mitigation plan based on the Avian Impact Assessment in Appendix P of the COP. Data on specific migratory pathways and flight altitudes are sparse for most bird species, so large uncertainties remain in any impact assessment. The EIS should describe future monitoring and opportunities to collaborate with other offshore wind developers that will help fill this data gap. Beacon Wind should consult the Atlantic Marine Bird Cooperative’s “Recommendations on BOEM Avian Survey Guidelines” as it prepares its long-term avian monitoring plan.

Comment Number: BOEM-2023-0037-0118-0010

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: In addition to monitoring, the EIS should describe specific mitigation strategies for avoiding or minimizing impacts to avifauna including, but not limited to bird-deterrent devices, a Piping Plover protection plan for landside construction activities including

monitoring and training of construction personnel, Aircraft Detection Lighting Systems on the wind turbine generators, bird mortality monitoring, and coordination with the U.S. Fish and Wildlife Service to support migration monitoring via Motus wildlife tracking tags and installation of telemetry receiving stations. Beacon Wind should coordinate with state and federal agencies on mitigation opportunities for avifauna impacts, including identifying opportunities to support conservation and habitat restoration or enhancement for protected avian species.

Comment Number: BOEM-2023-0037-0127-0038

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Both the offshore and onshore study areas for the Beacon Wind Project furnish several key habitats where migrating birds stop to feed, rest, and spend the winter. Avian species affected include onshore- migrant passerine, shorebird, sea duck, offshore marine, and colonial waterbird species, all of which may be designated for protected status under various state, federal, and international protocols. The Draft EIS for Beacon Wind must address potential population level, cumulative impacts [Footnote 146: Cumulative impacts for marine birds can be contextualized by comparing proportions of use and relative density within the US Wind lease area (OCS-A-0490) to the entire BOEM Atlantic study area; https://cdn.coastalscience.noaa.gov/publication-attachments/other-reports/BOEM_OCS_Study_2018-010_Appendix_D.pdf.] to these avian species from Project development, including the synergistic effects of the several adjacent offshore wind leases within this region expected to be brought into active status in the reasonably foreseeable future. [Footnote 147: Beacon Wind is part of a very large complex of adjacent and contiguous offshore wind farms south of Martha's Vineyard and Nantucket Islands, including Revolution Wind, South Fork Wind, Sunrise Wind, Bay State Wind, Vineyard Wind 1, Commonwealth Wind, Park City Wind, Vineyard Northeast, Commonwealth (Mayflower) Wind, and the Equinor Lease Area.] In preparing the Draft EIS, BOEM must also consider impacts to a broad range of avian species which may be impacted by the Project, not merely those designated as ESA-listed. Federally endangered species which also have global conservation designations from the International Union for Conservation of Nature (IUCN) include the piping plover (near threatened) and red knot (near threatened). Several marine bird species in Massachusetts are also listed as endangered, threatened, or state-species of concern, including the common loon (state concern), Leach's storm-petrel (endangered), roseate tern (endangered), common tern (state concern), Arctic tern (state concern), and least tern (state concern). [Footnote 148: <https://www.mass.gov/info-details/list-of-endangered-threatened-and-special-concern-species#birds>.] In Rhode Island, the coast-inhabiting least tern (state threatened) is state-listed.

Comment Number: BOEM-2023-0037-0127-0039

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Beacon Wind lies within Marine Bird Conservation Region (MBCR) M18 adjacent to terrestrial Bird Conservation Region (BCR) 20. [Footnote 149: U.S. Fish & Wildlife Service. 2021. Birds of Conservation Concern 2021: Migratory Bird Program. <https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf>.] The U.S Fish and Wildlife Service (USFWS) Birds of Conservation Concern in MBCR-M18 include: band-rumped storm-petrel, black-capped petrel, Fea's petrel, Cory's shearwater, and Manx shearwater. USFWS Birds of Conservation Concern designated in BCR 20 include a variety of

coastal, estuarine species, including king rail, American oystercatcher, whimbrel, Hudsonian godwit, ruddy turnstone, dunlin, purple sandpiper, pectoral sandpiper, semipalmated sandpiper, short-billed dowitcher, lesser yellowlegs, willet, least tern, gull-billed tern, black skimmer. Moreover, a number of terrestrial land and migrant birds are also designated Birds of Conservation Concern in BCR 20, [Footnote 150: *Ibid.*, Table 10, pp. 34–35.] several of which occur at or near the locations slated for the project's onshore landfall, export cable, and interconnection sites. [Footnote 151: Table P.3-1, Onshore Bird Species and Status in AECOM. 2023. Beacon Wind Project: Beacon Wind 1 and Beacon Wind 2. Construction and Operations Plan (COP), Appendix P, Avian Impact Assessment, pp. P-95–P-101.] For terrestrial birds, then, Beacon Wind's Draft EIS must also address any protection needs of relevant species found in New York and especially Connecticut [Footnote 152: Unlike the dense industrial and residential zones characteristic of the Queens, New York landfall area, the footprint of the proposed landfall area in Connecticut contains such native habitat as forested upland, forested wetland, late succession scrub-shrub/sapling habitat, and critical beach shore habitat. See Beacon Wind, COP, Appendix P, P-5.] (the landfall areas). The export cable also passes within 1 mile of the largest federally endangered roseate tern colony in the northwest Atlantic. This poses a singular challenge as roseate terns are dependent on *Ammodytes* as a forage fish for adults and young and this fish spends a notable part of its life cycle in the sandy substrate that will be disturbed by cable laying. This presents a unique risk to roseate terns and that risk must be evaluated.

Comment Number: BOEM-2023-0037-0127-0040

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: For the Beacon Wind Project Area, 38 species of coastal, offshore, and pelagic marine birds were detected during the APEM high-resolution digital aerial surveys. [Footnote 153: Table 5.3-1 in Beacon Wind COP, Appendix P, Avian Impact Assessment, pp. 5-74–5-76.] Based on model projections as well as direct observation, 47 marine bird species were identified as occurring in the OCS-A-0520 lease area. [Footnote 154: *Ibid.*, i.e., MDAT-treated species. See also: Winship AJ, Kinlan BP, White TP, Leirness JB, Christensen J. 2018. Modeling At-Sea Density of Marine Birds to Support Atlantic Marine Renewable Energy Planning: Final Report. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Sterling, VA. OCS Study BOEM 2018-010. x+67 pp.] Consequently, the marine species potentially impacted by the Project encompass a wide variety of life histories, geographic origins, behaviors, foraging styles, and ecological niches. Among the diversity of species affected are kleptoparasitic jaegers and skuas; aerial plunge-diving terns and northern gannet; pursuit diving cormorants, loons, alcids, and sea ducks; and surface-seizing shearwaters, petrels, and northern fulmar. [Footnote 155: Table P.3-1 in Beacon Wind COP, Appendix P, Avian Impact Assessment, pp. P-95–P-101.]

Comment Number: BOEM-2023-0037-0127-0041

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: As mentioned above, BOEM must ensure that the Draft EIS retains consideration of the full range of potential impacts to all bird species known to forage or rest in or near the Project, or migrate through the area, including those species protected under the MBTA and the ESA, as well as species of birds covered under obligations for conservation of

birds under the Fish and Wildlife Conservation Act as amended in 1988, [Footnote 156: 16 U.S.C. 2901-2911 (1988).] Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory

Birds, [Footnote 157: Exec. Order No. 13,186, Responsibilities of Federal Agencies to Protect Migratory Birds (Jan. 10, 2001).] the North American Waterbird Conservation Plan, [Footnote 158: James A. Kushlan et al., WATERBIRD CONSERVATION FOR THE AMERICAS: NORTH AMERICAN WATERBIRD CONSERVATION PLAN, VERSION 1(2002), <https://www.fws.gov/migratorybirds/pdf/management/northamericawaterbirdconservationplan.pdf>.] the U.S. Shorebird Conservation Plan, [Footnote 159: Stephen Brown et al., UNITED STATES SHOREBIRD CONSERVATION PLAN, MANOMET CTR. CONSERVATION SCI. (2001), <https://www.shorebirdplan.org/wp-content/uploads/2013/01/USShorebirdPlan2Ed.pdf>.] the Memorandum of Understanding between the U.S. Minerals Management Service and the USFWS regarding implementation of Executive Order 13186, [Footnote 160: Memorandum of Understanding Between the Department of the Interior U.S. Minerals Management Service and the Department of the Interior U.S. Fish and Wildlife Service Regarding Implementation of Executive Order 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds” (June 4, 2009), https://www.boem.gov/sites/default/files/renewable-energy-program/MMS-FWS_MBTA_MOU_6-4-09.pdf [hereinafter “DOI MOU”].] the United Nations Convention on the Conservation of Migratory Species of Wild Animals, [Footnote 161: Convention on the Conservation of Migratory Species of Wild Animals, Convention Text (June 23, 1979), <https://www.cms.int/en/convention-text>.] and BOEM, Department of Interior, USFWS, and NOAA’s membership in the IUCN. [Footnote 162: IUCN, IUCN Members (last visited July 25, 2021), Members directory | IUCN.]

Comment Number: BOEM-2023-0037-0127-0042

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Avian collisions with turbines in the marine environment are difficult to detect and several factors will influence bird presence, and therefore risk, within any lease location. For marine foragers, the distribution of food resources will be a likely factor in the presence/absence of some species near wind turbines. For migrants such as passerines and shorebirds, migration routes and weather effects can influence the interaction potential. [Footnote 163: La Sorte FA, Fink D, Hochachka WM, Farnsworth A, Rodewald AD, Rosenberg KV, Sullivan BL, Winkler DW, Wood C, Kelling S. 2014. The role of atmospheric conditions in the seasonal dynamics of North American migration flyways. *Journal of Biogeography* 41:1685–1696.] Currently, bird density and abundance data are the primary bases for estimating the collision potential for each species or guild evaluated. [Footnote 164: Green RE, Langsten HW, McCluskie A, McCuskie A, Sutherland R, Wilson JD. 2016. Lack of sound science in assessing wind farm impacts on seabirds. *Journal of Applied Ecology* 53:1635–1641.] Concern with this methodology is that collision risk models are sensitive to input parameters, e.g., number of birds identified to species, estimated abundance or density of species, or the flight heights, all variables which are rarely measured directly with high precision and accuracy. In addition, bird species at risk of wind energy collisions are not usually linked to source populations, and thus detecting the population level effects of collisions is difficult. Moreover, although some inferences about collision risks might be extended validly from European studies [Footnote 165: Fox AD, Petersen, K. 2019. Offshore wind farms and their effects on birds. *Dansk Ornitologisk Forenings Tidsskrift* 113:86– 101.] for similar or identical North American birds, the Beacon Wind project location overlaps with ranges of certain procellariiform birds (e.g., shearwaters) for which we have no impact data from anywhere. Finally, bird counts and flight height data are

usually insufficient in quantity and quality for precise estimation of seasonal variation, age structure, and differences in the age-related activities of species subject to turbine collision. [Footnote 166: Green et al. 2016.] Therefore, there is a need for long-term monitoring to understand not only the risk of collision but also any permanent population-level effects of potential impacts to avian populations.

Comment Number: BOEM-2023-0037-0127-0043

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Due to the uncertainty regarding impacts to avian species from offshore wind energy development, implementing an adaptive management plan based on ongoing monitoring studies will be critical. Adaptive management must explicitly outline a strategy to employ adequate mitigation measures, based on the impacts observed through monitoring efforts. In this manner, the Draft EIS can account for the reasonably foreseeable impacts of developing this and future projects and a commitment to addressing those impacts.

Comment Number: BOEM-2023-0037-0127-0044

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Components of migration can be labile: species may alter their migration route/strategy on an annual basis depending upon weather, season, and resources. [Footnote 167: Jenni L, Schaub M. 2003. Behavioural and Physiological Reactions to Environmental Variation in Bird Migration: a Review. In: Berthold, P., Gwinner, E., Sonnenschein, E. (eds) Avian Migration. Springer, Berlin, Heidelberg. https://link.springer.com/chapter/10.1007/978-3-662-05957-9_10.] Monthly aerial-based monitoring of avian species within the lease area is not comprehensive enough to determine species-specific or guild-specific impacts unless there is a long-term commitment to such data collection. Even then, the monitoring can be conducted at too coarse a scale to monitor even species presence/absence at fine-scale or within a finite area. More intensive monitoring is encouraged to reduce uncertainty of species documented within this lease area. BOEM should require incorporation of best monitoring and management practices into a regional adaptive management plan in order to measure and mitigate cumulative impacts to birds from offshore wind developments expected across the Atlantic OCS for the reasonably foreseeable future. Contextual evaluation of cumulative impacts is especially important in the Draft EIS for Beacon Wind because this individual project is one of many adjacent and contiguous offshore wind farms for which the cumulative footprint for birds will be substantial. [Footnote 168: Beacon Wind is part of a very large complex of adjacent and contiguous offshore wind farms south of Martha's Vineyard and Nantucket Islands, including Revolution Wind, South Fork Wind, Sunrise Wind, Bay State Wind, Vineyard Wind 1, Commonwealth Wind, Park City Wind, Vineyard Northeast, Commonwealth (Mayflower) Wind, and the Equinor Lease Area.] As a model for effective implementation, the Final EIS for Ocean Wind requires an approach for mitigation and monitoring that: (1) incorporates changing methodology over time (adaptive management), (2) uses extensive and iterative consultations among the state and federal resource agencies, (3) uses regional assessment for collision risk (not just project-specific variables), (4) updates and refines parameters regularly for improved estimation of collision rates, and (5) commits explicitly to address the "...potential additive and synergistic effects of offshore wind infrastructure buildout." [Footnote 169: Table H-3 in Ocean Wind 1 Offshore Wind

Farm. 2023. Final Environmental Impact Statement, Appendix H, Mitigation and Monitoring, pp. H-45–H-50.]

Presence and passage rates of avian nocturnal migrants can be especially problematic to monitor. Therefore, we recommend integrated, multi-sensor systems for automated monitoring that rely on a combination of vertical and horizontal radars, acoustic detection, and thermal videography and/or still photography. [Footnote 170: Examples include the ATOM™ system as piloted off the United States: Willmott JR, Forcey G, Vukovich M. 2023. New insights into the influence of turbines on the behaviour of migrant birds: implications for predicting impacts of offshore wind developments on wildlife. *Journal of Physics: Conference Series* 2507: 012006, and the MUSE system developed in Europe: Offshore Renewables Joint Industry Program (ORJIP) for Offshore Wind. 2022. Review of seabird monitoring technologies for offshore wind farms. Carbon Trust, UK. <https://www.carbontrust.com/our-work-and-impact/guides-reports-and-tools/review-of-seabird-monitoring-technologies-for-offshore-wind-farms>. The latter citation reviews and compares features, advantages, and shortfalls of a wide variety of remote monitoring systems.] Reliance on pre-construction acoustic surveys alone to determine whether post-construction monitoring is necessary for nocturnal migrants will not be sufficient for monitoring purposes. Remote monitoring systems programmed with AI-based species identification, [Footnote 171: Niemi J, Tanttu JT. 2020. Deep learning-based automatic bird identification system for offshore wind farms. *Wind Energy* 23:1394–1407.] however, can provide a powerful option for operational monitoring of birds (and bats) in offshore waters. We strongly urge adding NEXRAD weather radar to detect nocturnal migrants within the lease area. Weather surveillance radars WSR-88D (NEXRAD) are now routinely incorporated into biological studies of avian migration patterns and movements. [Footnote 172: Bridge ES, Thorup K, Bowlin MS, Chilson PB, Diehl RH, Fléron RW, Hartl P, Kays R, Kelly JF, Robinson WD, Wikelski M. 2011. Technology on the move: recent and forthcoming innovations for tracking migratory birds. *BioScience* 61:689–698.] Cornell University's BirdCast maps depict real time intensities of actual nocturnal bird migration as detected by the US weather surveillance radar network between local sunset to sunrise.

Beacon Wind should also develop an avian monitoring plan that includes a commitment to integrate collision detection technology, as it becomes commercially available and feasible to install offshore. We also encourage Beacon Wind to install a Motus sensor array that would detect both birds and bats in the project area and support nano-tagging of bird and bats to better understand directional movements and flux around the Lease Area. The proposed Project Area is far larger than detection ranges typically sensible from avian monitoring equipment. Hence, the placement, design, and quantity of monitoring buoys is of critical importance.

Comment Number: BOEM-2023-0037-0127-0045

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Excerpt Text: The Draft EIS for Beacon Wind needs to transparently address several emerging issues where minimal risk to birds has been assumed primarily based on limited knowledge or on high uncertainty. Most offshore wind projects in the U.S. have not considered how subsurface acoustic disturbances may cause harm to diving marine birds, i.e., impacts such as behavioral changes, displacement, [Footnote 173: Pichegru L, Nyengera R, McInnes AM, Pistorius P. 2017. Avoidance of seismic survey activities by penguins. *Scientific Reports* 7:16305.] and lethal or sublethal injury from sound pressure waves during construction and related operations. Some attention also needs to be directed at how low frequency sound (infrasound) [Footnote 174: Patrick SC, Assink JD, Basille M, Clusella-Trullas S, Clay TA, den Ouden OF, Joo R, Zeyl JN, Benhamou S, Christensen-Dalsgaard J, Evers LG. 2021. Infrasound

as a cue for seabird navigation. *Frontiers in Ecology and Evolution* 9:812.] might interfere with avian navigation [Footnote 175: Engels S, Schneider NL, Lefeldt N, Hein CM, Zapka M, Michalik A, Elbers D, Kittel A, Hore PJ, Mouritsen H. 2014. Anthropogenic electromagnetic noise disrupts magnetic compass orientation in a migratory bird. *Nature* 509:353–356.] even during the routine (but longer term) phase of turbine operations. [Footnote 176: Stöber U, Thomsen F. 2021. How could operational underwater sound from future offshore wind turbines impact marine life? *Journal of the Acoustical Society of America* 149:1,791-1,795.]

Comment Number: BOEM-2023-0037-0127-0046

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Similarly, the indirect effects to marine birds from redistribution of forage fish populations after wind farm construction should be considered. Installation of turbines likely will affect forage fish by removing existing hard and soft bottom substrates, replacing them with vertical structures that act as artificial reefs. Given high uncertainty in the synergistic effects of these ecosystem-scale alterations on fish, [Footnote 177: Methratta ET, Dardick WR. 2019. Meta-analysis of finfish abundance at offshore wind farms. *Reviews in Fisheries Science & Aquaculture* 27:242–260; Perry RL, Heyman WD. 2020. Considerations for offshore wind energy development effects on fish and fisheries in the United States. *Oceanography* 33:28–37.] and secondary consequences for avian habitat use and energetics, the potential for such effects (whether positive, negative, or neutral) should be acknowledged and incorporated into adaptive monitoring frameworks.

Comment Number: BOEM-2023-0037-0127-0047

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Of particular significance is that the planned cable route passes less than 1 mile from the largest federally endangered roseate tern colony in the northwest Atlantic, at Great Gull Island, NY. Roseate terns are highly dependent on *Ammodytes* as prey for feeding their young, and in some years more than 90% of their chick's diet is *Ammodytes*. Little is known about the effects of cable laying on *Ammodytes* distribution and densities, or the recovery of these bottom-dwelling fish after benthic disruptions, but it is likely that fragile foraging areas would be disrupted due to cable laying activities. The scale to which foraging areas will be disrupted, and the effect and mitigation of those potential disruptions, must be evaluated. Tools for accomplishing this would be pre-construction monitoring of area use by using radio telemetry, monitoring post-construction chick provisioning and nest productivity, and continuing those activities during construction, and the period of *Ammodytes* recovery.

Comment Number: BOEM-2023-0037-0127-0048

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: BOEM should require Beacon Wind's monitoring framework to include studying avian response(s) to lights. More research is required to measure distances at which phototaxis (disoriented attraction of birds drawn from distance to lights on turbine towers) functions in seabirds, especially the highly susceptible procellariiforms (shearwaters, petrels).

[Footnote 178: At least 56 species of Procellariiformes, more than one-third of them (24) threatened, are vulnerable to grounding caused by lights. See the synthesis in: Rodríguez A, Holmes ND, Ryan PG, Wilson KJ, Faulquier L, Murillo Y, Raine AF, Penniman JF, Neves V, Rodríguez B, Negro JJ. 2017. Seabird mortality induced by land-based artificial lights. *Conservation Biology* 31:986–1,001.] Phototaxis creates unique conditions in which the bird numbers attracted to lights will scale as the square of the range from which they are drawn, [Footnote 179: Deakin Z, Cook A, Daunt F, McCluskie A, Morley N, Witcutt E, Wright L, Bolton M. 2022. A review to inform the assessment of the risk of collision and displacement in petrels and shearwaters from offshore wind developments in Scotland. Scottish Government: Riaghaltas na h-Alba. ISBN: 978-1-80525-029-6 (web only) https://www.researchgate.net/profile/Zoe-Deakin-2/publication/366139542_A_review_to_inform_the_assessment_of_the_risk_of_collision_and_displacement_in_petrels_and_shearwaters_from_offshore_wind_developments_in_Scotland/links/6393231e484e65005bf86842/A-review-to-inform-the-assessment-of-the-risk-of-collision-and-displacement-in-petrels-and-shearwaters-from-offshore-wind-developments-in-Scotland.pdf] thereby significantly increasing the numerical values for collision risk.

Comment Number: BOEM-2023-0037-0127-0049

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Excerpt Text: Displacement effects will require especially careful monitoring, especially in the choice of spatial scales, effect sizes, and other key elements used for study design. [Footnote 180: <https://www.nyetwg.com/avian-displacement-guidance>.] Responses of marine birds to offshore wind infrastructure can consist of (1) displacement around, (2) attraction to, (3) or neutral association with an overall project footprint. One large literature review of North American and European bird reactions to wind farms indicates that displacement in offshore habitats is 2–3 times more prevalent than attraction. [Footnote 181: Marques AT, Batalha H, Bernardino J. 2021. Bird displacement by wind turbines: Assessing current knowledge and recommendations for future studies. *Birds* 2:460–475.] Across 71 peer-reviewed studies, avian displacement distances from turbines (mean ± standard deviation) ranged from a low of 116 ± 64 m in Anseriformes (ducks), increasing to 2,517 ± 5,560 m in Charadriiformes (gulls, terns, shorebirds), but reaching as much as 12,062 ± 6911 m in Gaviiformes (loons). [Footnote 182: Ibid.]

Comment Number: BOEM-2023-0037-0127-0050

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Excerpt Text: Lastly, the Beacon Wind Draft EIS must describe acceptable levels of impact and specify mitigation approaches to be taken. These considerations should account for acceptable levels of mortality, or displacement, or describe potential mitigation activities that might offset such impacts when and where they were to occur to the most susceptible species (not just ESA-listed species). Monitoring objectives for the offshore birds treated in the Draft EIS should be sufficiently detailed to specify the mitigation actions that might be needed for any observed collision or displacement effects, what level of observed impact would trigger such measures, or the kind of habitat and/or resource equivalency analysis that would be implemented for computing the offsets used as a basis for any restoration actions. [Footnote

183: Croll DA, Ellis AA, Adams J, Cook AS, Garthe S, Goodale MW, Hall CS, Hazen E, Keitt BS, Kelsey EC, Leirness JB. 2022. Framework for assessing and mitigating the impacts of offshore wind energy development on marine birds. *Biological Conservation* 276:109795.]BOEM should continue to promote adoption of recommended, evidence-based standards across all projects moving forward to ensure that inferences from collected data can be readily compared across projects. This approach will better enable assessments of cumulative impacts to birds from an ever-increasing number of offshore wind farms that are planned across much of the Atlantic OCS region.

Comment Number: BOEM-2023-0037-0128-0020

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: o Identify sea duck abundance. Note: Use the most recent Atlantic Coast Sea Duck Surveys.o Identify heron and wading bird nesting and foraging habitat. Note: NYC Audubon undertakes routine surveys of island habitats. See <https://www.nycaudubon.org/our-work/conservation/birds-of-ny-harbor/harbor-herons>.

Comment Number: BOEM-2023-0037-0128-0021

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Rare, Threatened and Endangered (RTE) Species:o Identify surveys for RTE species along all alternative routes. Note: Great Gull Island in Long Island Sound contains the second largest nesting concentration of roseate terns (E) in North America and the largest nesting common tern (T) site in New York State and in the western hemisphere (Source: NYNHP database).

Comment Number: BOEM-2023-0037-0133-0024

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Bird Migration: Beacon Wind will occupy a site within the migratory Atlantic flyway region and will interfere with multiple endangered birds and eagles. Continued development offshore wind farms in this region may violate the Endangered Species Act (16 U.S.C. §§1531-1544), the Migratory Bird Treaty Act (16 U.S.C. §§ 703 et seq.), and the Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d). 432 bird species in North America risk extinction, and birds in coastal habitats are particularly vulnerable (Schwemmer, 2022). Current methods for assessing an offshore wind farm's risk to birds remain inadequate (Green, 2016), underestimating the impact of wind farms on bird mortality (Skov, 2016). BOEM must require that Beacon Wind developers to adequately address the direct, indirect, and cumulative impacts of Beacon Wind on bird mortality.

Comment Number: BOEM-2023-0037-0152-0025

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Increase in frequency of fog/mist/cloud condition caused by turbine operations• Effect on diving bird foraging• Effect on migration flight altitude• Effect on ability of photosynthetic plankton to remove dissolved carbon from the ocean water

Comment Number: BOEM-2023-0037-0152-0028

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Turbine avoidance and certainly array avoidance equals habitat loss, and loss of efficient migratory routes. Estimate the area of habitat loss (Beacon Wind and Cumulative). Estimate the additional miles of migratory route that different species of migrating birds would be burdened by, and the energetic costs and associated reductions in survival. Determine the magnitude of adverse impact of loss of the ability to use [Footnote 45: due to hundreds of infrasound generators being placed along the Atlantic Flyway migratory route in the lease area and thousands on the OCS for the wind projects cumulatively. Turbines produce ery high energy pressure waves in the low-frequency and infrasound wavelengths.] of stormfront infrasound cue to time initiation of migration on energetic expenditure over the whole migration distance resulting from the turbines in the lease area and collectively across all lease areas to be built out in the next twelve years. Determine how infrasound compromises storm avoidance systems in birds. • Essential migration departure timing for encounter of wind quality, speed, and direction ensuring sufficient energy resources to complete migrationo Survival cost of timing disruption• Storm Avoidanceo Survival cost of storm avoidance disruption• Migration Distanceo Survival cost (the mortality increase) of the marked increased migratory distance burden caused by turbine avoidance and turbine array avoidanceUse Godwit (Charadriformes, family Scolopacidae), Golden-winged warblers, Parulidae of the Passerines, and dove/pigeon families (Columbiformes, family Columbidae). Estimate profundity of disruption to essential behaviors and processes above. • Diving bird hearing impacts

Comment Number: BOEM-2023-0037-0152-0037

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Spatial mapping where the lease area overlaps portion of major routes of the flyway, including migration altitudes and altitude variation, enables a far more straightforward estimation effects of project properties and lease area shapes and locations on migrating birds because it shows where temporo-spatial use of (i.e. movement through) the lease area is coincident with such areas. This yeilds a more direct reckoning of both collision risk from exposure and cost from displacement (both route diversion cost and cost of habitat loss). Aquiring this empirical based evidence for baselining to predict impact, and monitoring is required to understand the impact of the first large-scale power plant.

Comment Number: BOEM-2023-0037-0152-0038

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: In the modelled probability index used by the Developer as described in the Appendices to the COP, there was no effort to find out detection probabilities for the different bird species, and the variability in detection probability across species is unknown, thus the relative density indices are questionable.

A.2.11 Bats

Comment Number: BOEM-2023-0037-0127-0051

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Assessing cumulative effects is essential to understanding impacts and this is particularly important for bats, where the best available scientific information indicates that cumulative impacts from land-based wind energy have the potential to cause significant population-level declines. [Footnote 188: Frick et al. 2017; EPRI 2020; Friedenber & Frick 2021.]

When conducting the cumulative impact analysis, BOEM should use a geographic analysis area that extends 100 mi inland and offshore, as was used for Vineyard Wind 1. [Footnote 189: Vineyard Wind 1 Final EIS at A-10.] We are unaware of any research that would support a geographic analysis area of less than 100 mi inland (e.g., five miles, as has been used in some previous offshore wind EISs). Although the migratory movements of bats, especially migratory tree bats, are poorly understood, many species of bats—both long-distance migrants like migratory tree bats but also cave bats—are capable of fairly long distance flights in excess of 100 mi, indicating that bats found offshore in wind development areas could also be found significant distances inland. Research from Canada found that 20 percent of little brown bat movements exceeded 500 km (311 mi), [Footnote 190: Norquay, K. J. O., Martinez-Nuñez, F., Dubois, J. E., Monson, K. M., & Willis, C. K. R. (2013). Long-distance movements of little brown bats (*Myotis lucifugus*). Source: *Journal of Mammalogy*, 94(2), 506–515. <https://doi.org/10.1644/12-MAMM-A-065.1>] which is further supported by data from tracked little brown bats, which shows individuals using both coastal areas and making long-distance flights to locations significantly further inland than five miles. [Footnote 191: Bird Studies Canada 2018.] In addition to little brown bats, data in Motus includes tracks of individual silver-haired bats, eastern red bats, hoary bats, eastern small-footed bats, and Indiana bats between coastal areas on the east coast and areas in excess of 100 mi inland. [Footnote 192: Bird Studies Canada 2018.] Hoary bats, which are capable of long distance flights over water, [Footnote 193: Hoary bats have colonized the Hawaiian Islands from the mainland multiple times. Russell, A. L., Pinzari, C. A., Vonhof, M. J., Olival, K. J., & Bonaccorso, F. J. (2015). Two Tickets to Paradise: Multiple Dispersal Events in the Founding of Hoary Bat Populations in Hawai'i. *PLOS ONE*, 10(6), e0127912. <https://doi.org/10.1371/journal.pone.0127912>] have been recorded traveling over 1,000 km (621 mi) [Footnote 194: Weller, T. J., Castle, K. T., Liechti, F., Hein, C. D., Schirmacher, M. R., & Cryan, P. M. (2016). First Direct Evidence of Long- distance Seasonal Movements and Hibernation in a Migratory Bat. *Scientific Reports*, 6(1), 1–7. <https://doi.org/10.1038/srep34585>] and are thought capable of migrations in excess of 2,000 km (1243 mi). [Footnote 195: Cryan, P. M., Bogan, M. A., Rye, R. O., Landis, G. P., & Kester, C. L.

(2004). Stable Hydrogen Isotope Analysis of Bat Hair as Evidence for Seasonal Molt and Long-Distance Migration. In Source: Journal of Mammalogy (Vol. 85, Issue 5).] These data suggest that bats exposed to offshore wind energy projects could be found far inland (and therefore exposed to land-based wind energy facilities) and that a geographic analysis area that extends 100 mi inland would be more appropriate.

BOEM should conduct a thorough review of the literature on bat migration and radio- and GPS-tagged bats and select a boundary that reflects the potential habitat use of exposed bats. This boundary will likely require an analysis to reflect that bats exposed to offshore wind projects could be exposed to multiple land-based wind energy projects as well as multiple offshore wind energy projects.

Comment Number: BOEM-2023-0037-0127-0052

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Most data on bats offshore were collected in the offshore environment in the absence of offshore wind turbine structures. The Proposed Action would significantly change the habitat by adding up to 157 new structures (up to 155 WTGs and 2 offshore substations [Footnote 196: BW COP, Volume 1 at 1-28.]). Bats are attracted to structures, including wind turbines, [Footnote 197: Cryan, Paul M., P. Marcos Gorresen, Cris D. Hein, Michael R. Schirmacher, Robert H. Diehl, Manuela M. Huso, David T. S. Hayman, et al. 2014. "Behavior of Bats at Wind Turbines." Proceedings of the National Academy of Sciences of the United States of America. National Academy of Sciences.] and this attraction is repeatedly discussed in the COP. [Footnote 198: E.g., BW COP, Volume 2b at 5-120, Appendix R at R-18, R-19, R-20, and R-121, and Appendix Q at Q-14 and Q-15.] Given the addition of structures post-construction and bats' known attraction to structures, including wind turbines, basing post-construction impact analyses on pre-construction data or other data collected in the absence of turbines is inappropriate.

At land-based wind facilities, pre-construction bat activity does not correlate with post-construction fatalities, [Footnote 199: Donald Solick et al., Bat activity rates do not predict bat fatality rates at wind energy facilities, Acta Chiroptera (June 2020);Cris D. Hein et al., Relating pre-construction bat activity and post-construction bat fatality to predict risk at wind energyfacilities: A synthesis, Nat'l Renewable Energy Lab. (NREL) (Mar. 2013)] likely due to bats' attraction to turbine structures. [Footnote 200: Additionally, low levels of bat calls in acoustic surveys do not necessarily indicate that bats are not present. Aaron J. Corcoran et al., Inconspicuous echolocation in hoary bats (*Lasiurus cinereus*), Proceedings Royal Soc'y B (May 2, 2018).] Furthermore, recent research at buoys, vessels, and the two Coastal Virginia Offshore Wind pilot project wind turbines found considerable differences in bat activity in the presence of turbines as compared to open water. [Footnote 201: Clerc, J. and J.R. Willmott. "Towards Understanding the Potential for Offshore Wind to Impact Bats."

NormandeuAssociates. Presentation at State of the Science Virtual Session, 09/21/2022.] The research presented in Beacon Wind's COP acknowledges that the installation of new structures in the offshore environment could change bat behavior [Footnote 202: BW COP, Appendix R at R-20.] and that "[t]he manner in which migrating or foraging bats interact with novel objects such as vessels, wind turbines, and buoys (attraction, repulsion) has obvious implications for the risks associated with collision (including wind turbine strikes and barotrauma) and caloric expenditure." [Footnote 203: Id. at R-18.] This once again underscores that BOEM should not draw conclusions about Beacon Wind's impacts on bats based on sparse offshore acoustic data collected largely over open water, including the pre-construction acoustic data presented in the

COP. [Footnote 204: Available in BW COP Appendix Q.]

When considering impacts to bats, BOEM must acknowledge that significant unknowns exist on how bats will interact with offshore wind turbines, especially given their likely attraction, and require commitments to post-construction monitoring to address these significant data gaps (discussed further below).

Comment Number: BOEM-2023-0037-0127-0053

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: A lack of data on offshore movements of cave-hibernating bats, such as *Myotis* bats, including the endangered northern long-eared bat and Indiana bat, does not imply a lack of impacts. Despite acknowledging that there is uncertainty around movements and behaviors of bats offshore, the COP nevertheless states that *Myotis* species “are not expected to utilize the offshore environment where wind turbines are proposed, due to the distance from shore. Thus, operation of the offshore portion of the Project presents very low risk to these species.” [Footnote 205: BW COP, Appendix R at R-121.] There simply are not enough data to support this claim.

The COP claims that “*Myotis* are not expected to be present in the Lease Area, as the maximum distance they have been detected offshore in the mid-Atlantic is 7.2 mi (11.5 km).” [Footnote 206: Internal citation omitted, BW COP, Volume 2b at 5-110 citing Sjollema et al. 2014. Sjollema, Angela L., J. Edward Gates, Robert H. Hilderbrand, and John Sherwell. “Offshore Activity of Bats Along the Mid-Atlantic Coast.” *Northeastern Naturalist*, vol. 21, no. 2 (2014): 154–63.] This claim is directly refuted by another study cited in the COP, [Footnote 207: See BW COP, Appendix R at R-16-R-17.] where *Myotis* calls were detected at several Mid-Atlantic sites further offshore than 11.5 km, including at the Chesapeake Light Tower in Virginia, 24.8 km from the mainland. [Footnote 208: Peterson et al. 2016, Appendix A.] Additionally, bat calls classified as high frequency, unknown species were detected as far as 130 km offshore in the Mid-Atlantic. [Footnote 209: Peterson et al. 2016.] While it is not possible to attribute these unidentified calls to species, high frequency, unknown species calls can include calls from *Myotis* species. Furthermore, the same study identified *Myotis* calls at 63 percent of sites surveyed in the Mid-Atlantic, and *Myotis* species were present at 89 percent of sites surveyed across the Gulf of Maine, Mid-Atlantic, and Great Lakes, [Footnote 210: Peterson, Trevor S, Steven K Pelletier, and Matt Giovanni. 2016. “Long-Term Bat Monitoring on Islands, Offshore Structures, and Coastal Sites in the Gulf of Maine, Mid-Atlantic, and Great Lakes—Final Report.” Topsham, ME, USA. Prepared for the U.S. Department of Energy.] indicating that cave bats may be more common offshore than characterized in Beacon Wind’s COP.

Comment Number: BOEM-2023-0037-0127-0054

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Although endangered northern long-eared bats’ range overlaps with onshore areas near the Project, [Footnote 211: BW COP, Volume 2b at 5-114.] offshore collision impacts are largely dismissed: after explicitly noting that there is little information available regarding the offshore movements of northern-long eared bats, [Footnote 212: BW COP, Volume 2b at 5-115.] the COP nevertheless states that “use of the Lease Area by northern long-eared bats is unlikely, resulting in very limited risk.” [Footnote 213: Id.] The presence of northern long-eared bats on both Martha’s Vineyard and Nantucket indicates that

this species can cross open water and the species has been tracked making long distance flights over water in the Gulf of Maine. [Footnote 214: Bird Studies Canada 2018.] Furthermore, although this data is not mentioned in the COP, [Footnote 215: E.g., BW COP, Appendix R at R-16 and onward] a northern long-eared bat was acoustically detected northeast of the Lease Area, 34 km offshore within the South Fork Wind Farm Project Area. [Footnote 216: Sunrise Wind Farm COP, Appendix P1 at 60 and 62, Figure 2-3.] Moreover, the lack of confirmed acoustic calls from northern long-eared bats in Beacon Wind's pre-construction acoustic surveys [Footnote 217: BW COP, Appendix Q at Q-15.] does not necessarily support the conclusion that northern long-eared bats were not in the Lease Area as there were two calls from unknown, high frequency bats [Footnote 218: Id. at Q-6.] which could have been produced by northern long-eared bats or other *Myotis* species.

Beacon Wind's COP excludes Indiana bats from analysis, as it notes that the species has not been detected in Massachusetts since 1936 and is not considered to be present in Massachusetts or Rhode Island. [Footnote 219: BW COP, Appendix R at R-11 and Appendix Q at Q-2.] However, in 2015, a tagged Indiana bat was detected on Cape Cod and Nantucket after potentially crossing Long Island Sound, [Footnote 220: The tagged Indiana bat tracked across Long Island Sound is labeled as Indiana Bat 2403 in Motus and was detected on September 20, 2015; Bird Studies Canada 2018.] north of the Project Area. Given the proximity of this detection to Beacon Wind and the cross-water movements made by the tagged bat (between Cape Cod and Nantucket and potentially over water on its path between Indiana and Cape Cod), the COP should be revised to cover Indiana bats and BOEM should consult with USFWS about potential impacts to Indiana bats and these impacts should be analyzed in the Draft EIS. [Footnote 221: There are not many bats included in Motus, so although only a single Indiana bat was detected potentially crossing Long Island Sound, this does not necessarily indicate that Indiana bats are rarely present in the area.]

Given the potential for both Indiana bats and northern long-eared bats to use the offshore environment, the detection of a northern long-eared bat during South Fork Wind Farm surveys, and the lack of survey efforts to provide evidence of absence, BOEM should not consider exposure and risk to endangered bat species (and other cave bats) to be negligible. Instead, as BOEM prepares its Biological Assessment and consults with USFWS, BOEM should note that endangered bat species could be present in the offshore Project Area and that insufficient research exists to dismiss potential collision impacts from BeaconWind's operations. BOEM should thus require Beacon Wind to conduct or support monitoring to better understand the potential presence of and collision risk for these endangered bats in the Lease Area.

Comment Number: BOEM-2023-0037-0127-0055

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Because, as mentioned above, pre-construction acoustic activity may not accurately predict post-construction fatalities for bats, a commitment to post-construction monitoring is critical to yielding a better understanding about how bats interact with offshore wind turbines. BOEM should explicitly require that data from all post-construction monitoring be made promptly accessible to both agencies and the public.

Comment Number: BOEM-2023-0037-0127-0056

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon

Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Beacon Wind should deploy acoustic monitors post-construction on turbines and install them at nacelle height (rather than on converter stations, turbine platforms, and/or buoys) so as to detect activity when bats are in the rotor swept zone and more likely at risk for collision. Beacon Wind and BOEM should confer with researchers to determine how many acoustic detectors should be deployed and how many years of post-construction data should be collected in order to best inform impact analyses. BOEM should require that acoustic data be reported and submitted to NABat, [Footnote 225: <https://sciencebase.usgs.gov/nabat/>] the Bat Acoustic Monitoring Portal (BatAMP), [Footnote 226: <https://batamp.databasin.org/>] and/or additional appropriate data repositories

Comment Number: BOEM-2023-0037-0127-0057

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: We recommend that BOEM require Beacon Wind to commit to supporting the nanotagging of bats to expand the network of bats included in the Motus network. BOEM should require Beacon Wind to install Motus towers in their Lease Area as well as support the upgrading of coastal Motus towers. We suggest that BOEM require deployment of Motus towers pre-construction in coordination with USFWS's offshore Motus network, as BOEM is requiring of new lessees in the New York Bight, Carolina Long Bay, and California. [Footnote 227: See Final Sale Notices for the New York Bight (86 Fed. Reg. 31524) and Carolina Long Bay (86 Fed. Reg. 60274) and lease stipulations in the New York Bight leases (OCS-A 0537, 0538, 0539, 0541, 0542, and 0544), Carolina Long Bay leases (OCS-A 0545 and 0546), and California leases (OCS-P 0561, 0562, 0563, 0564, and 0565).] Beacon Wind should keep offshore Motus towers deployed, active, and maintained for as much of the lifetime of the Project as possible. Data from these towers will not only inform Beacon Wind's adaptive management but also, as multiple offshore wind projects are developed, provide a long-term network of Motus towers in the offshore environment that can shed much needed light on species' movements offshore.

Comment Number: BOEM-2023-0037-0127-0058

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: There are currently no methods to measure bat fatalities from collision in the offshore environment. We note that assessing bat fatalities based on carcasses found on vessels and structures is unlikely to provide a meaningful estimate of bat fatalities, as carcasses can fall far from the wind turbine, based on carcass size, wind speed, turbine height, and other factors. BOEM should consult with experts to determine what, if any, inferences about total fatalities can be made from carcasses detected on vessels and project structures. [Footnote 228: We recommend BOEM consult with Manuela Huso, Research Statistician at United States Geological Survey Forest and Rangeland Ecosystem Science Center, prior to making any inferences about total fatalities based on carcasses recovered from structures.] As part of the requirement that Beacon Wind deploy novel technologies, BOEM should explicitly require Beacon Wind to deploy strike detection technologies and other novel technologies for monitoring fatalities, once available. If monitoring reveals that impacts to bats are significant,

BOEM should require Beacon Wind to employ minimization strategies and/or technologies.

Comment Number: BOEM-2023-0037-0127-0059

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Once monitoring technologies are available to measure impacts, if post-construction bat monitoring indicates significant bat fatalities, BOEM should require Beacon Wind to deploy mitigation measures.

Once again, we underscore the need for adaptive monitoring. Because current monitoring methods are insufficient to assess bat impacts and no collision detection technologies are validated and commercially available for use offshore, as discussed above, BOEM should explicitly require Beacon Wind to commit to deploying collision detection technology, once available. Strike detection technology is in development, with one technology to be tested on an offshore wind turbine in 2023. [Footnote 229: Stucker, J., Prebyl, T., Bushey, J., Good, R., Roadman, J., Ivanov, H., Rooney, S., Verhoef, H., Kaandorp, F., and Saraswati, N. A Multi-Sensor Approach for Measuring Bird and Bat Collisions with Wind Turbines: Validation Results. 2022. Poster presentation for NYSERDA State of the Science.] BOEM should require Beacon Wind to work with agency staff and researchers to determine the appropriate duration of post-construction fatality monitoring using their current proposed methods and for after collision detection systems are installed.

Comment Number: BOEM-2023-0037-0128-0019

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify sonar and echolocation for bats.

Comment Number: BOEM-2023-0037-0128-0022

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Evaluate northern long-eared bat (NLEB) activity year-round within the vicinity of the Proposed Action.

Comment Number: BOEM-2023-0037-0133-0023

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Bats: Wind turbines kill significant numbers of bats (Voigt, 2022), particularly during the autumn migratory season. One bat species native to Rhode Island, the northern long-eared bat, was recently listed as endangered and is now protected under the Endangered Species Act (16 U.S.C. §§1531-1544). In addition, it is well-documented that bats control insect populations. Decreasing bat numbers allows mosquito populations to rise, thereby increasing the prevalence of mosquito-borne diseases, including Zika (Elrefaey, 2021), West Nile (Ferraguti, 2021), and Eastern Equine Encephalitis (Armstrong, 2022) viruses. When nations have pledged to decrease insecticide use (Einhorn, 2022), BOEM does not adequately

incorporate the latest scientific findings acknowledging bat mortality associated with wind farms, nor does it address the public health consequences of decreasing bat populations, spread of mosquito-borne illnesses, and subsequent rise in insecticide use.

Comment Number: BOEM-2023-0037-0152-0032

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Consider the impact-producing factors of
•air pressure changes• operational noise• ultrasound-generating equipment utilized for the life of the power plant (such as those used to search for defects in turbine blades) • light pollution.

Comment Number: BOEM-2023-0037-0152-0033

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: • A proper environmental review (and any impact statement for the Beacon Wind Power Plant) must consider• The above interferences of artificial light with bats' ordinary feeding and migration behaviorso Exacerbations due to cloud cover amplification of skyglow of artificial light conditions• Exacerbation of cloud cover like conditions from fog and mist conditions self-created by the power plants • Timingo Low wind speed condition as a special condition which affects in temporo-spatially connected manner both : • the propensity of wind power plants to form the described condensate• feeding in bats

A.2.12 Benthic Resources

Comment Number: BOEM-2023-0037-0035-0006

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: These enormous machines must be installed on the ocean bottom, the construction of which will definitely affect our sea animals, our bottom dwellers, our sea birds , crustaceans, mollusks, octopus, etc.

Comment Number: BOEM-2023-0037-0061-0005

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We support all efforts to avoid impacts to submerged aquatic vegetation (SAV) and other structured habitats along the cable route and to avoid impacts to areas designated by the Councils as Habitat Areas of Particular Concern.

Comment Number: BOEM-2023-0037-0118-0004

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should fully describe the anticipated areal extent, locations,

and expected recovery times for seafloor habitats that will be disturbed during the construction of the offshore export and inter-array cables for the project.

Comment Number: BOEM-2023-0037-0118-0005

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: Sediment transport should be predicted using the best peer-reviewed sediment-transport models and model results should be thoroughly validated. The EIS should also provide the details of a monitoring program for verifying the modeled turbidity and total suspended solids during the construction process and for monitoring the recovery of benthic habitats after construction.

Comment Number: BOEM-2023-0037-0118-0013

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should include a boulder relocation reporting plan (including a schedule of how often this information will be relayed) to document and communicate the locations of moved or newly uncovered boulders to vessels that fish the area. This boulder reporting plan would complement any Fisheries Communication plan. The EIS should also detail how hang hazard creation will be mitigated including by micrositing to avoid boulder relocation and boulder relocation that minimizes danger when it cannot be avoided.

Comment Number: BOEM-2023-0037-0118-0014

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should estimate the total area of the lease and export cable corridors that will require boulder field clearance via plow and estimate the number of additional large boulders in these areas that will need to be moved by grab lift. When considering the area of impact from boulder movement, both the area where the boulder was removed from and the area the boulder was relocated to must be counted. The EIS should also estimate the type and extent of hard cover that may be necessary due to insufficient cable burial depth or cable crossings in the export cable corridor and for the inter-array cables, and the resulting impacts to fish, invertebrates, and their habitat. The EIS should detail the measures that will be taken to ensure that boulder relocation and other forms of seafloor disturbance do not facilitate the spread of invasive species, permanently convert soft-bottom habitats, or harm sensitive species and habitats such as slow-growing species like corals.

Comment Number: BOEM-2023-0037-0127-0060

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The Draft EIS must present a detailed assessment of the anticipated impacts of the Beacon Wind project on benthic resources, finfish, invertebrates, and essential fish habitat (EFH). The Draft EIS should also contain a quantification of complex and non-complex habitats; examine additional alternatives to conserve marine habitats and resources and avoid, mitigate, and minimize impacts to complex habitats; and include additional mitigation and monitoring requirements for the Beacon Wind project. Further, the Draft EIS should

consider (1) the potential for alternative submarine export cable routes through Long Island Sound that could avoid and minimize impacts to complex habitats in Long Island Sound; and (2) the feasibility of employing closed loop converter stations instead of the open loop converter stations as proposed by Beacon Wind.

Comment Number: BOEM-2023-0037-0127-0061

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: While the proposed export cable corridor will not traverse areas that have been designated HAPC for juvenile Atlantic cod, there is an inshore area of HAPC for juvenile cod along the northern coast of Block Island, which is located about 7 nm northeast of the proposed export cable corridor. [Footnote 237: BW COP Vol. 2b, at 5-225; Omnibus Essential Fish Habitat Amendment 2, Volume 2 EFH and HAPC Designation Alternatives and Environmental Impacts, NEFMC & NMFS, at 109-11 (October 2017); Regional Use of the Habitat Area of Particular Concern (HAPC) Designation, Mid-Atlantic Fishery Management Council, at 18-19 (May 2016).] The juvenile cod HAPC is a subset of the area designated as juvenile cod EFH and is defined as the inshore areas of southern New England between 0 to 66 feet deep relative to mean high water. This HAPC contains structurally complex hard bottom habitats that provide juvenile cod with protection from predators and supports juvenile cod prey. [Footnote 238: Omnibus Essential Fish Habitat Amendment 2, Volume 2 EFH and HAPC Designation Alternatives and Environmental Impacts, NEFMC & NMFS, at 109-11 (October 2017).]

The proposed export cable corridors will also cross areas that have been designated HAPC for adult and juvenile summer flounder in Connecticut state waters near Waterford, CT, and will pass within 3-4 nm of other areas designated as summer flounder HAPC in Connecticut and New York state waters. [Footnote 239: BW COP Vol. 2b, at 5-225; Regional Use of the Habitat Area of Particular Concern (HAPC) Designation, Mid-Atlantic Fishery Management Council, at 18-19 (May 2016).] The Mid-Atlantic Fishery Management Council has identified HAPC for summer flounder as “all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, within adult and juvenile summer flounder EFH.” [Footnote 240: Regional Use of the Habitat Area of Particular Concern (HAPC) Designation, Mid-Atlantic Fishery Management Council, at 18- 19 (May 2016).]

Further, in July 2022, the New England Fishery Management Council (NEFMC) approved a proposed HAPC that overlaps offshore wind energy lease sites in southern New England, including the Beacon Wind Project Area. The NEFMC selected this area “to highlight its concerns over potential adverse impacts from offshore wind development on: (1) sensitive hard-bottom habitats; and (2) cod spawning activity.”# In addition to Atlantic cod, this proposed HAPC emphasizes the importance of complex habitat on the egg, juvenile, and adult life stages of species ranging from herring and scallops to monkfish, skates, winter flounder, and red hake. [Footnote 241: Press Release: Council approves HAPC for Southern New England, NEFMC (July 2022), available at <https://d23h0vhsm26o6d.cloudfront.net/NEFMC-Approves-HAPC-for-Southern-New-England-Previews-Northeast-Regional-Habitat-Assessment-Data-Explorer.pdf>.]

Comment Number: BOEM-2023-0037-0127-0062

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: In general, benthic habitats can be classified based on their level of

physical complexity, ranging from relatively simple habitats to more complex habitats. Habitats where sand and mud substrates are predominant are low in physical complexity and considered non-complex or “simple” habitats. Conversely glacial moraine and coarse sediment are classified as more complex habitats because boulders, cobbles, and pebbles are predominant in such areas. These more complex habitats provide a heterogeneous variety of hard surfaces and fine material that provide habitat for many different species. Given their relative structural permanence and complexity, glacial moraines create a unique bottom topography, which enables a high level of biodiversity. [Footnote 242: Peter J. Auster and Richard W. Langton, *The Effects of Fishing on Fish Habitat*, National Undersea Research Center for the North Atlantic & Great Lakes and Maine Department of Marine Resources, at M-6, M-36 (May 1998).] The Beacon Wind COP similarly explains that complex habitats are morphologically rugged, characterized by high heterogeneity and variability in neighboring bathymetry, and are areas where hard bottom substrate (e.g., cobble, boulder, gravel, rock, shell) is predominant. [Footnote 243: BW COP, Vol. 2b, at 5-135, 143.] It also notes that complex habitat provide surfaces that are colonized by mobile and sessile epifaunal organisms and that species richness and abundance is higher in complex habitat areas. [Footnote 244: Id.]

Based on surveys, most substrate in the Beacon Wind Lease Area is classified as soft bottom, with mainly silt and sand, as well as small areas of sandy mud. Surveys did not detect any hard bottom habitat. [Footnote 245: BW COP, Vol. 2b at 5-148.] As for the export cable corridor, surveys detected significant areas of complex habitat, and particularly within the proposed export cable corridor through Long Island Sound. [Footnote 246: BW COP, Vol. 2b at 5-163, 165, 169.] For example, Long Island Sound contains a number of boulder and cobble fields and/or areas that are considered ecologically significant hard bottom under Connecticut’s Long Island Sound Blue Plan (CT Blue Plan) at both its eastern end and at Stratford Shoal, which separates the western and central basin of the sound. [Footnote 247: BW COP, Vol. 2b at 5-136, 140-141, 169.]

In general, complex, hard bottom habitat provides EFH for a number of species, including both juvenile and adult Atlantic cod. Offshore, both juvenile and adult cod prefer structurally complex hard bottom habitats comprising mostly pebbles, cobble, and boulders. [Footnote 248: Omnibus Essential Fish Habitat Amendment 2, Volume 2 EFH and HAPC Designation Alternatives and Environmental Impacts, NEFMC & NMFS, at 10-14 (October 25, 2017).] Cobble substrate is critical for the survival of juvenile cod because it helps them avoid predators. [Footnote 249: Id.] Studies have also shown that hard bottom habitats are important for cod reproduction. [Footnote 250: G.R. Decelles, et al, *Using Fishermen’s Ecological Knowledge to Map Atlantic Cod Spawning Ground on Georges Bank*, 74 ICES Journal of Marine Science, 1587-1601 (April 2017).] Atlantic cod demonstrate spawning site fidelity, meaning they return to the same bathymetric locations year-after-year to spawn. [Footnote 251: Douglas R. Zemeckis, *Spawning Site Fidelity by Atlantic Cod in the Gulf of Maine: Implications for Population Structure and Rebuilding*, 71 ICES Journal of Marine Science, 1356-1365 (September 2014); Jon Egil Skjaeraasen, et al., *Extreme Spawning- Site Fidelity in Atlantic Cod*, 68 ICES Journal of Marine Science, 1472-1477 (April 2011).] Boulders and cobbles, which are more prevalent in complex habitats, also provide EFH for other species such as black sea bass juveniles and adults, Atlantic sea scallop larvae, ocean pout and herring eggs, as well as certain invertebrates that attach to hard surfaces, including, for example, mussels, oysters, starfish, and sea urchin. [Footnote 252: Omnibus Essential Fish Habitat Amendment 2, Volume 2 EFH and HAPC Designation Alternatives and Environmental Impacts, NEFMC & NMFS, at 23, 85, 88 (October 2017).]

Comment Number: BOEM-2023-0037-0127-0063

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon

Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: In the Draft EIS for Beacon Wind, BOEM must accurately consider and analyze the potential for long- term impacts to complex habitats from the presence of structures, vessel anchoring, and cable emplacement. Given the presence of large areas of complex habitat along the proposed export cable corridor, BOEM should quantify benthic habitats in the area of the cable corridor as either complex or non-complex in order to accurately assess the extent of impacts to complex habitats. To avoid, minimize, and mitigate impacts to complex habitats, BOEM should also require Beacon Wind to implement an anchoring plan during construction. An anchoring plan should delineate hard bottom habitats, eelgrass beds, and other sensitive habitats in proposed turbine foundation and cable locations and restrict anchoring in such areas.

Comment Number: BOEM-2023-0037-0127-0064

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Under the CT Blue Plan, Beacon Wind is required to avoid siting in ecologically significant areas unless it demonstrates that the project will cause no significant adverse impacts to the ecologically significant area and there is no feasible less damaging alternative. Consistent with this policy and because Long Island Sound contains large areas of complex habitat—that take longer to recover from development activities than non-complex habitat—BOEM should consider the potential for alternative cable routes in Long Island that could minimize impacts to complex habitat to a greater extent than Beacon Wind’s proposed route. Moreover, to further reduce impacts, BOEM should require Beacon Wind to employ micro-routing of the export cable corridor to avoid siting in complex benthic habitats and other sensitive habitat areas to the greatest extent possible.

Comment Number: BOEM-2023-0037-0127-0065

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The Draft EIS must contain a detailed analysis of the noise impacts to fish from the Project. The Draft EIS should also conduct a separate analysis on the extent to which the noise generated by the Project’s construction and operations activities would impact spawning fish species, including spawning cod, and potential actions to avoid, minimize, and mitigate impacts to spawning cod, including time of year restrictions.

Comment Number: BOEM-2023-0037-0127-0066

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Beacon Wind’s COP proposes an offshore AC to DC conversion station with an open loop cooling system The heated effluent will subsequently be discharged back into the receiving waters. Open loop cooling systems of this kind have long been shown to have negative impacts from entrainment and impingement of marine life, particularly eggs, larvae, young juvenile fish, and invertebrates with planktonic life stages. [Footnote 276: Final

Environmental Impact Statement for the Port Delfin LNG Project Deepwater Port Application, Delfin LNG, Appendix I Delfin LNG Ichthyoplankton Report (2016), https://www.energy.gov/sites/default/files/2018/11/f57/final-eis-0531-port-delfin-Ing-app-i-2016-11_0.pdf.] Moreover, the discharge of warmer water into the ocean can negatively impact microorganisms and finfish, as well as species higher up in the food chain. [Footnote 277: Ross N. Cuthbert et al., Emergent effects of temperature and salinity on mortality of a key herbivore, *Journal of Sea Research* (2021), <https://www.sciencedirect.com/science/article/pii/S1385110121001325#:~:text=Aquatic%20ecosystems%20are%20threatened%20by,change%20are%20temperature%20and%20salinity>]

In addition, open loop cooling for offshore wind converter stations is problematic due to the potential of fouling of intake pipes. Studies from Block Island have shown that fouling organisms quickly colonize offshore wind turbine foundations. [Footnote 278: Hutchison, Z. L., Bartley, M. L., Degraer, S., English, P., Khan, A., Livermore, J., Rumes, B., & King, J. W. (2020). Offshore wind energy and benthic habitat changes lessons from block island wind farm. *Oceanography*, 33(4), 58–69. <https://doi.org/10.5670/OCEANOLOG.2020.406>] As organisms like barnacles, mussels, and tunicates reproduce and settle, they can constrain flow through intake pipes. Fouling will be exacerbated by gelatinous plankton blooms that routinely occur throughout the entire region and during storms that suspend sediments. Inherent risks of fouling will require preventive maintenance and will add additional risk of clogging and interference with cooling, thus potentially impacting the reliability of energy delivery.

Given the proximity of Beacon Wind’s proposed converter station to known cod spawning areas [Footnote 279: Zemeckis, D. R., Dean, M. J., and Cadrin, S. X., Spawning dynamics and associated management implications for Atlantic cod, *North American Journal of Fisheries Management*, 34, 424–442 (April 2014).] and the emphasis that state and federal agencies have placed on rebuilding cod populations, the proposed open loop cooling system is inconsistent with longstanding goals of NOAA and the New England Fishery Management Council. Accordingly, in the Draft EIS, BOEM should consider the possibility of a closed loop cooling system alternative for the Project. Although Beacon Wind claims that closed loop cooling designs are not commercially mature and would not be technically or commercially feasible for the Project, the Draft EIS should evaluate whether a closed loop cooling design could be feasible by 2028, the year in which Equinor anticipates constructing the offshore converter station for the Beacon Wind 2 Project. [Footnote 280: BW COP, Vol. 1 at 1-26.]

Comment Number: BOEM-2023-0037-0127-0068

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Excerpt Text: Regarding the proposed export cable corridor landing at Waterford, Connecticut, the COP states that Beacon Wind intends to employ a horizontal directional drilling (HDD) method for burying the cables at the landing site. [Footnote 283: BW COP, Vol. 1 at 2-20.] The COP observes that the use of HDD at the Waterford landfall would avoid impacts to seagrass in the vicinity. [Footnote: 284: BW COP, Vol. 2 at 5-225, 294.]

The use of HDD for cable landing has been found to avoid and minimize impacts to benthic and coastal habitats. [Footnote 285: Vineyard Wind 1 FEIS at 3-11.] Given that the Waterford, Connecticut cable landfall will occur where sensitive subaquatic vegetation habitats are present, the use of HDD is crucial for avoiding and minimizing environmental impacts. Although Beacon Wind has already committed to employing HDD for the project’s landfall, BOEM should require use of HDD as a condition for project approval.

Comment Number: BOEM-2023-0037-0127-0069

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The presence of WTG structures in the water column has the potential to cause hydrodynamic effects that cause negative impacts to finfish, invertebrates, and EFH. Hydrodynamic effects occur when structures cause changes in current speed, wave height, and sediment transport. In the recently completed Final EIS for the Revolution Wind project, BOEM notes that hydrodynamic disturbance resulting from the development of offshore wind projects is a topic of emerging concern and that human-made structures, such as WTG foundations, “alter local water flow at a fine scale by potentially reducing wind-driven mixing of surface waters or increasing vertical mixing as water flows around structures.” [Footnote 286: Revolution Wind FEIS at 3.6-30.] It finds that there is a potential for hydrodynamic effects at significant distances from structures and that “these atmospheric and oceanographic effects can also influence stratification and mixing of surface waters.” [Footnote 287: Id. at 3.6-31.] The Revolution Wind Final EIS also explains that hydrodynamic effects from offshore wind structures could impact the Mid-Atlantic cold pool, which supports a diversity of marine fish and invertebrate species. [Footnote 288: Id.] It further observes that hydrodynamic effects would “lead to changes in surface current and circulation patterns within and around the WEAs, which would in turn affect the dispersal of planktonic organisms and EFH species with pelagic eggs and larvae.” [Footnote 289: Id. at 3.6-32.] This could affect the productivity and abundance of certain EFH species, result in localized effects on food web productivity, and change the importance of some habitats. [Footnote 290: Id. at 3.13-24, 88-89.]

The Draft EIS should analyze whether hydrodynamic effects are likely to result in negative impacts to the cold pool and, if so, should quantify such impacts. The Draft EIS should also analyze any impacts from hydrodynamic effects to EFH and to spawning fish populations, including any particular fish stocks that are known to spawn in the lease area and its vicinity. Moreover, the Draft EIS should include specific analysis of any impacts from hydrodynamic effects to finfish, invertebrates, and EFH in the area of Nantucket Shoals that is in the vicinity of the lease area.

Nantucket Shoals provides EFH for a number of overfished species, including Atlantic cod, windowpane flounder, winter flounder, and yellowtail flounder. For Beacon Wind, BOEM should consider whether excluding WTGs within the portion of the Beacon Wind lease area that overlaps with the 20-km buffer of the Nantucket Shoals 30-meter isobath could reduce hydrodynamic impacts to finfish, EFH, and invertebrate species in Nantucket Shoals, without compromising project viability.

Comment Number: BOEM-2023-0037-0127-0070

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: BOEM should require Beacon Wind to undertake pre-construction, construction and installation, and post-construction monitoring of benthic habitats and fisheries in the Project Area. At a minimum, the monitoring plan should require Beacon Wind to conduct the necessary pre-construction, construction, and post-construction monitoring of benthic habitats and associated flora and fauna to detect any physical changes and impacts to these habitats and species that occur because of construction activities, the presence of WTG structures in the water columns, hydrodynamic effects, electromagnetic field (EMF), noise, and

other impacts. For EMF, the plan should include monitoring of EMF impacts in areas where it is not possible to bury submarine export cables and/or interarray cables due to seabed features. Regarding hydrodynamic effects, the plan should attempt to monitor hydrodynamic impacts in the area of Nantucket Shoals that is in the vicinity of the lease area, as well as the proposed 20-km Nantucket Shoals buffer that overlaps the lease area. Moreover, the monitoring plan should require Beacon Wind to monitor impacts to sensitive habitats in the export cable corridors, including in Long Island Sound. The monitoring plan should also evaluate impacts to Atlantic cod—including impacts to spawning cod in areas with complex habitat [Footnote 291: For example, for the Revolution Wind project, BOEM is funding an acoustic telemetry study to better understand the distribution and habitat of spawning cod. BOEM should consider conducting a similar study in complex, hard bottom habitat areas of the Beacon Wind export cable corridor and including it in the analysis for the Beacon Wind Draft EIS to fully measure the project's impacts on Atlantic cod.]—and other overfished species with designated EFH in the lease area and in the vicinity of the export cable corridor. Finally, if there is an open loop cooling system at the offshore converter stations, the monitoring plan should evaluate the impacts from entrainment and impingement of marine organisms, as well as the impact of thermal water discharge to the ecosystem.

Beyond the monitoring measures already contemplated, BOEM, in consultation with Rhode Island, Connecticut, and New York fishery managers and NMFS, should determine whether other monitoring measures are needed to document and determine impacts to benthic habitat, invertebrates, finfish, and EFH from the Beacon Wind project.

Comment Number: BOEM-2023-0037-0128-0006

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Physical Resources• Geological Resources:○ Identify sediment quality, type, and chemistry including grain size within lease areas and along potential cable corridors.○ Evaluate the potential for contaminant concentration in sediments with grain sizes less than 90% sand and gravel, particularly within western Long Island Sound that has a history of sediment contamination.○ Identify existing erosional or non-depositional sedimentary environs.

Comment Number: BOEM-2023-0037-0128-0011

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify areas of importance for coral species.

Comment Number: BOEM-2023-0037-0128-0014

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Benthic and Shellfish Resources:○ Identify existing benthic and shellfish resources.

Comment Number: BOEM-2023-0037-0128-0025

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Evaluate micro-gyres and circulation changes around structures.

Comment Number: BOEM-2023-0037-0128-0026

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Evaluate scouring and sedimentation from turbine bases, cables, and scour protection, including long-term effects on cable burial resulting from coastal processes and storms.

Comment Number: BOEM-2023-0037-0128-0028

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Assess seafloor and land disturbance from offshore wind components, including but not limited to turbine structures, cables, etc.

Comment Number: BOEM-2023-0037-0128-0029

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Assess seafloor and land disturbance from construction methodologies, including but not limited to, anchoring, dredging, seafloor leveling, etc.

Comment Number: BOEM-2023-0037-0128-0044

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: o Evaluate impacts to sand waves: minimizing the area to be leveled; estimating area of impacted benthic habitat due to direct and indirect effects; estimating the frequency of maintenance activities and potential areas impacted; and evaluating whether levelling nearshore could impact coastal sediment budgets.

Comment Number: BOEM-2023-0037-0128-0045

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Benthic and Shellfish Resources: o Evaluate impacts from excavation, side casting, sediment dispersal. o Evaluate impacts from CWIS on egg and larval stages. o Evaluate required anchoring areas during construction and maintenance activities to

minimize areas of disturbance.

Comment Number: BOEM-2023-0037-0128-0073

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Operational and Maintenance (O&M) Impacts• Consider long-term habitat impacts, and intermittent impacts from maintenance activities.

- Consider vibration related impacts.
- Consider impacts from cable heat transfer.

Comment Number: BOEM-2023-0037-0128-0085

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Submarine Cable System Installation Plan and Burial Risk Assessment• Evaluate cable installation techniques to maximize burial depth and maintain cable bundling for the maximum possible distance. Note: above concerns with the proposed target burial depth.

- Evaluate co-locating unbundled submarine cables within the same trench and minimizing cable spacing to reduce impacts to the marine environment.
- Evaluate secondary cable protection measures and including how impacts have been avoided and minimized to the greatest extent possible. • Evaluate potential drill and blast techniques, including how blasting areas and associated impacts (e.g., noise, vibration, debris, disposal) will be avoided and minimized to the greatest extent possible. Identify protective measures and prioritize beneficial reuse of excavated materials where possible.

Comment Number: BOEM-2023-0037-0128-0101

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Benthic Disturbance• Quantify cable and scour protection disturbance areas.

Comment Number: BOEM-2023-0037-0131-0022

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The presence of eelgrass in Niantic Bay and at the mouth of Niantic River in proximity to Waterford, CT was identified in the COP (p. 5-255). We recognize and support the intent to use directional drilling (HDD) to avoid impacts to these vegetated areas. However, we note that eelgrass beds need to be accurately delineated during the growing season (May-September) and plans to avoid them should be fully explained in detail in the EIS.

Comment Number: BOEM-2023-0037-0131-0024

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: There is a brief discussion in the COP (5-304) regarding the introduction of non-indigenous species. The installation of 155 wind turbines will introduce hard bottom habitat and create opportunities for non-indigenous fouling organisms to establish themselves in the project area. According to the COP, however, since "...hard substrate is already available within the Project Area in the form of shipwrecks, artificial reefs, and derelict fishing gear, the introduction of wind turbine foundations is not expected to have a measurable impact on invasive species." The EIS should provide information on all known shipwrecks, artificial reefs and derelict gear to better support this argument.

Comment Number: BOEM-2023-0037-0131-0033

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The EIS should consider the impacts of impingement, entrainment, and heated and chlorinated discharge on the benthic and pelagic biological resources in the area of the converter stations, especially considering that the species present may change with changes in habitat caused by the introduction of the foundations for the wind turbines and the offshore substations. Scour protection, likely in the form of crushed rock is expected to be required around the base of the offshore structures. The introduction of new, complex hard substrate habitat on the seafloor have been found to act as artificial reefs.

Comment Number: BOEM-2023-0037-0150-0001

Commenter: Tor Vincent

Commenter Type: Individual

Comment Except Text: So, knowing that, we can assume that the magnetism from this cable will be disruptive to shellfish crowns in the near vicinity and there are no studies done, that I know of, that show what might be the effects or, you know, how many -- you know, what the swath of bottom -- the affected ground the cable would be -- cause that shellfish is the basis of a lot of the fish habitat cause it's a food source in a lot of the grounds where I fish.

Comment Number: BOEM-2023-0037-0150-0002

Commenter: Tor Vincent

Commenter Type: Individual

Comment Except Text: So, we haven't done any studies to know what that effect is, but if it's you know, even if the cables don't disturb the habitat, the fishing gear may be affected by being in the vicinity of it and that can be a long-term effect. So, we don't know anything about that at this point. Those are a few things to work out with probably pretty simple studies -- and it's such a massive cable.

I mean, I look at the -- I guess, look at the size, look at the maximum output as the maximum magnetism. I'm sure they can calculate all that. I've read most of the forms, so I don't -- I don't know what the answer is implying. I mean, I understand it's there, but I don't know how that

applies -- what the width is of the effect.

So, if we study that somehow, I think it would be effective to understand the harm done to the habitat.

Comment Number: BOEM-2023-0037-0152-0019

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Substrate transmission of pressure waves caused by turbine noise Penetration of acoustic waves into sandy sea floors at low angles / Sholte waves• effects on distribution of benthic invertebrates in response to artifact cues from such waves, with the animal making 'mistakes' (being effected by non-biological cues in ways that are usually responses to biologically meaningful stimuli)• consequential effects on predator-prey dynamics• consequential mortality spikes• changes in species composition of communities due to differences in which species 'make mistakes'• effects on biodiversity

Comment Number: BOEM-2023-0037-0152-0050

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: BOEM, on many other environmental reviews keeps asserting that recovery from non-permanent impacts to benthic resources is expected to occur rapidly, e.g. “benthic communities affected by the one-time disturbance associated with wind farm cable installation would likely recover in the short term” [Quoted BOEM from Empire Wind DEIS 3.6-10]. However, this appears to be contradicted by available evidence from other wind farms for which restoration of ecological communities took 5 years and resulted in decreases in biodiversity. French researchers showed that an electrical cable buried in 2012 adversely affected fields of benthic organisms within the vicinity of the cable. They found a decreasing gradient of ecological health status (as measured by biodiversity) can be observed going from the Haploops bank to the midline of the electrical cable, emphasizing that the area remains an adversely impacted environment, even after 5 years from the cable installation. Nearer the cable, a dense, unbalanced species assemblage was highly dominated by a single species. Biodiversity increased with distance away from the cable. [“HOOPLA” case study on Haploops fields by WAMEC (West Atlantic Marine Energy Community); internet reference <https://www.weamec.fr/en/publications/2018-champilou-j-bforaminiferal-faunas-associated-to-haploops-spp-mats-on-the-atlantic-french-coast-and-effects-of-a-wind-farm-installation-on-the-area-weamec-project-hoopla/>].

Comment Number: BOEM-2023-0037-0152-0051

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: In support of its assertions it has made that recovery from cable-laying would be quick, the Bureau often cites evidence that recovery following sand mining in the U.S. Atlantic and Gulf of Mexico takes between 3 months to 2.5 years. However, the means by which sand is harvested/mined from the ocean floor for beach nourishment and the means by which sand is removed to create trenches for cable- laying differ grossly. To create the trenches for offshore wind-energy-related cables, downward-directed high-pressure jets and/or rotating

vortices would have to be used to blast trenches into existence on the floor of the Long Island Sound. The Bureau cannot possibly be under the illusion that the latter does not causes greater sediment and ecosystem disturbance that is more difficult to recover from. The reference to recovery timeframe referencing disturbances from sand mining as approximate equivalents is disingenuous. The Bureau is aware that as a prefatory step to cable installation, a mass flow excavator will be used to blast or blow (not dig) trenches into the seafloor via the use of powerful jets or what are essentially upside-down tornadoes of downward-forced water created with rotating machinery powerful enough to blast away (using high velocity water flows) piles of large rocks. It is also known that these excavators which would blast water at the Sound floor create huge plumes of sediment that can be carried a distance away from the trench site, cover sea life on the benthos with particulates, and clog feeding siphons of ecologically important fauna. As discussed above, deoxygenation results from bacterial and harmful algal blooms. Deoxygenation is still a serious problem for much of the Long Island Sound.

A.2.13 Coastal Habitat and Fauna

Comment Number: BOEM-2023-0037-0128-0052

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Terrestrial Habitats: o Evaluate impacts to terrestrial vegetation, including to national, State, and municipal parklands, and other conservation areas. o Evaluate measures to prevent the spread of invasive species.

Comment Number: BOEM-2023-0037-0128-0053

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Coastal Resources Impacts • Evaluate potential temporary and permanent impacts to land use and water-dependent uses along the shoreline from siting new infrastructure that will need to be constructed to accommodate the Proposed Action, including temporary docks and piers and proposed shoreline stabilization.

- Consider impacts to Coastal Erosion Hazard Areas (CEHA) (New York State Environmental Conservation Law Article 34).

- Consider potential impacts to NYS Significant Coastal Fish and Wildlife Habitats using the State narratives. Available at: <https://dos.ny.gov/significant-coastal-fish-wildlife-habitats>.

A.2.14 Finfish, Invertebrates, and Essential Fish Habitat

Comment Number: BOEM-2023-0037-0061-0024

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We strongly support all efforts to avoid impacts to SAV and other structured habitats along the cable route, as recommended in the Council policies. The New England Council has designated inshore areas from the coastline to 20 meters depth as habitat areas of particular concern (HAPC) for juvenile Atlantic cod. Structurally complex habitats,

including eelgrass, mixed sand and gravel, and rocky habitats (gravel pavements, cobble, and boulder) with and without attached macroalgae and emergent epifauna, are essential habitats for these fish. In inshore waters, young- of-the-year juveniles prefer gravel and cobble habitats and eelgrass beds after settlement, but in their absence, predators also utilize adjacent un-vegetated sandy habitats for feeding. The New England Council recently recommended an HAPC for cod spawning habitat and complex habitats. The designation overlaps the Beacon Wind lease area and other Southern New England lease areas and is pending approval by NOAA Fisheries. The Mid-Atlantic Council has designated all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, as HAPC for summer flounder. In defining this HAPC, the Mid-Atlantic Council also noted that if native species of SAV are eliminated, then exotic species should be protected because of functional value; however, all efforts should be made to restore native species. SAV also provides important habitat for many other species.

Comment Number: BOEM-2023-0037-0061-0027

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: In their EFH conservation recommendations for the Revolution Wind project, NMFS articulated several recommendations that are also pertinent to Beacon Wind including continued and further use of telemetry and passive acoustic surveys within and outside of the lease area before, during, and after construction to detect cod spawning activity. Collecting data on potential cod spawning activity within the lease area will be important to inform the EIS and to identify whether mitigation measures are needed. NMFS also recommended, and we agree, that data and results of these and other surveys be made available to NMFS Habitat and Ecosystem Services Division. EFH consultation should begin early in the EIS development process.

Comment Number: BOEM-2023-0037-0061-0034

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Appendix CC includes an assessment of electric and magnetic fields (EMF) which states that EMF generated from HVDC submarine export cables and HVAC inter-array cables are expected to have a “de minimis risk to all demersal marine species for the majority of the cable route where the cable will be buried and either bundled or separated” (page xiii) and that “population level risks to elasmobranchs and finfish associated with the DC magnetic fields” are also evaluated as de minimis (page xiv). Elasmobranchs (namely skates and spiny dogfish) and other species exhibited a strong behavioral response to EMF in a field study conducted by University of Rhode Island and BOEM (Hutchison et al. 2018, Hutchison et al. 2020) [Footnote: Hutchinson, Z. L., P. Sigray, H. He, A. B. Gill, J. King and C. Gibson (2018). Electromagnetic Field (EMF) Impacts on Elasmobranch (shark, rays, and skates) and American Lobster Movement and Migration from Direct Current Cables, U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs.; also see Hutchison, Z. L., A. B. Gill, P. Sigray, H. He and J. W. King (2020). Anthropogenic electromagnetic fields (EMF) influence the behaviour of bottom-dwelling marine species. Scientific Reports 10(1): 4219.], which is referenced in the COP (page 1-5). Potential EMF impacts are a concern to the fishing community and the extent to which EMF may or may not impact marine species should be thoroughly described in the EIS. Volume 2e of the COP states

that “EMF modeling and assessments (will) identify potential mitigation requirements, such as the use of proper shielding and sufficient burial of...cables (where feasible) to reduce EMF impacts” and if target burial depth cannot be achieved, then protective materials may be added “to minimize the potential for gear snags, as feasible” (page 8-243). Further research citations would be helpful to verify the effectiveness of these types of mitigation measures. Potential differences in impacts between HVAC and HVDC cables should be evaluated in the EIS since both are under consideration (interarray and export cable, respectively).

Comment Number: BOEM-2023-0037-0086-0006

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Conservation of Essential Fish Habitat (EFH) is a critical element of sustainable modern fisheries management. Both state and federal fishery managers have identified habitats that support critical life history processes such as spawning, breeding, feeding, and growth to maturity. A complete EIS must include a detailed assessment of the effects of the project on these habitats, including EFH designated under the MSA and a range of alternatives to conserve these habitats and minimize the effects of the project on EFH and other marine habitats.

Comment Number: BOEM-2023-0037-0086-0007

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Because the project is sited in federal waters and may have adverse effects on EFH, BOEM should consult with the New England Fishery Management Council under the EFH provisions of the MSA that provides a clear mechanism for fisheries managers to comment on and make recommendations concerning any activity that may affect habitat including EFH. [Footnote 6: 16 U.S.C. 1855] Particular attention should be given to the effects of the project on areas that have been designated as Habitat Areas of Particular Concern (HAPC) under MSA because of their ecological importance, sensitivity to human-induced environmental degradation, the extent of threats posed by development, or the rarity of the habitat type. It is important for BOEM to note that in 2022, The New England Fishery Management Council voted in late June to establish a new HAPC that overlaps offshore wind-energy lease sites in Southern New England and includes a 10-kilometer buffer on all sides of the sites. [Footnote 7: New England Fishery Management Council. 2022. Council Approves HAPC for Southern New England; Previews Northeast Regional Habitat Assessment Data Explorer.] Further action is pending on this designation, but BOEM must ensure this area is considered appropriately in its EFH consultation.

Comment Number: BOEM-2023-0037-0086-0023

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Essential Fish Habitat, Habitat Area of Particular Concern and Deep-Sea Coral Areas As discussed above, a wide range of areas of the ocean have been designated by fisheries managers for their importance in supporting sustainable fisheries including EFH for spawning, breeding, feeding and growth, and HAPC, a subset of EFH that are important,

sensitive to human-induced environmental degradation, threatened by development, or rare. Further, some areas have been identified as deep-sea coral areas under the deep-sea coral Research and Technology Program and support slow-growing corals in temperate and deep habitats. [Footnote 20: 16 U.S.C. 1884] The EIS should explore these habitat areas in and around the project site and include alternatives to avoid these areas, particularly HAPCs. As discussed above, the northeast wind lease areas have been suggested as an HAPC by the New England Fishery Management Council and BOEM should be sure to appropriately consider this area in its siting. If the areas cannot be avoided, alternatives should be developed to minimize the frequency, intensity, and duration of the effects with clear requirements to monitor the effects.

Comment Number: BOEM-2023-0037-0114-0002

Commenter: Daniel, Dylan Bettinger, Bust

Organization: TurbineHub

Commenter Type: Organization

Comment Except Text: Habitats of Particular Concern: Our marine ecosystem is teeming with biodiversity, with 46 notable habitats that demand special attention, including species such as the Atlantic Sea Scallop, Atlantic Wolffish, Little Skate, Atlantic Herring, and Atlantic Cod, among others.

Comment Number: BOEM-2023-0037-0115-0034

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The environmental concerns are not just on the localized increases in water temperature around DC Converter OSPs that could result in mortality of some species intolerant of high temperatures. They also include the mortality of larval and juvenile fish (potentially adult fish too as the COP does not specify the size range of species that could be pulled into the intake) removed from the water column and killed during the filtration process, which removes suspended particles.

Comment Number: BOEM-2023-0037-0115-0046

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: EFH assessments and consultations conducted in later project stages have also failed to adequately assess the impacts of G&G surveys to the acoustic environment, as these activities. For example, consultations for the Vineyard Wind and South Fork projects do not evaluate the projects' impacts to EFH from acoustic surveys under the SAP or the COP.

Comment Number: BOEM-2023-0037-0118-0006

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should detail how Beacon Wind intends to monitor to minimize impacts from the entrainment of zooplankton (eggs and larval organisms) in the HVDC converter station cooling system(s).

Comment Number: BOEM-2023-0037-0118-0007
Organization: Massachusetts Office of Coastal Zone Management
Commenter Type: State Agency

Comment Except Text: The EIS should quantify the gallons per day of seawater that would be withdrawn from the lease area to cool the converter equipment, and it should describe any measures that will be taken to avoid impingement of juvenile and adult fish (e.g., flow rate limit) and avoid or minimize entrainment and mortality of eggs and larvae in the cooling system.

Comment Number: BOEM-2023-0037-0122-0012
Commenter: Meghan Lapp
Organization: Seafreeze Shoreside, Seafreeze Ltd.
Commenter Type: Organization

Comment Except Text: The COP states that “No impingement of juvenile or adult fish is anticipated from operation of the CWIS”. [Footnote 21: Ibid] The same cannot be said for larval stages, or for zooplankton. As offshore wind farms, as previously stated, already decrease the primary productivity of an area, the impingement and entrainment of larvae and plankton would be an additional stressor on the ecosystem and result in a decrease of food production, impacting both fisheries and whales, etc. This must be quantified and added to the DEIS for both project specific and a standalone cumulative impacts assessment that is not part of the No Action Alternative.

Comment Number: BOEM-2023-0037-0128-0013
Commenter: Sean, Kisha Mahar, Santiago
Organization: New York State
Commenter Type: State Agency

Comment Except Text: Characterize all NYS Significant Coastal Fish and Wildlife Habitats that may be affected by the Proposed Action (e.g., Great Gull Island, Hempstead Harbor, Little Neck Bay, North and South Brother Islands). Source: <https://dos.ny.gov/significant-coastal-fish-wildlife-habitats>

Comment Number: BOEM-2023-0037-0128-0015
Commenter: Sean, Kisha Mahar, Santiago
Organization: New York State
Commenter Type: State Agency

Comment Except Text: • Fish (Pelagic, Elasmobranchs) and Invertebrates:
o Identify current stock status for different species; migration routes; life history stages; egg and larval seasonality and abundance; forage species not just species with high economic value; seasonal distribution and abundance for the area in the vicinity of the Proposed Action.
o Identify Essential Fish Habitat, including spawning areas; recruitment and nursery areas; and food web interactions.

Comment Number: BOEM-2023-0037-0128-0081

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Seasonal Construction Windows• Consider time of year and time of day restrictions for protected species. For example, the time of year restriction to protect Atlantic sturgeon in LIS is no in-water work between May 1 – Nov 1 and for winter flounder it is no in-water work between Dec 15 – May 31 in water depths less than 20’.

Comment Number: BOEM-2023-0037-0131-0023

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: According to the COP (5.5.1.1.2), hard bottom was not encountered in the lease area. While this is good, there is an abundance of Atlantic sea scallops and ocean quahogs in the lease area. A thorough discussion of the presence and potential impacts to these commercially-important species, and other commercial finfish and invert species present, should be provided in the EIS.

Comment Number: BOEM-2023-0037-0131-0030

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The Beacon Wind project includes two offshore substations that will each separately withdraw nearly 10 million gallons per day (MGD) of seawater for once-through cooling of electrical converter equipment. By project design the heated cooling water will be discharged back into the source water (ocean). Once through cooling systems have long been shown to have negative impacts on aquatic life due to impingement and entrainment, particularly to early life stages of fish and shellfish. In addition, the discharge of heated water can cause stress and other negative impacts to the community of aquatic organisms in the area of the discharge.

Comment Number: BOEM-2023-0037-0131-0032

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The DEIS should include a detailed analysis of impacts resulting from impingement, entrainment, and discharge of heated effluent. In particular, the EIS should quantify the cooling system’s expected entrainment and impingement losses to zooplankton, juvenile and adult fish, and the impact of those losses on finfish resources including, all “...threatened or endangered or otherwise protected federal, state, or tribal species, or critical habitat for these species, within the hydraulic zone of influence of the cooling water intake structure.” 40 CFR 125.84(b)(4)(i). The analysis should include estimates of the impact on sea turtles, marine mammals, birds, and the endangered North Atlantic right whale. The EIS should similarly quantify the impacts resulting from the discharge of heated cooling water at each proposed substation location.

Comment Number: BOEM-2023-0037-0131-0036

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The EIS should include the considerations that were given to choosing the mesh size or spacing of the “Crash Bars” (Trash Racks) that will be installed at the intake pipe openings of the offshore converter stations. Although the applicant has indicated that the impingement requirement will be met by limiting the intake velocity to ≤ 0.5 fps, which is based on fish swim speed and endurance, Beacon Wind’s screen mesh is significantly larger than another proposed nearby project, namely Sunrise Wind. Sunrise proposes to use a mesh size of 61 mm x 20 mm (approximately 2.4 X 0.8 inches), whereas Beacon Wind proposes 100 mm x 100 mm (approximately 4 X 4 inches), which is over eight times larger an opening. Aside from the intake velocity, a smaller screen mesh could prevent the entrainment of juveniles and smaller fish or other organisms. The EIS should include an analysis of mesh size in relation to impacts to aquatic life. This analysis should include the feasibility of using coarse mesh wedgewire screens at the opening of the intake pipes, including any documented use at any offshore location such as those used at other wind or oil and gas facilities.

Comment Number: BOEM-2023-0037-0133-0017

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Assess risk of increasing shark prevalence: BOEM needs to have the project developers assess the likelihood that sharks will be attracted to the wind farm areas based on their sensitivity to EMFs and the increased food due to bird and bat deaths. More prevalent sharks pose a greater risk to swimmers, fishermen, tourists, and boaters. An increased incidence of sharks could also harm the economy, RI’s reliance on ocean uses and tourism. The DEIS should analyze this potential impact.

Comment Number: BOEM-2023-0037-0151-0004

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Additionally, we recommend BOEM require all available mitigation measures to minimize impacts of the project on federally managed fish species and their habitats, and the fishing communities that rely on these resources. The Beacon Wind lease area and export cable route overlaps with spawning activity for commercially important fish species, essential fish habitat (EFH), including identified Habitat Areas of Particular Concern (HAPC), and sensitive estuarine environments. Atlantic cod, in particular, are vulnerable to population-level impacts from project construction. In June 2022, the New England Fishery Management Council adopted a new HAPC for spawning Atlantic cod and complex habitats, which overlaps directly with the lease area. [Footnote 2: To be considered for an HAPC designation, the 2002 EFH regulations (50 CFR Part 600.815(a)(8)(i)-(iv)) require one or more of the following four criteria to be met: 1) Importance of historic or current ecological function for managed species; 2) sensitivity to anthropogenic stresses; 3) extent of current or future development stresses; and/or 4) rarity of the habitat type. The HAPC for spawning cod meets all four criteria and complex habitat meets three of the four criteria (See the Southern New England Habitat Area of

Particular Concern Framework at <https://d23h0vhs26o6d.cloudfront.net/220822-SNE-HAPC-Framework.pdf>.)] The identification of HAPCs highlights the importance of cod spawning habitats and complex habitat in this area and creates an obligation to evaluate potential adverse impact to such habitats and consider measures that would minimize that negative effect. The proposed cable route also overlaps with complex habitats and other sensitive estuarine environments, including HAPC for summer flounder. The export cable route proposed through Long Island Sound has the potential to substantially impact estuarine habitats as it transects the entirety of Long Island Sound. We describe and provide supporting rationale for a Habitat Impact Minimization Alternative in Attachment A that we recommend be fully evaluated for inclusion in the DEIS. This alternative considers measures to reduce impacts to HAPCs and other habitats through alternative export cable routing to minimize impacts to Long Island Sound. Attachment A also identifies additional mitigation measures to further reduce impacts to HAPCs and sensitive life stages of federally managed species (e.g., time of year restrictions, avoidance/minimization measures), which we recommend be evaluated for all alternatives.

Comment Number: BOEM-2023-0037-0151-0023

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Cod spawning activity in southern New England occurs between November and April. Results from trawl surveys in the area indicate that spawning condition cod were captured both within and adjacent to the Beacon Wind lease area during the Vineyard Wind/NE Wind (Avangrid Renewables) pre-construction fisheries surveys completed with SMAST (Van Parijs, S., Dean, M., McGuire, C., Cadrin, S., and Frey, A. 2022, July 26-28. Preconstruction evaluation of Atlantic cod spawning in Southern New England offshore wind areas [Conference presentation]. NYSERDA State of the Science Workshop, Tarrytown, NY, United States). The presence of ripe and running cod in the trawl indicates that spawning activities likely occur within the Beacon Wind lease area; however, surveys to detect the location of spawning aggregations have not yet been conducted in this area. Additional baseline studies are necessary to understand how southern New England cod are using the Beacon lease area for spawning. We recommend site-specific acoustic telemetry studies be conducted for this lease area to help inform your evaluation of project impacts and identification of mitigation measures to avoid and minimize impacts to cod spawning habitat. Spawning aggregations can be easily disturbed by in-water activities and disruptions to spawning aggregations may affect reproductive success, which could result in significant long-term effects to the stock, particularly if construction activities occur during spawning periods over multiple seasons. Cod eggs and larvae are also at risk of impingement and entrainment from open loop cooling systems associated with the offshore substations and water withdrawals associated with suction bucket installation.

Comment Number: BOEM-2023-0037-0151-0024

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text:

Comment Number: BOEM-2023-0037-0151-0032

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: For benthic resources, fish, and invertebrate species, this section should include an assessment of species status and habitat requirements, including benthic, demersal, benthic-pelagic, and pelagic species and infaunal, emergent fauna, and epifaunal species living on and within surrounding substrates as well as times of year present and any potential trends in resource condition. We strongly recommend that BOEM utilize the EFH Information Needs document to support the development of the EFH, finfish and invertebrates and benthic resources sections of the EIS, and to share this resource with their contractors. [Footnote 6: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/technical-guidance-offshore-wind-energy-projects-greater-atlantic-region>]

Comment Number: BOEM-2023-0037-0151-0037

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EIS should include a full evaluation of anticipated effects of both the Beacon Wind project and the cumulative offshore wind scenario on hydrodynamics and oceanographic and atmospheric conditions in the region. This analysis should include consideration of the impacts on species distribution, foraging conditions, and any change in the ability of the ecosystem to support protected species and other marine resources, including commercially important fish species. Based on the best available information (as cited in the discussion of impacts to Nantucket Shoals above), oceanographic and atmospheric effects are anticipated at a range of temporal and spatial scales. Project specific impacts are anticipated to vary, based on regional and local oceanographic and atmospheric conditions as well as the size and locations of wind farms in the area. As supported by the available literature, the large-scale energy extraction and the physical presence of wind turbine foundations could have a significant impact on wind speeds, wave heights, currents, vertical stratification of the water column, and primary production in this region. This could affect a number of federally managed fish species and protected species. We recognize that the current lack of studies of these issues in southern New England results in some uncertainty regarding the scope and scale of these impacts. However, given the potential for the Beacon Wind project to have significant consequences to the ecosystem and the species that depend on it, it is critical that the EIS use the best available scientific information, including the consideration of preliminary results of ongoing studies, to analyze and address these impacts. [Footnote 15: Chen, C., Zhao, L., Gallagher, S., Ji, R., He, P., Davis, C., ... & Bethoney, D. (2021). Impact of larval behaviors on dispersal and connectivity of sea scallop larvae over the northeast US shelf. *Progress in Oceanography*, 195, 102604.] In particular, the EIS should include a robust assessment of the potential effects of both the Beacon Wind project and the full build-out scenario on prey resources. The consideration of potential impacts to plankton distribution should include effects to distribution, aggregation, and abundance, as well as impacts to larval distribution and larval recruitment. The consequences of these impacts on other species should also be addressed.

Comment Number: BOEM-2023-0037-0151-0059

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: As currently described in the NOI, this facility (inclusive of the wind farm area, offshore and inshore export cables and corridors, and shoreside landing points) will be constructed, operated, and maintained in areas designated essential fish habitat (EFH) for various life stages of species managed by the New England Fishery Management Council (NEFMC), Mid-Atlantic Fishery Management Council (MAFMC), and NMFS. Species for which EFH has been designated in the project area include, but are not limited to, Atlantic cod (*Gadus morhua*), summer flounder (*Paralichthys dentatus*), winter flounder (*Pseudopleuronectes americanus*), Northern longfin squid (*Doryteuthis pealii*), haddock (*Melanogrammus aeglefinus*), monkfish (*Lophius americanus*), ocean pout (*Zoarces americanus*), pollock (*Pollachius virens*), silver hake (*Merluccius bilinearis*), winter skate (*Leucoraja ocellata*), little skate (*Leucoraja erinacea*), windowpane flounder (*Scophthalmus aquosus*), bluefish (*Pomatomus saltatrix*), black sea bass (*Centropristis striata*), red hake (*Urophycis chuss*), scup (*Stenotomus chrysops*), yellowtail flounder (*Limanda ferruginea*), Atlantic sea scallop (*Placopecten magellanicus*), Ocean quahog (*Arctica islandica*), and Atlantic surfclam (*Spisula solidissima*). The proposed project area is also designated EFH for several Atlantic highly migratory species, including, but not limited to albacore tuna (*Thunnus alalunga*), yellowfin tuna (*Thunnus albacares*), bluefin tuna (*Thunnus thynnus*), blue shark (*Prionace glauca*), sandbar shark (*Carcharhinus plumbeus*), white shark (*Carcharodon carcharias*), dusky shark (*Carcharhinus obscurus*), tiger shark (*Galeocerdo cuvier*), and sand tiger shark (*Carcharias taurus*).

Comment Number: BOEM-2023-0037-0151-0060

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The most up-to-date EFH and HAPC designations should be used in your evaluation of impacts to EFH. HAPCs are a subset of EFH that are especially important ecologically, particularly susceptible to human-induced degradation, vulnerable to developmental stressors, and/or rare. EFH and HAPC for species managed by the NEFMC have been modified under the Omnibus Amendment which was approved and implemented in 2018. In June 2022, the New England Fishery Management Council adopted a new HAPC for spawning Atlantic cod and complex habitats which overlaps directly with the lease area and HAPC for summer flounder is also present in the project area. The EFH mapper should be used to query, view, and download spatial data for the species managed by the New England, Mid-Atlantic, and South Atlantic Councils and for Highly Migratory Species. The EFH mapper can be accessed from our habitat website at <https://www.habitat.noaa.gov/protection/efh/efhmapper/>. You should also be aware that the Final Amendment 10 to the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) went into effect on September 1, 2017. This amendment contains several changes to the EFH designations for sharks and other highly migratory species. More information can be found on our website at <https://www.fisheries.noaa.gov/topic/atlantic-highly-migratory-species>.

Comment Number: BOEM-2023-0037-0151-0061

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The NEPA document, and the EFH, benthic resources, finfish and invertebrates sections, in particular, should accurately describe the project area, including both the export cable corridor and lease area, and the resources that rely upon these habitats. The document should fully describe the distinct habitat features of the entire project area and the importance of different habitat types for providing structure and refuge, particularly for juvenile species and other sensitive life stages. The evaluation of project impacts should not only consider impacts of the project against the cumulative geographic scope (e.g. the OCS), but also clearly evaluate anticipated impacts of project construction and operation to the distinct habitat types found in the lease area, along the export cable route, and inshore landfall locations. The document should analyze the effects to the physical habitat features and the biological consequences of those effects. It will be important to consider impacts of the project on all life stages (adults, juveniles, larvae, eggs), and we recommend focusing on species and life stages that may be more vulnerable to impacts.

Comment Number: BOEM-2023-0037-0151-0062

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The Beacon Wind project is proposed to include one submarine export cable route under BW1, and will assess two options for submarine export cable routes under BW2, all of which are proposed to run through Block Island Sound and Long Island Sound and overlap vulnerable complex habitats. Loss of these important habitats may result in cascading long term to permanent effects to species that rely on this area for spawning and nursery grounds and the fisheries and communities that target such species. The evaluation of impacts from project construction and operation should evaluate the potential for recovery and the anticipated recovery times based on the habitat type and components that would be impacted. The analysis should fully consider the potential impacts of proposed action to sensitive habitats and life stages in the lease area and cable corridor, including estuarine habitats expected to be impacted by the proposed project. Complex habitats may be permanently impacted or take years to decades to recover from certain impacts and this variability in recovery times by habitat type and components should be fully discussed and analyzed in the document.

Comment Number: BOEM-2023-0037-0151-0063

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The analysis should include a broad discussion of the potential effects of habitat alteration from construction and operation of the project using the best available scientific information. The analysis should address the potential impact of converting smaller-grained hard habitats (e.g. pebbles and cobbles) that support early life history stages of finfish to smaller grained soft- sediment habitats (i.e. "fining" of sediments) through cable installation within complex habitats, as well as to artificial substrates that may attract larger predator species within areas where the target cable burial depth is not attainable and secondary cable

protection is necessary. Within soft bottom habitats WTGs and associated scour protection may create a reef effect, displacing native species and habitats and creating artificial habitats. The document should clearly distinguish the difference between man-made structures and substrates and the natural habitat present in the project area. Specifically, artificial habitats are only a component of the EFH designation for two managed fish species (black sea bass and red hake) in the region. The distinction between the natural and man-made structures should be incorporated into the analysis and should not be evaluated as equal in terms of habitat functions and values. The limitations of habitat value from scour and cable protection, and other man-made structures, should be clearly disclosed and analyzed. Additionally, the proposed OSS and associated HVDC converters using open loop cooling systems will result in entrainment and impingement of eggs and larvae and produce heated effluent discharges. These open loop cooling systems may adversely affect planktonic stage eggs and larvae along with plankton important to filter feeding fish and whales. The EIS should evaluate the impacts of these HVDC converter stations on resources in the project area and identify potential measures to minimize those effects, including relocation of the OSS to areas outside important spawning and foraging areas.

Comment Number: BOEM-2023-0037-0151-0064

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The analysis should focus on impacts to EFH for species and life stages that are particularly vulnerable to project construction and operation. Atlantic cod spawn in the project area between November and April and their spawning behaviors, including their reliance on acoustic communication and high site-fidelity, leave them extremely vulnerable to impacts from project construction. New information on the stock structure of Atlantic cod in U.S. waters of the northwest Atlantic has identified five separate, but interrelated, spawning sub-populations in the region, with the southernmost sub-population, southern New England, overlapping the project area. [Footnote 28: McBride R. S., R. K. Smedbol, (Editors). 2022. An Interdisciplinary Review of Atlantic Cod (*Gadus morhua*) Stock Structure in the Western North Atlantic Ocean. NOAA Technical Memorandum NMFS-NE-273. Woods Hole, Massachusetts: US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Fisheries Science Center. i-x, 264pp. <https://repository.library.noaa.gov/view/noaa/48082>] The extent of proposed development from this project and others in southern New England leaves this sub-population of cod vulnerable to project effects at a population-level scale. Additionally, longfin squid migrate inshore into the project area from deeper waters starting in April to spawn in shallow shelf waters, returning to deeper waters in August. A semelparous species, longfin squid, also engage in a social spawning behavior that is easily disrupted, and have demersal eggs that are susceptible to mortality from abrasion and burial. Winter flounder is another species that has demersal eggs that are particularly vulnerable to sedimentation and burial, especially in embayments and estuarine environments. Turbidity and sediment re-deposition from construction activities, could result in mortality for demersal eggs and larvae within the project area and along the export cable corridor, particularly for habitats and sensitive life stages in the Long Island Sound. Sessile shellfish species may also be more vulnerable to project impacts, as they cannot vacate construction areas. Additionally, vibration and disturbance can cause shellfish to close their valves, limiting respiration and feeding behavior. Potential impacts of the project on vulnerable life stages, including potential impacts to spawning, recruitment, and to early life stages (e.g. habitats that support early stage juveniles after they settle to the bottom) as well as the cumulative population level effects that may occur as a result of construction timing over

multiple seasons should be discussed in detail. Specific measures for avoiding and minimizing impacts (e.g. restricting construction activities when vulnerable life stages are present) should also be fully identified and analyzed in the EIS.

Comment Number: BOEM-2023-0037-0151-0090

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: As stated above, adverse impacts to EFH may result from actions occurring within or outside of areas designated as EFH. In addition, the EFH final rule also states that the loss of prey may have an adverse effect on EFH and managed species. As a result, actions that reduce the availability of prey species, either through direct harm or capture, or through adverse impacts to the prey species' habitat may also be considered adverse effects on EFH. The EFH regulations state that for any Federal action that may adversely affect EFH, Federal agencies must provide NMFS with a written assessment of the effects of that action on EFH (50 CFR 600.920(e)). This EFH Assessment should include analyses of all potential impacts, including temporary and permanent and direct and indirect individual, cumulative, and synergistic impacts of the proposed project.

Comment Number: BOEM-2023-0037-0151-0091

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EFH assessment must contain the following mandatory elements: (i) a description of the action, (ii) an analysis of the potential adverse effects of the action on EFH and the managed species, (iii) the federal agency's conclusions regarding the effects of the action on EFH, and (iv) proposed mitigation, if applicable (50 CFR 600.920(e)(3)). Due to the potential for substantial adverse effects to EFH from the proposed project, an expanded EFH consultation as described in 50 CFR 600.920(f) is necessary for this project. As part of the expanded EFH consultation, the EFH Assessment for the proposed project, the assessment should also contain additional information, including: (i) the results of an on-site inspection to evaluate the habitat and the site specific effects of the project, (ii) the views of recognized experts on the habitat or species that may be affected, (iii) a review of pertinent literature and related information, (iv) an analysis of alternatives to the action, and (v) other relevant information.

Comment Number: BOEM-2023-0037-0151-0093

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We encourage BOEM to work with us as you prepare the EFH assessment and to use the information and tools we have developed to facilitate the consultation process for offshore wind. Accurate characterization and delineation of habitats within the project area is a critical component of the EFH assessment and a prerequisite for meaningful and appropriate EFH conservation recommendations to be developed for incorporation into the project. To aid BOEM and project applicants in the development of comprehensive and complete EFH Assessments, we have published our Recommendations for Mapping Fish Habitat, dated March 2021. [Footnote 38:

https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/60637e9b0c5a2e0455ab49d5/1617133212147/March292021_NMFS_Habitat_Mapping_Recommendations.pdf We recommend habitat mapping data be shared directly with us in usable GIS format for review, apart from the body of the EFH Assessment and maps and figures contained therein. The analysis in the EFH assessment should pay particular attention to HAPCs, sensitive life stages of species, ecologically sensitive habitats, and difficult-to-replace habitats such as natural hard bottom substrates, particularly substrates with attached macroalgae and epifauna (including corals), SAV, and shellfish habitat and reefs. To further streamline the consultation process, we also shared a technical assistance document with you in January of 2021, titled Essential Fish Habitat (EFH) Information Needs for Offshore Wind Energy Projects in the Atlantic which provides a checklist of information that should be incorporated into the EFH assessment. The EFH assessment provided to us for review should follow the structure of the EFH Assessment Template for Offshore Wind Energy Projects developed by BOEM and NMFS Habitat and Ecosystem Services Division staff with the assistance of the Volpe Center. The intent of the development of the EFH Assessment Template was to help ensure our receipt of complete EFH assessments that provide the necessary information and detail for us to evaluate project-level impacts. Should the EFH assessment provide insufficient details to assess impacts of the project, we may determine that the assessment is incomplete and that consultation under the MSA cannot be initiated, or we may provide precautionary conservation recommendations based upon the level of information and analysis available.

Comment Number: BOEM-2023-0037-0151-0095

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Excerpt Text: Under the FWCA, our authority extends to numerous other aquatic resources in the area of the proposed project, including, but not limited to, the following species and their habitats: American lobster (*Homarus americanus*), sand lance (*Ammodytes dubius* and *Ammodytes americanus*), striped bass (*Morone saxatilis*), American shad (*Alosa sapidissima*), alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*) (collectively known as river herring), Atlantic menhaden (*Brevoortia tyrannus*), Atlantic silversides (*Menidia menidia*), oyster (*Crassostrea virginica*), blue mussel (*Mytilus edulis*), tautog (*Tautoga onitis*), weakfish (*Cynoscion regalis*) and other assorted fish and invertebrates. NOAA jointly manages a number of these species through Interstate FMPs with the Atlantic States Marine Fisheries Commission. A list of Commission species and plans can be found on their website at <http://www.asmf.org>.

We anticipate all of the relevant species, including those mentioned above, will be included in your impact assessments, both in the EFH Assessment and NEPA document. We also expect the assessment to include impacts to the recreational and commercial fishing communities that rely on these species. The behaviors and habitat needs of diadromous and estuary-dependent fishes (associated with cable route locations) may not be represented by a discussion solely of the surrounding marine fishes in the WTG area. The discussion for FWCA species should be designed around an ecological guild model that uses locally important species to evaluate the project impacts to organisms or populations associated with the various trophic levels and life history strategies exhibited by FWCA species known to occupy the project area as residents or transients. Focus should be on issues surrounding particular species, life history stages, or habitat components that would be most susceptible to the various potential project impacts.

Comment Number: BOEM-2023-0037-0152-0017

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Examine Profundity of Species Redistributions resulting from the project and those like it• Changes to fish migration patterns• Changes to ability to use settlement cues for organisms which have planktonic larval stages in finding suitable habitat in which to develop to later stages of lifeo Consider mechanisms e.g. inability to detect sound reflection off of biofilm, due to noiseo Maladaptive settlement trigger from anthropogenic noise• Settlement in random areas that may not be conducive to support life• Failure to develop to next larval stage• Anthropogenic noise can be expected to increase mortality for those species whose larvae select suitable settlement habitat by vibration and hearing the sounds that such patches of habitat emit and reflect.

Comment Number: BOEM-2023-0037-0152-0018

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Consider cascade effects for various (specific) ecosystems and ecosystem components AND MAGNITUDE OF EFFECT AND SPECIFIC CONTEXTS• Noise altering activity level - Modification of sediment-dwelling invertebrates' behavior and how aeration of the sea bed (density of upper sediment profile, and nutrient cycling) is affected by reduced activity• microbial community structure changes in response to sediment disturbance and noise disturbance• disruption of ecological communities because disruption of ability to use settlement cues to find settlement habitat changes spatial distribution of invertebrates • community effects on echinoderms and tube worms of substrate modification by behavioral changes in other animals (that reduce activity rates which activities usually modify substrate)• community effects of increased bristle worm mortality (effects on these worms of vibration)o cascading trophic effects• changing community composition in any community in which community is dependent on species for which pressure wave detection through the sediment is important

Comment Number: BOEM-2023-0037-0152-0020

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: FISH: Estimate how Profound will be the increase in opportunity for evolution of pathogen virulence under fish aggregate (high spatial density) conditions caused by turbine foundation communities than current under-sea scape (mostly featureless bottom, low-density) conditions.

Comment Number: BOEM-2023-0037-0152-0022

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Invasive Species• Stepping-stone model of invasive species spread•

Use Lionfish as a detailed modelo Expected cascading effects on ecosystems• Nesting/spawning site competition with native species• Direct predation• Food competition/prey depletion

Comment Number: BOEM-2023-0037-0152-0023

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Exponential rise in surface area available for colonization by sessile heterotrophso Nonspecific reduction in small planktonic organisms• Lower densities of phytoplankton• Reduced ability (/m3) of oceanwater over the OCS to utilize and remove dissolved carbon compounds from oceanwater, impairing its ability to serve as a carbon buffer• Lower ocean productivity (Base of the food web)o What reductions will zooplankton (on which higher life forms depend) experience• Express as density /m3, and give quantitative description of radius of harm

Comment Number: BOEM-2023-0037-0152-0036

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Invertebrate lines of investigation should include effects of noise damaging cilia and resulting in :• Motility impairment from damage to cilia for those invertebrates which have ciliated structures for locomotion. • Impairment of mechanosensory reception• Inability to generate water currents directed to the mouth to clean feeding siphons• Coordinated locomotion impairment by interference with detecting loads tensions and mechanical stresses on the body (due to cilia destruction) to coordinate physical action. • Discrimination of food from non-food particles in a feeding siphon• Rhinoreception (water flow reception)• Gravitaxis

A.2.15 Marine Mammals

Comment Number: BOEM-2023-0037-0061-0024

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We strongly support all efforts to avoid impacts to SAV and other structured habitats along the cable route, as recommended in the Council policies. The New England Council has designated inshore areas from the coastline to 20 meters depth as habitat areas of particular concern (HAPC) for juvenile Atlantic cod. Structurally complex habitats, including eelgrass, mixed sand and gravel, and rocky habitats (gravel pavements, cobble, and boulder) with and without attached macroalgae and emergent epifauna, are essential habitats for these fish. In inshore waters, young- of-the-year juveniles prefer gravel and cobble habitats and eelgrass beds after settlement, but in their absence, predators also utilize adjacent un-vegetated sandy habitats for feeding. The New England Council recently recommended an HAPC for cod spawning habitat and complex habitats. The designation overlaps the Beacon Wind lease area and other Southern New England lease areas and is pending approval by NOAA Fisheries. The Mid-Atlantic Council has designated all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose

aggregations, as HAPC for summer flounder. In defining this HAPC, the Mid-Atlantic Council also noted that if native species of SAV are eliminated, then exotic species should be protected because of functional value; however, all efforts should be made to restore native species. SAV also provides important habitat for many other species.

Comment Number: BOEM-2023-0037-0061-0027

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: In their EFH conservation recommendations for the Revolution Wind project, NMFS articulated several recommendations that are also pertinent to Beacon Wind including continued and further use of telemetry and passive acoustic surveys within and outside of the lease area before, during, and after construction to detect cod spawning activity. Collecting data on potential cod spawning activity within the lease area will be important to inform the EIS and to identify whether mitigation measures are needed. NMFS also recommended, and we agree, that data and results of these and other surveys be made available to NMFS Habitat and Ecosystem Services Division. EFH consultation should begin early in the EIS development process.

Comment Number: BOEM-2023-0037-0061-0034

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Appendix CC includes an assessment of electric and magnetic fields (EMF) which states that EMF generated from HVDC submarine export cables and HVAC inter-array cables are expected to have a “de minimis risk to all demersal marine species for the majority of the cable route where the cable will be buried and either bundled or separated” (page xiii) and that “population level risks to elasmobranchs and finfish associated with the DC magnetic fields” are also evaluated as de minimis (page xiv). Elasmobranchs (namely skates and spiny dogfish) and other species exhibited a strong behavioral response to EMF in a field study conducted by University of Rhode Island and BOEM (Hutchison et al. 2018, Hutchison et al. 2020) [Footnote: Hutchinson, Z. L., P. Sigray, H. He, A. B. Gill, J. King and C. Gibson (2018). Electromagnetic Field (EMF) Impacts on Elasmobranch (shark, rays, and skates) and American Lobster Movement and Migration from Direct Current Cables, U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs.; also see Hutchison, Z. L., A. B. Gill, P. Sigray, H. He and J. W. King (2020). Anthropogenic electromagnetic fields (EMF) influence the behaviour of bottom-dwelling marine species. Scientific Reports 10(1): 4219.], which is referenced in the COP (page 1-5). Potential EMF impacts are a concern to the fishing community and the extent to which EMF may or may not impact marine species should be thoroughly described in the EIS. Volume 2e of the COP states that “EMF modeling and assessments (will) identify potential mitigation requirements, such as the use of proper shielding and sufficient burial of...cables (where feasible) to reduce EMF impacts” and if target burial depth cannot be achieved, then protective materials may be added “to minimize the potential for gear snags, as feasible” (page 8-243). Further research citations would be helpful to verify the effectiveness of these types of mitigation measures. Potential differences in impacts between HVAC and HVDC cables should be evaluated in the EIS since both are under consideration (interarray and export cable, respectively).

Comment Number: BOEM-2023-0037-0086-0006

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Conservation of Essential Fish Habitat (EFH) is a critical element of sustainable modern fisheries management. Both state and federal fishery managers have identified habitats that support critical life history processes such as spawning, breeding, feeding, and growth to maturity. A complete EIS must include a detailed assessment of the effects of the project on these habitats, including EFH designated under the MSA and a range of alternatives to conserve these habitats and minimize the effects of the project on EFH and other marine habitats.

Comment Number: BOEM-2023-0037-0086-0007

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Because the project is sited in federal waters and may have adverse effects on EFH, BOEM should consult with the New England Fishery Management Council under the EFH provisions of the MSA that provides a clear mechanism for fisheries managers to comment on and make recommendations concerning any activity that may affect habitat including EFH. [Footnote 6: 16 U.S.C. 1855] Particular attention should be given to the effects of the project on areas that have been designated as Habitat Areas of Particular Concern (HAPC) under MSA because of their ecological importance, sensitivity to human-induced environmental degradation, the extent of threats posed by development, or the rarity of the habitat type. It is important for BOEM to note that in 2022, The New England Fishery Management Council voted in late June to establish a new HAPC that overlaps offshore wind-energy lease sites in Southern New England and includes a 10-kilometer buffer on all sides of the sites. [Footnote 7: New England Fishery Management Council. 2022. Council Approves HAPC for Southern New England; Previews Northeast Regional Habitat Assessment Data Explorer.] Further action is pending on this designation, but BOEM must ensure this area is considered appropriately in its EFH consultation.

Comment Number: BOEM-2023-0037-0086-0023

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Essential Fish Habitat, Habitat Area of Particular Concern and Deep-Sea Coral Areas As discussed above, a wide range of areas of the ocean have been designated by fisheries managers for their importance in supporting sustainable fisheries including EFH for spawning, breeding, feeding and growth, and HAPC, a subset of EFH that are important, sensitive to human-induced environmental degradation, threatened by development, or rare. Further, some areas have been identified as deep-sea coral areas under the deep-sea coral Research and Technology Program and support slow-growing corals in temperate and deep habitats. [Footnote 20: 16 U.S.C. 1884] The EIS should explore these habitat areas in and around the project site and include alternatives to avoid these areas, particularly HAPCs. As discussed above, the northeast wind lease areas have been suggested as an HAPC by the New England Fishery Management Council and BOEM should be sure to appropriately consider this

area in its siting. If the areas cannot be avoided, alternatives should be developed to minimize the frequency, intensity, and duration of the effects with clear requirements to monitor the effects.

Comment Number: BOEM-2023-0037-0114-0002

Commenter: Daniel, Dylan Bettinger, Bust

Organization: TurbineHub

Commenter Type: Organization

Comment Except Text: Habitats of Particular Concern: Our marine ecosystem is teeming with biodiversity, with 46 notable habitats that demand special attention, including species such as the Atlantic Sea Scallop, Atlantic Wolffish, Little Skate, Atlantic Herring, and Atlantic Cod, among others.

Comment Number: BOEM-2023-0037-0115-0034

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The environmental concerns are not just on the localized increases in water temperature around DC Converter OSPs that could result in mortality of some species intolerant of high temperatures. They also include the mortality of larval and juvenile fish (potentially adult fish too as the COP does not specify the size range of species that could be pulled into the intake) removed from the water column and killed during the filtration process, which removes suspended particles.

Comment Number: BOEM-2023-0037-0115-0046

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: EFH assessments and consultations conducted in later project stages have also failed to adequately assess the impacts of G&G surveys to the acoustic environment, as these activities. For example, consultations for the Vineyard Wind and South Fork projects do not evaluate the projects' impacts to EFH from acoustic surveys under the SAP or the COP.

Comment Number: BOEM-2023-0037-0118-0006

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should detail how Beacon Wind intends to monitor to minimize impacts from the entrainment of zooplankton (eggs and larval organisms) in the HVDC converter station cooling system(s).

Comment Number: BOEM-2023-0037-0118-0007

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should quantify the gallons per day of seawater that would be withdrawn from the lease area to cool the converter equipment, and it should describe any measures that will be taken to avoid impingement of juvenile and adult fish (e.g., flow rate limit)

and avoid or minimize entrainment and mortality of eggs and larvae in the cooling system.

Comment Number: BOEM-2023-0037-0122-0012

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: The COP states that “No impingement of juvenile or adult fish is anticipated from operation of the CWIS”. [Footnote 21: Ibid] The same cannot be said for larval stages, or for zooplankton. As offshore wind farms, as previously stated, already decrease the primary productivity of an area, the impingement and entrainment of larvae and plankton would be an additional stressor on the ecosystem and result in a decrease of food production, impacting both fisheries and whales, etc. This must be quantified and added to the DEIS for both project specific and a standalone cumulative impacts assessment that is not part of the No Action Alternative.

Comment Number: BOEM-2023-0037-0128-0013

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Characterize all NYS Significant Coastal Fish and Wildlife Habitats that may be affected by the Proposed Action (e.g., Great Gull Island, Hempstead Harbor, Little Neck Bay, North and South Brother Islands). Source: <https://dos.ny.gov/significant-coastal-fish-wildlife-habitats>

Comment Number: BOEM-2023-0037-0128-0015

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Fish (Pelagic, Elasmobranchs) and Invertebrates:
o Identify current stock status for different species; migration routes; life history stages; egg and larval seasonality and abundance; forage species not just species with high economic value; seasonal distribution and abundance for the area in the vicinity of the Proposed Action.
o Identify Essential Fish Habitat, including spawning areas; recruitment and nursery areas; and food web interactions.

Comment Number: BOEM-2023-0037-0128-0081

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Seasonal Construction Windows• Consider time of year and time of day restrictions for protected species. For example, the time of year restriction to protect Atlantic sturgeon in LIS is no in-water work between May 1 – Nov 1 and for winter flounder it is no in-water work between Dec 15 – May 31 in water depths less than 20’.

Comment Number: BOEM-2023-0037-0131-0023
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: According to the COP (5.5.1.1.2), hard bottom was not encountered in the lease area. While this is good, there is an abundance of Atlantic sea scallops and ocean quahogs in the lease area. A thorough discussion of the presence and potential impacts to these commercially-important species, and other commercial finfish and invert species present, should be provided in the EIS.

Comment Number: BOEM-2023-0037-0131-0030
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: The Beacon Wind project includes two offshore substations that will each separately withdraw nearly 10 million gallons per day (MGD) of seawater for once-through cooling of electrical converter equipment. By project design the heated cooling water will be discharged back into the source water (ocean). Once through cooling systems have long been shown to have negative impacts on aquatic life due to impingement and entrainment, particularly to early life stages of fish and shellfish. In addition, the discharge of heated water can cause stress and other negative impacts to the community of aquatic organisms in the area of the discharge.

Comment Number: BOEM-2023-0037-0131-0032
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: The DEIS should include a detailed analysis of impacts resulting from impingement, entrainment, and discharge of heated effluent. In particular, the EIS should quantify the cooling system's expected entrainment and impingement losses to zooplankton, juvenile and adult fish, and the impact of those losses on finfish resources including, all "...threatened or endangered or otherwise protected federal, state, or tribal species, or critical habitat for these species, within the hydraulic zone of influence of the cooling water intake structure." 40 CFR 125.84(b)(4)(i). The analysis should include estimates of the impact on sea turtles, marine mammals, birds, and the endangered North Atlantic right whale. The EIS should similarly quantify the impacts resulting from the discharge of heated cooling water at each proposed substation location.

Comment Number: BOEM-2023-0037-0131-0036
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: The EIS should include the considerations that were given to choosing the mesh size or spacing of the "Crash Bars" (Trash Racks) that will be installed at the intake pipe openings of the offshore converter stations. Although the applicant has indicated that the impingement requirement will be met by limiting the intake velocity to ≤ 0.5 fps, which is based

on fish swim speed and endurance, Beacon Wind's screen mesh is significantly larger than another proposed nearby project, namely Sunrise Wind. Sunrise proposes to use a mesh size of 61 mm x 20 mm (approximately 2.4 X 0.8 inches), whereas Beacon Wind proposes 100 mm x 100 mm (approximately 4 X 4 inches), which is over eight times larger an opening. Aside from the intake velocity, a smaller screen mesh could prevent the entrainment of juveniles and smaller fish or other organisms. The EIS should include an analysis of mesh size in relation to impacts to aquatic life. This analysis should include the feasibility of using coarse mesh wedgewire screens at the opening of the intake pipes, including any documented use at any offshore location such as those used at other wind or oil and gas facilities.

Comment Number: BOEM-2023-0037-0133-0017

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Assess risk of increasing shark prevalence: BOEM needs to have the project developers assess the likelihood that sharks will be attracted to the wind farm areas based on their sensitivity to EMFs and the increased food due to bird and bat deaths. More prevalent sharks pose a greater risk to swimmers, fishermen, tourists, and boaters. An increased incidence of sharks could also harm the economy, RI's reliance on ocean uses and tourism. The DEIS should analyze this potential impact.

Comment Number: BOEM-2023-0037-0151-0004

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Additionally, we recommend BOEM require all available mitigation measures to minimize impacts of the project on federally managed fish species and their habitats, and the fishing communities that rely on these resources. The Beacon Wind lease area and export cable route overlaps with spawning activity for commercially important fish species, essential fish habitat (EFH), including identified Habitat Areas of Particular Concern (HAPC), and sensitive estuarine environments. Atlantic cod, in particular, are vulnerable to population-level impacts from project construction. In June 2022, the New England Fishery Management Council adopted a new HAPC for spawning Atlantic cod and complex habitats, which overlaps directly with the lease area. [Footnote 2: To be considered for an HAPC designation, the 2002 EFH regulations (50 CFR Part 600.815(a)(8)(i)-(iv)) require one or more of the following four criteria to be met: 1) Importance of historic or current ecological function for managed species; 2) sensitivity to anthropogenic stresses; 3) extent of current or future development stresses; and/or 4) rarity of the habitat type. The HAPC for spawning cod meets all four criteria and complex habitat meets three of the four criteria (See the Southern New England Habitat Area of Particular Concern Framework at <https://d23h0vhsm26o6d.cloudfront.net/220822-SNE-HAPC-Framework.pdf>.)] The identification of HAPCs highlights the importance of cod spawning habitats and complex habitat in this area and creates an obligation to evaluate potential adverse impact to such habitats and consider measures that would minimize that negative effect. The proposed cable route also overlaps with complex habitats and other sensitive estuarine environments, including HAPC for summer flounder. The export cable route proposed through Long Island Sound has the potential to substantially impact estuarine habitats as it transects the entirety of Long Island Sound. We describe and provide supporting rationale for a Habitat Impact Minimization Alternative in Attachment A that we recommend be fully evaluated for inclusion in the DEIS. This alternative considers measures to reduce impacts to HAPCs and

other habitats through alternative export cable routing to minimize impacts to Long Island Sound. Attachment A also identifies additional mitigation measures to further reduce impacts to HAPCs and sensitive life stages of federally managed species (e.g., time of year restrictions, avoidance/minimization measures), which we recommend be evaluated for all alternatives.

Comment Number: BOEM-2023-0037-0151-0023

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Cod spawning activity in southern New England occurs between November and April. Results from trawl surveys in the area indicate that spawning condition cod were captured both within and adjacent to the Beacon Wind lease area during the Vineyard Wind/NE Wind (Avangrid Renewables) pre-construction fisheries surveys completed with SMAST (Van Parijs, S., Dean, M., McGuire, C., Cadrin, S., and Frey, A. 2022, July 26-28. Preconstruction evaluation of Atlantic cod spawning in Southern New England offshore wind areas [Conference presentation]. NYSERDA State of the Science Workshop, Tarrytown, NY, United States). The presence of ripe and running cod in the trawl indicates that spawning activities likely occur within the Beacon Wind lease area; however, surveys to detect the location of spawning aggregations have not yet been conducted in this area. Additional baseline studies are necessary to understand how southern New England cod are using the Beacon lease area for spawning. We recommend site-specific acoustic telemetry studies be conducted for this lease area to help inform your evaluation of project impacts and identification of mitigation measures to avoid and minimize impacts to cod spawning habitat. Spawning aggregations can be easily disturbed by in-water activities and disruptions to spawning aggregations may affect reproductive success, which could result in significant long-term effects to the stock, particularly if construction activities occur during spawning periods over multiple seasons. Cod eggs and larvae are also at risk of impingement and entrainment from open loop cooling systems associated with the offshore substations and water withdrawals associated with suction bucket installation.

Comment Number: BOEM-2023-0037-0151-0024

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text:

Comment Number: BOEM-2023-0037-0151-0032

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: For benthic resources, fish, and invertebrate species, this section should include an assessment of species status and habitat requirements, including benthic, demersal, benthopelagic, and pelagic species and infaunal, emergent fauna, and epifaunal species living on and within surrounding substrates as well as times of year present and any potential trends in resource condition. We strongly recommend that BOEM utilize the EFH Information Needs document to support the development of the EFH, finfish and invertebrates and benthic resources sections of the EIS, and to share this resource with their contractors. [Footnote 6: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/science-data/technical->

guidance-offshore-wind-energy- projects-greater-atlantic-region]

Comment Number: BOEM-2023-0037-0151-0037

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EIS should include a full evaluation of anticipated effects of both the Beacon Wind project and the cumulative offshore wind scenario on hydrodynamics and oceanographic and atmospheric conditions in the region. This analysis should include consideration of the impacts on species distribution, foraging conditions, and any change in the ability of the ecosystem to support protected species and other marine resources, including commercially important fish species. Based on the best available information (as cited in the discussion of impacts to Nantucket Shoals above), oceanographic and atmospheric effects are anticipated at a range of temporal and spatial scales. Project specific impacts are anticipated to vary, based on regional and local oceanographic and atmospheric conditions as well as the size and locations of wind farms in the area. As supported by the available literature, the large-scale energy extraction and the physical presence of wind turbine foundations could have a significant impact on wind speeds, wave heights, currents, vertical stratification of the water column, and primary production in this region. This could affect a number of federally managed fish species and protected species. We recognize that the current lack of studies of these issues in southern New England results in some uncertainty regarding the scope and scale of these impacts. However, given the potential for the Beacon Wind project to have significant consequences to the ecosystem and the species that depend on it, it is critical that the EIS use the best available scientific information, including the consideration of preliminary results of ongoing studies, to analyze and address these impacts. [Footnote 15: Chen, C., Zhao, L., Gallager, S., Ji, R., He, P., Davis, C., ... & Bethoney, D. (2021). Impact of larval behaviors on dispersal and connectivity of sea scallop larvae over the northeast US shelf. *Progress in Oceanography*, 195, 102604.] In particular, the EIS should include a robust assessment of the potential effects of both the Beacon Wind project and the full build-out scenario on prey resources. The consideration of potential impacts to plankton distribution should include effects to distribution, aggregation, and abundance, as well as impacts to larval distribution and larval recruitment. The consequences of these impacts on other species should also be addressed.

Comment Number: BOEM-2023-0037-0151-0059

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: As currently described in the NOI, this facility (inclusive of the wind farm area, offshore and inshore export cables and corridors, and shoreside landing points) will be constructed, operated, and maintained in areas designated essential fish habitat (EFH) for various life stages of species managed by the New England Fishery Management Council (NEFMC), Mid-Atlantic Fishery Management Council (MAFMC), and NMFS. Species for which EFH has been designated in the project area include, but are not limited to, Atlantic cod (*Gadus morhua*), summer flounder (*Paralichthys dentatus*), winter flounder (*Pseudopleuronectes americanus*), Northern longfin squid (*Doryteuthis pealii*), haddock (*Melanogrammus aeglefinus*), monkfish (*Lophius americanus*), ocean pout (*Zoarces americanus*), pollock (*Pollachius virens*), silver hake (*Merluccius bilinearis*), winter skate (*Leucoraja ocellata*), little skate (*Leucoraja erinacea*), windowpane flounder (*Scophthalmus aquosus*), bluefish (*Pomatomus saltatrix*), black sea bass (*Centropristis striata*), red hake (*Urophycis chuss*), scup (*Stenotomus chrysops*),

yellowtail flounder (*Limanda ferruginea*), Atlantic sea scallop (*Placopecten magellanicus*), Ocean quahog (*Arctica islandica*), and Atlantic surfclam (*Spisula solidissima*). The proposed project area is also designated EFH for several Atlantic highly migratory species, including, but not limited to albacore tuna (*Thunnus alalunga*), yellowfin tuna (*Thunnus albacares*), bluefin tuna (*Thunnus thynnus*), blue shark (*Prionace glauca*), sandbar shark (*Carcharhinus plumbeus*), white shark (*Carcharodon carcharias*), dusky shark (*Carcharhinus obscurus*), tiger shark (*Galeocerdo cuvier*), and sand tiger shark (*Carcharias taurus*).

Comment Number: BOEM-2023-0037-0151-0060

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The most up-to-date EFH and HAPC designations should be used in your evaluation of impacts to EFH. HAPCs are a subset of EFH that are especially important ecologically, particularly susceptible to human-induced degradation, vulnerable to developmental stressors, and/or rare. EFH and HAPC for species managed by the NEFMC have been modified under the Omnibus Amendment which was approved and implemented in 2018. In June 2022, the New England Fishery Management Council adopted a new HAPC for spawning Atlantic cod and complex habitats which overlaps directly with the lease area and HAPC for summer flounder is also present in the project area. The EFH mapper should be used to query, view, and download spatial data for the species managed by the New England, Mid-Atlantic, and South Atlantic Councils and for Highly Migratory Species. The EFH mapper can be accessed from our habitat website at <https://www.habitat.noaa.gov/protection/efh/efhmapper/>. You should also be aware that the Final Amendment 10 to the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) went into effect on September 1, 2017. This amendment contains several changes to the EFH designations for sharks and other highly migratory species. More information can be found on our website at <https://www.fisheries.noaa.gov/topic/atlantic-highly-migratory-species>.

Comment Number: BOEM-2023-0037-0151-0061

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The NEPA document, and the EFH, benthic resources, finfish and invertebrates sections, in particular, should accurately describe the project area, including both the export cable corridor and lease area, and the resources that rely upon these habitats. The document should fully describe the distinct habitat features of the entire project area and the importance of different habitat types for providing structure and refuge, particularly for juvenile species and other sensitive life stages. The evaluation of project impacts should not only consider impacts of the project against the cumulative geographic scope (e.g. the OCS), but also clearly evaluate anticipated impacts of project construction and operation to the distinct habitat types found in the lease area, along the export cable route, and inshore landfall locations. The document should analyze the effects to the physical habitat features and the biological consequences of those effects. It will be important to consider impacts of the project on all life stages (adults, juveniles, larvae, eggs), and we recommend focusing on species and life stages that may be more vulnerable to impacts.

Comment Number: BOEM-2023-0037-0151-0062

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The Beacon Wind project is proposed to include one submarine export cable route under BW1, and will assess two options for submarine export cable routes under BW2, all of which are proposed to run through Block Island Sound and Long Island Sound and overlap vulnerable complex habitats. Loss of these important habitats may result in cascading long term to permanent effects to species that rely on this area for spawning and nursery grounds and the fisheries and communities that target such species. The evaluation of impacts from project construction and operation should evaluate the potential for recovery and the anticipated recovery times based on the habitat type and components that would be impacted. The analysis should fully consider the potential impacts of proposed action to sensitive habitats and life stages in the lease area and cable corridor, including estuarine habitats expected to be impacted by the proposed project. Complex habitats may be permanently impacted or take years to decades to recover from certain impacts and this variability in recovery times by habitat type and components should be fully discussed and analyzed in the document.

Comment Number: BOEM-2023-0037-0151-0063

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The analysis should include a broad discussion of the potential effects of habitat alteration from construction and operation of the project using the best available scientific information. The analysis should address the potential impact of converting smaller-grained hard habitats (e.g. pebbles and cobbles) that support early life history stages of finfish to smaller grained soft- sediment habitats (i.e. “fining” of sediments) through cable installation within complex habitats, as well as to artificial substrates that may attract larger predator species within areas where the target cable burial depth is not attainable and secondary cable protection is necessary. Within soft bottom habitats WTGs and associated scour protection may create a reef effect, displacing native species and habitats and creating artificial habitats. The document should clearly distinguish the difference between man-made structures and substrates and the natural habitat present in the project area. Specifically, artificial habitats are only a component of the EFH designation for two managed fish species (black sea bass and red hake) in the region. The distinction between the natural and man-made structures should be incorporated into the analysis and should not be evaluated as equal in terms of habitat functions and values. The limitations of habitat value from scour and cable protection, and other man-made structures, should be clearly disclosed and analyzed. Additionally, the proposed OSS and associated HVDC converters using open loop cooling systems will result in entrainment and impingement of eggs and larvae and produce heated effluent discharges. These open loop cooling systems may adversely affect planktonic stage eggs and larvae along with plankton important to filter feeding fish and whales. The EIS should evaluate the impacts of these HVDC converter stations on resources in the project area and identify potential measures to minimize those effects, including relocation of the OSS to areas outside important spawning and foraging areas.

Comment Number: BOEM-2023-0037-0151-0064

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The analysis should focus on impacts to EFH for species and life stages that are particularly vulnerable to project construction and operation. Atlantic cod spawn in the project area between November and April and their spawning behaviors, including their reliance on acoustic communication and high site-fidelity, leave them extremely vulnerable to impacts from project construction. New information on the stock structure of Atlantic cod in U.S. waters of the northwest Atlantic has identified five separate, but interrelated, spawning sub-populations in the region, with the southernmost sub-population, southern New England, overlapping the project area. [Footnote 28: McBride R. S., R. K. Smedbol, (Editors). 2022. An Interdisciplinary Review of Atlantic Cod (*Gadus morhua*) Stock Structure in the Western North Atlantic Ocean. NOAA Technical Memorandum NMFS-NE-273. Woods Hole, Massachusetts: US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Fisheries Science Center. i-x, 264pp. <https://repository.library.noaa.gov/view/noaa/48082>] The extent of proposed development from this project and others in southern New England leaves this sub-population of cod vulnerable to project effects at a population-level scale. Additionally, longfin squid migrate inshore into the project area from deeper waters starting in April to spawn in shallow shelf waters, returning to deeper waters in August. A semelparous species, longfin squid, also engage in a social spawning behavior that is easily disrupted, and have demersal eggs that are susceptible to mortality from abrasion and burial. Winter flounder is another species that has demersal eggs that are particularly vulnerable to sedimentation and burial, especially in embayments and estuarine environments. Turbidity and sediment re-deposition from construction activities, could result in mortality for demersal eggs and larvae within the project area and along the export cable corridor, particularly for habitats and sensitive life stages in the Long Island Sound. Sessile shellfish species may also be more vulnerable to project impacts, as they cannot vacate construction areas. Additionally, vibration and disturbance can cause shellfish to close their valves, limiting respiration and feeding behavior. Potential impacts of the project on vulnerable life stages, including potential impacts to spawning, recruitment, and to early life stages (e.g. habitats that support early stage juveniles after they settle to the bottom) as well as the cumulative population level effects that may occur as a result of construction timing over multiple seasons should be discussed in detail. Specific measures for avoiding and minimizing impacts (e.g. restricting construction activities when vulnerable life stages are present) should also be fully identified and analyzed in the EIS.

Comment Number: BOEM-2023-0037-0151-0090

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: As stated above, adverse impacts to EFH may result from actions occurring within or outside of areas designated as EFH. In addition, the EFH final rule also states that the loss of prey may have an adverse effect on EFH and managed species. As a result, actions that reduce the availability of prey species, either through direct harm or capture, or through adverse impacts to the prey species' habitat may also be considered adverse effects on EFH. The EFH regulations state that for any Federal action that may adversely affect EFH, Federal agencies must provide NMFS with a written assessment of the effects of that action on

EFH (50 CFR 600.920(e)). This EFH Assessment should include analyses of all potential impacts, including temporary and permanent and direct and indirect individual, cumulative, and synergistic impacts of the proposed project.

Comment Number: BOEM-2023-0037-0151-0091

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EFH assessment must contain the following mandatory elements: (i) a description of the action, (ii) an analysis of the potential adverse effects of the action on EFH and the managed species, (iii) the federal agency's conclusions regarding the effects of the action on EFH, and (iv) proposed mitigation, if applicable (50 CFR 600.920(e)(3)). Due to the potential for substantial adverse effects to EFH from the proposed project, an expanded EFH consultation as described in 50 CFR 600.920(f) is necessary for this project. As part of the expanded EFH consultation, the EFH Assessment for the proposed project, the assessment should also contain additional information, including: (i) the results of an on-site inspection to evaluate the habitat and the site specific effects of the project, (ii) the views of recognized experts on the habitat or species that may be affected, (iii) a review of pertinent literature and related information, (iv) an analysis of alternatives to the action, and (v) other relevant information.

Comment Number: BOEM-2023-0037-0151-0093

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We encourage BOEM to work with us as you prepare the EFH assessment and to use the information and tools we have developed to facilitate the consultation process for offshore wind. Accurate characterization and delineation of habitats within the project area is a critical component of the EFH assessment and a prerequisite for meaningful and appropriate EFH conservation recommendations to be developed for incorporation into the project. To aid BOEM and project applicants in the development of comprehensive and complete EFH Assessments, we have published our Recommendations for Mapping Fish Habitat, dated March 2021. [Footnote 38: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/60637e9b0c5a2e0455ab49d5/1617133212147/March292021_NMFS_Habitat_Mapping_Recommendations.pdf] We recommend habitat mapping data be shared directly with us in usable GIS format for review, apart from the body of the EFH Assessment and maps and figures contained therein. The analysis in the EFH assessment should pay particular attention to HAPCs, sensitive life stages of species, ecologically sensitive habitats, and difficult-to-replace habitats such as natural hard bottom substrates, particularly substrates with attached macroalgae and epifauna (including corals), SAV, and shellfish habitat and reefs. To further streamline the consultation process, we also shared a technical assistance document with you in January of 2021, titled Essential Fish Habitat (EFH) Information Needs for Offshore Wind Energy Projects in the Atlantic which provides a checklist of information that should be incorporated into the EFH assessment. The EFH assessment provided to us for review should follow the structure of the EFH Assessment Template for Offshore Wind Energy Projects developed by BOEM and NMFS Habitat and Ecosystem Services Division staff with the assistance of the Volpe Center. The intent of the development of the EFH Assessment Template was to help ensure our receipt of complete EFH assessments that provide the necessary information and detail for us to evaluate project-level

impacts. Should the EFH assessment provide insufficient details to assess impacts of the project, we may determine that the assessment is incomplete and that consultation under the MSA cannot be initiated, or we may provide precautionary conservation recommendations based upon the level of information and analysis available.

Comment Number: BOEM-2023-0037-0151-0095

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Under the FWCA, our authority extends to numerous other aquatic resources in the area of the proposed project, including, but not limited to, the following species and their habitats: American lobster (*Homarus americanus*), sand lance (*Ammodytes dubius* and *Ammodytes americanus*), striped bass (*Morone saxatilis*), American shad (*Alosa sapidissima*), alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*) (collectively known as river herring), Atlantic menhaden (*Brevoortia tyrannus*), Atlantic silversides (*Menidia menidia*), oyster (*Crassostrea virginica*), blue mussel (*Mytilus edulis*), tautog (*Tautoga onitis*), weakfish (*Cynoscion regalis*) and other assorted fish and invertebrates. NOAA jointly manages a number of these species through Interstate FMPs with the Atlantic States Marine Fisheries Commission. A list of Commission species and plans can be found on their website at <http://www.asmf.org>.

We anticipate all of the relevant species, including those mentioned above, will be included in your impact assessments, both in the EFH Assessment and NEPA document. We also expect the assessment to include impacts to the recreational and commercial fishing communities that rely on these species. The behaviors and habitat needs of diadromous and estuary-dependent fishes (associated with cable route locations) may not be represented by a discussion solely of the surrounding marine fishes in the WTG area. The discussion for FWCA species should be designed around an ecological guild model that uses locally important species to evaluate the project impacts to organisms or populations associated with the various trophic levels and life history strategies exhibited by FWCA species known to occupy the project area as residents or transients. Focus should be on issues surrounding particular species, life history stages, or habitat components that would be most susceptible to the various potential project impacts.

Comment Number: BOEM-2023-0037-0152-0017

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Examine Profundity of Species Redistributions resulting from the project and those like it• Changes to fish migration patterns• Changes to ability to use settlement cues for organisms which have planktonic larval stages in finding suitable habitat in which to develop to later stages of lifeo Consider mechanisms e.g. inability to detect sound reflection off of biofilm, due to noiseo Maladaptive settlement trigger from anthropogenic noise• Settlement in random areas that may not be conducive to support life• Failure to develop to next larval stage• Anthropogenic noise can be expected to increase mortality for those species whose larvae select suitable settlement habitat by vibration and hearing the sounds that such patches of habitat emit and reflect.

Comment Number: BOEM-2023-0037-0152-0018

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Consider cascade effects for various (specific) ecosystems and ecosystem components AND MAGNITUDE OF EFFECT AND SPECIFIC CONTEXTS• Noise altering activity level - Modification of sediment-dwelling invertebrates' behavior and how aeration of the sea bed (density of upper sediment profile, and nutrient cycling) is affected by reduced activity• microbial community structure changes in response to sediment disturbance and noise disturbance• disruption of ecological communities because disruption of ability to use settlement cues to find settlement habitat changes spatial distribution of invertebrates • community effects on echinoderms and tube worms of substrate modification by behavioral changes in other animals (that reduce activity rates which activities usually modify substrate)• community effects of increased bristle worm mortality (effects on these worms of vibration)o cascading trophic effects• changing community composition in any community in which community is dependent on species for which pressure wave detection through the sediment is important

Comment Number: BOEM-2023-0037-0152-0020

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: FISH: Estimate how Profound will be the increase in opportunity for evolution of pathogen virulence under fish aggregate (high spatial density) conditions caused by turbine foundation communities than current under-sea scape (mostly featureless bottom, low-density) conditions.

Comment Number: BOEM-2023-0037-0152-0022

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Invasive Species• Stepping-stone model of invasive species spread• Use Lionfish as a detailed modelo Expected cascading effects on ecosystems• Nesting/spawning site competition with native species• Direct predation• Food competition/prey depletion

Comment Number: BOEM-2023-0037-0152-0023

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Exponential rise in surface area available for colonization by sessile heterotrophso Nonspecific reduction in small planktonic organisms• Lower densities of phytoplankton• Reduced ability (/m3) of oceanwater over the OCS to utilize and remove dissolved carbon compounds from oceanwater, impairing its ability to serve as a carbon buffer• Lower ocean productivity (Base of the food web)o What reductions will zooplankton (on which higher life forms depend) experience• Express as density /m3, and give quantitative description

of radius of harm

Comment Number: BOEM-2023-0037-0152-0036

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Invertebrate lines of investigation should include effects of noise damaging cilia and resulting in :• Motility impairment from damage to cilia for those invertebrates which have ciliated structures for locomotion. • Impairment of mechanosensory reception • Inability to generate water currents directed to the mouth to clean feeding siphons • Coordinated locomotion impairment by interference with detecting loads tensions and mechanical stresses on the body (due to cilia destruction) to coordinate physical action. • Discrimination of food from non-food particles in a feeding siphon • Rhinoreception (water flow reception) • Gravitaxis

Comment Number: BOEM-2023-0037-0004-0007

Commenter: Marc Schmied

Commenter Type: Individual

Comment Except Text: Many of those opposing this project are using misinformation to try and prevent it from happening. Off shore wind development is NOT killing whales or ocean life. The National Oceanic and Atmospheric Administration confirmed that offshore wind developers' sonar surveys use a type of sonar technology that has been used around the world without harming whales.

Comment Number: BOEM-2023-0037-0006-0001

Commenter: Bruce McKay

Commenter Type: Individual

Comment Except Text: As the environmental review process begins, I strongly urge that the agency give a high priority to an accurate and unbiased analysis the threat the project poses to the right whale and other species that will be negatively impacted by the industrialization of these waters.

Comment Number: BOEM-2023-0037-0012-0003

Commenter: Mimi Bluestone

Commenter Type: Individual

Comment Except Text: It is also essential that BOEM resist the misinformation about wind turbines coming from those with an anti-clean energy agenda. Recently there have been attempts to paint wind turbines and wind turbine construction as the cause of whale deaths, which is, pardon the expression, a red herring: • There is no evidence that wind turbines are responsible for whale strandings and deaths. The National Oceanic and Atmospheric Administration recently confirmed that offshore wind developers' sonar surveys rely on technology that has been used around the world without harming whales. • The populations of whales and other marine mammals in New York's waters have grown in recent decades because of hunting bans and cleaner waters, which support more of the whales' food supply. • Ship strikes and fishing gear entanglement are frequent causes of whale deaths. Ship traffic in New York and New Jersey has increased since 2017, when the Bayonne Bridge was lifted. Ports in New York and New Jersey are seeing nearly 30% more ship traffic than they did in

2019. • The risk to whales could be reduced by enforcing a 10-knot speed limit. • Warming oceans are pushing whales into new areas where they are more vulnerable. The real threat is climate change, not wind turbines.

Comment Number: BOEM-2023-0037-0027-0002

Commenter: Anthony Favale

Commenter Type: Individual

Comment Except Text: Also, I believe as many as 8 whales were killed by the sound of the pre-installation equipment used off the New Jersey shore. How will that be prevented?

Comment Number: BOEM-2023-0037-0035-0002

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: If you look at the proposed wind farm areas for us, they are all off the coasts of New York and New Jersey, which is where many of the whales, seals and dolphins are dying and washing up onshore. Is this a coincidence; or is there possible connection, however remote?

Moreover, we have no idea what the impact of these wind farms will be on our marine life and ocean dwellers, including, but not limited to, whales, turtles, seals, dolphins, all fish, our bottom sea life, all mollusks, as well as all of our many sea birds that live out in our oceans.

Comment Number: BOEM-2023-0037-0035-0005

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: There is no definitive way of knowing if the “sonar” currently being used on our ocean bottoms to find “good” places to construct these enormous wind turbines, are affecting the extremely sensitive ears of our whales, dolphins and seals, contributing to the high mortality rate of our marine life since 2016 and for the past 4 months (Oct 2022-May 2023). They admitted that multiple companies have been exploring the bottom of our east coast oceans since 2016. If there is even a REMOTE chance that these deaths are related to the use of their machines, we must stop this project immediately, until further notice and until we see if the number of sea animal deaths improve. The whale deaths from vessel strikes can also be attributed to the whales sensitive hearing becoming disoriented, thereby not being able to avoid the ships! A case in point-Luna- a 40 year old whale that has lived in our oceans for 40 years without getting hit by a vessel, was recently hit and died! These animals are endangered already!

Comment Number: BOEM-2023-0037-0035-0007

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: Once constructed, they will definitely affect our sea animals because of the loud multi decibel noise produced, once these wind turbines are up and running.

Comment Number: BOEM-2023-0037-0050-0001

Commenter: Mi G

Commenter Type: Individual

Comment Except Text: Have you done studies on the effect on marine life? Are you asking the federal government for permits to kill whales to do the structural studies?

Comment Number: BOEM-2023-0037-0065-0001

Commenter: Anne Conway

Commenter Type: Individual

Comment Except Text: How will you protect the marine life that live in the oceans from the sonar mapping and construction?

Comment Number: BOEM-2023-0037-0086-0001

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Oceana has concerns with this project due to the overlap with the habitat area for NARW and intends to engage in the stakeholder process to ensure that NARW conservation is adequately considered throughout the process.

Comment Number: BOEM-2023-0037-0086-0018

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Additionally, new research has demonstrated that since 2017, NARWs have been sighted in wind energy areas off Massachusetts and Rhode Island nearly every month, with sightings being most common between late winter and spring. In fact, model outputs suggest that around 23% of the entire species is present in these areas between late winter and spring. [Footnote 11: Quintana-Rizzo, E., Leiter, S., Cole, T.V.N., Hagbloom, M.N., Knowlton, A.R., Nagelkirk, P., Brien, O.O., Khan, C.B., Henry, A.G., Duley, P.A. and Crowe, L.M., 2021. Residency, demographics, and movement patterns of North] The importance of this area cannot and should not be underestimated.

Comment Number: BOEM-2023-0037-0118-0011

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should report the results of recent and ongoing marine mammal surveys within and adjacent to the project footprint. Results should describe species presence and abundance over time. Based on this information, the EIS should outline the actions that will be taken to prevent vessel strikes during pre-construction surveys, construction activity, and operations.

Comment Number: BOEM-2023-0037-0118-0012

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should also describe what techniques, including noise attenuation devices, time-of-year restrictions, and stop-work protocols when protected species are detected, will be used to mitigate sound impacts on marine mammals during pile-driving. As with the fisheries research, the EIS should report how Beacon Wind is working with other offshore wind developers and the broader research community to share information so that federal and state agencies and the public can better understand and mitigate regional impacts on marine mammals that are associated with the construction or operation of offshore wind energy projects.

Comment Number: BOEM-2023-0037-0122-0003

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: However, with NARW increasing dependence on the area, which is its only known winter foraging ground, an incorporation of Alternative B from the 2014 EA is now warranted for inclusion as an Alternative in the DEIS. We request that the DEIS include and analyze Alternative B now at the proposed construction phase, particularly in light of NOAA's Protected Species chief request for BOEM to analyze a "conservation buffer zone" for NARW extending for 20 km from the 30 meter isobath of Nantucket Shoals in which no turbines would be sited or constructed. [Footnote 6: See NOAA scientists propose more protection for right whales in offshore wind area - The New Bedford Light. Letter available at link and also attached.] This recommended buffer zone, produced in chart form by Oceana, closely resembles the 2014 EA Alternative B. Both images are reproduced below, along with a NOAA NARW density chart with data through 2020.

Comment Number: BOEM-2023-0037-0122-0006

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: Baleen whales such as NARW, fin whales, humpback whales, minke whales, etc., all rely on the ocean's primary productivity as their food source. But wind wake effects which cause large scale changes to primary production can decreased that production by up to 10% as well as lead to ocean deoxygenation. [Footnote 12: Daewel et al, "Offshore wind farms are projected to impact primary production and bottom water deoxygenation in the North Sea", Communications Earth&Environment, 2022, Nature.com.] However, the COP notes that most of the whales found in the area are in fact baleen whales and specifically links this presence to the high primary productivity of Nantucket Shoals, which is adjacent to the lease area. [Footnote 13: See Beacon Wind COP, Volume 2B, Beacon Wind COP Volume 2b (boem.gov) p. 5- 351.] The project specific impact, as well as cumulative impact of the MA WEA, to the primary productivity if the region as it relates to all the present baleen species, should be fully analyzed in the DEIS. This should be conducted with NOAA as the cooperating agency legislatively mandated to protect marine mammals, particularly as NOAA has raised this concern for the Beacon Wind region. [Footnote 14: See NOAA letter dated May 13, 2022, attached.]

Comment Number: BOEM-2023-0037-0122-0007

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: Furthermore, the COP states, “In the Study Area site-specific aerial surveys conducted by Beacon Wind found minke whale sightings accounted for 80 percent of the whale observations”. But later on, the same paragraph states that a digital acoustic monitoring moored buoy deployed in the area did not detect the presence of any minke whales. This calls into serious question the efficacy of mammal monitoring in the area using passive acoustic monitoring (PAM). PAM is also not particularly well suited to NARW, which are known to exhibit “acoustic crypsis”. [Footnote 15: Parks et al., “Acoustic crypsis in communication by North Atlantic right whale mother-calf pairs on calving grounds”, *Biology Letters*, 16 September 2019.] We request that as part of the DEIS, BOEM conduct an analysis in consultation with NOAA’s Protected Resources division of the expected percent effectiveness of marine mammal detection rates of PAM as a mitigation measure, including not only detection rates but percent of lease area covered by detection zones per the auditory range of each individual PAM device.

Comment Number: BOEM-2023-0037-0127-0015

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: As discussed in this section, right whales are expected to occur in the area year-round and use habitat in the region for feeding, socializing, and migration. This must be factored into BOEM’s impact analysis and mitigation requirements.]Not only are right whales present in the Project Area year-round, but their presence appears to be increasing. A new scientific analysis comparing the Northeast Large Pelagic Survey Collaborative (NLPSC) aerial survey campaigns conducted in 2011-2015 with those conducted in 2017-2019 show that right whale occurrence in the area has increased during the study period. [Footnote 56: Quintana-Rizzo E., et al., 2021, supra.] Since 2017, right whales have been sighted in the area nearly every month, with peak sighting rates between late winter and spring. [Footnote 57: Id.] Modeling suggests that 23 percent of the species’ population is present from December through May each year, and that mean residence time has tripled to an average of 13 days during these months. [Footnote 58: Id.] A total of 327 unique right whales were identified during the combined survey effort off southern New England between March 2011 and December 2019; by the end of 2019, 87 percent of the population had been sighted. [Footnote 59: Id.] The discovery curve had a steep slope during the 2011–2015 surveys and was even steeper in 2017–2018, suggesting an open population or that sightings in the area were underestimated. [Footnote 60: Id.]

Comment Number: BOEM-2023-0037-0127-0016

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The Project Area also represents important habitat for socializing and feeding right whales. Feeding was observed in all seasons and years during the 2011-2019 survey period, and social behaviors were observed mainly in the winter and spring in most, but not all, years, suggesting that right whales may use this area for courtship and mating.

[Footnote 65: Id.] Indeed, feeding behaviors have been observed in the Project Area by all of the whale species and small cetaceans that regularly occur in this area. [Footnote 66: Id.] Oceanographic studies in the Project Area, which were part of the NLPSC campaigns, confirmed the presence of a zooplankton community with composition similar to that of Cape Cod Bay, which is a known hotspot for right whale feeding. [Footnote 67: Id.; O'Brien, O., et al., 2021a, supra.]

Protection of important North Atlantic right whale foraging and mating habitat is essential, and further research to determine the extent to which whales are currently engaging in these behaviors in the Project Area should be undertaken. Foraging areas with suitable prey density are limited for North Atlantic right whales, and available habitat for resting, pregnant, and lactating females is decreasing. [Footnote 68: Van der Hoop, J., Nousek-McGregor, A.E., Nowacek, D.P., Parks, S.E., Tyack, P., and Madsen, P., "Foraging rates of ram-filtering North Atlantic right whales." *Functional Ecology*, vol. 33, pp. 1290-1306 (2019); Plourde, S., Lehoux, C., Johnson, C. L., Perrin, G., and Lesage, V. "North Atlantic right whale (*Eubalaena glacialis*) and its food: (I) a spatial climatology of *Calanus* biomass and potential foraging habitats in Canadian waters." *Journal of Plankton Research*, vol. 41, pp. 667-685 (2019); Lehoux, C., Plourde S., and Lesage, V., "Significance of dominant zooplankton species to the North Atlantic Right Whale potential foraging habitats in the Gulf of St. Lawrence: a bioenergetic approach." DFO Canadian Science Advisory Secretariat (CSAS) Research Document 2020/033 (2020). Gavrilchuk, K., Lesage, V., Fortune, S., Trites, A.W., and Plourde, S., "A mechanistic approach to predicting suitable foraging habitat for reproductively mature North Atlantic right whales in the Gulf of St. Lawrence." DFO Canadian Science Advisory Secretariat (CSAS) Research Document 2020/034 (2020).] Scientific information shows that the species employs a "high-drag" foraging strategy that enables them to selectively target high-density prey patches, but is energetically expensive [Footnote 69: Van der Hoop, J., et al., Id.] and undisturbed access to suitable areas, when they exist, is extremely important for the species. [Footnote 70: Id.] Thus, if access to prey is limited in any way, including by noise and the associated habitat displacement generated during construction and operation of a project, the ability to offset the energy expenditure is jeopardized. In fact, researchers have concluded that "right whales acquire their energy in a relatively short period of intense foraging; even moderate changes in their feeding behavior or their prey energy density are likely to negatively impact their yearly energy budgets and therefore reduce fitness substantially." [Footnote 71: Id.] North Atlantic right whales are already experiencing significant food-stress (juveniles, adults, and lactating females have significantly poorer body condition than southern right whales), and the poor condition of lactating females may cause a reduction in calf growth rates. [Footnote 72: Christiansen, F., Dawson, S.M., Durban, J.W., Fearnbach, H., Miller, C.A., Bejder, L., Uhart, M., Sironi, M., Corkeron, P., Rayment, W., Leunissen, E., Haria, E., Ward, R., Warick, H.A., Kerr, I., Lynn, M.S., Pettis, H.M., & Moore, M.J., "Population comparison of right whale body condition reveals poor state of the North Atlantic right whale." *Marine Ecology Progress Series*, vol. 640, pp. 1-16 (2020).] Indeed, body lengths have been decreasing since 1981, a change associated with entanglements in fishing gear as well as other cumulative stressors. [Footnote 73: Stewart, J.D., Durban, J.W., Knowlton, A.R., Lynn, M.S., Fearnback, H., Barbaro, J., Perryman, W.L., Miller, C.A., and Moore, M.J., "Decreasing body lengths in North Atlantic right whales," *Current Biology*, published online (3 June 2021). Available at: [https://www.cell.com/current-biology/fulltext/S0960-9822\(21\)00614-X](https://www.cell.com/current-biology/fulltext/S0960-9822(21)00614-X).] Undisturbed access to foraging habitat is necessary to adequately protect the species, as is the minimization of disturbance during the species' energetically expensive migration.

Comment Number: BOEM-2023-0037-0127-0017

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon

Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Four other large whale species are regularly sighted in the area: humpback whales, minke whales, fin whales, and sei whales. [Footnote 74: Kraus et al., 2016, supra; Quintana, E., et al. 2019, supra; O'Brien, O., et al., 2021a, 2021b, supra.] In addition to North Atlantic right whales, humpback whales and minke whales are sighted most often. [Footnote 75: Quintana, E., et al. 2019, supra; O'Brien, O., et al., 2021a, 2021b, supra.] Humpback whales, minke whales, and fin whales may be present within the Project Area and surrounding waters year-round with highest densities in the spring and summer. [Footnote 76: Kraus et al., 2016, supra; Id.] Sei whales have been consistently sighted in the spring and summer. [Footnote 77: Id.] The presence of humpback whales in the fall and winter has increased in recent years [Footnote 78: O'Brien, O., et al., 2021a, 2021b, supra.] with variable distribution patterns between seasons and years.

Ongoing UMEs have existed for humpback whales since 2016 and the Atlantic population of minke whales since January 2017. Alarming, 148 minke whales have stranded between Maine and South Carolina from January 2017 to July 2023. [Footnote 79: NOAA-NMFS, "2017-2023 Minke whale Unusual Mortality Event along the Atlantic Coast" (last visited, July 18, 2023), <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2023-minke-whale-unusual-mortality-event-along-atlantic-coast#:~:text=About%20Us-,2017%E2%80%932023%20Minke%20Whale%20Unusual%20Mortality%20Event%20along%20the%20Atlantic,from%20Maine%20through%20South%20Carolina.>] Elevated numbers of humpback whales have also been found stranded along the Atlantic Coast since January 2016 and, in a little over five years, 200 humpback whale mortalities have been recorded (data through June 13, 2023) with strandings occurring in nearly every state along the East Coast. [Footnote 80: NOAA-NMFS, "2016-2023 Humpback whale Unusual Mortality Event along the Atlantic Coast," (last visited July 18, 2021), <https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2023-humpback-whale-unusual-mortality-event-along-atlantic-coast.>] Partial or full necropsy examinations have been conducted on approximately half of the stranded animals and a significant portion showed evidence of pre-mortem vessel strikes. The declaration of UMEs by NMFS in the past few years for three large whale species for which anthropogenic impacts are a significant cause of mortality, and the recent classification of humpback whales as a strategic stock by the agency, demonstrates an increasing risk to whales from human activities along the East Coast.

Comment Number: BOEM-2023-0037-0127-0018

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Harbor porpoises also require special attention during offshore wind energy development because of their extreme sensitivity to noise. Harbor porpoises are substantially more susceptible to temporary threshold shift (i.e., hearing loss) from low-frequency pulsed sound than are other cetacean species that have thus far been tested. [Footnote 81: Lucke, K., Siebert, U., Lepper, P.A., and Blanchet, M.A., "Temporary shift in masked hearing thresholds in a harbor porpoise (*Phocoena phocoena*) after exposure to seismic airgun stimuli." *Journal of the Acoustical Society of America*, vol. 125 (2009): 4060-4070.] European studies demonstrate that harbor porpoises are easily disturbed by the low-frequency noise produced by pile-driving operations during offshore wind energy development. Harbor porpoises have been reported to react to pile driving beyond 20 km and may be displaced from areas for months or years after construction. [Footnote 82: See, e.g.,

Carstensen, J., Henriksen, O. D., and Teilmann, J., "Impacts of offshore wind farm construction on harbour porpoises: acoustic monitoring of echolocation activity using porpoise detectors (T-PODs)." *Mar. Ecol. Prog. Ser.* vol. 321 (2006): 295-308; Evans, P.G.H. (ed.), "Proceedings of the ECS/ASCOBANS Workshop: Offshore wind farms and marinemammals: impacts and methodologies for assessing impacts." ESC Special Publication Series, no. 49 (2008): 50-59, 64-65, available at http://www.ascobans.org/sites/default/files/document/MOP6_5-06_WindFarmWorkshop_1.pdf; Tougaard, J., Carstensen, J., Teilmann, J., Skov, H., and Rasmussen, P., "Pile driving zone of responsiveness extends beyond 20 km for harbor porpoises (*Phocoena phocoena*, (L.))." *Journal of the Acoustical Society of America*, vol. 126 (2009): 11-14.; Brandt, M.J., Diederichs, A., Betke, K., and Nehls, G., "Responses of harbor porpoises to pile driving at the Horns Rev II offshore wind farm in the Danish North Sea," *Marine Ecology Progress Series*, vol. 421 (2011): 205-216.; Dähne, M., Gilles, A., Lucke, K., Peschko, V., Adler, S., Krügel, K., Sunderleyer, J., and Siebert, U., "Effects of pile-driving on harbor porpoises (*Phocoena phocoena*) at the first offshore wind farm in Germany." *Environmental Research Letters*, vol. 8 (2013): 025002.] High-amplitude pile driving noise may also negatively affect harbor porpoise foraging by decreasing their catch success rate and increasing the termination rate of their fish-catching attempts. [Footnote 83: Kastalein, R.A., L.A.E. Huijser, S. Cornelisse, L. Helder-Hoek, N. Jennings, and C.A.F. de Jong. 2019. Effect of pile-driving playback sound level on fish-catching efficiency in harbor porpoises (*Phocoena phocoena*). *Aquatic Mammals* 45(4):398-410.] Both captive and wild animal studies show harbor porpoises abandoning habitat in response to various types of pulsed sounds at well below 120 dB (re 1 uPa (RMS)) [Footnote 84: See, e.g., Bain, D.E., and Williams, R., "Long-range effects of airgun noise on marine mammals: responses as a function of received sound level and distance" Report by Sea Mammal Research Unity (SMRU), 2006.; Kastelein, R.A., Verboom, W.C., Jennings, N., de Haan, D., "Behavioral avoidance threshold level of a harbor porpoise (*Phocoena phocoena*) for a continuous 50 kHz pure tone." *Journal of the Acoustical Society of America*, vol. 123 (2008): 1858-1861.; Kastelein, R.A., Verboom, W.C., Muijsers, M., Jennings, N.V., van der Heul, S., "The influence of acoustic emissions for underwater data transmission on the behavior of harbour porpoises (*Phocoena phocoena*) in a floating pen." *Mar. Environ. Res.* Vol. 59 (2005): 287-307; Olesiuk, P.F., Nichol, L.M., Sowden, M.J., and Ford, J.K.B., "Effect of the sound generated by an acoustic harassment device on the relative abundance and distribution of harbor porpoises (*Phocoena phocoena*) in Retreat Passage, British Columbia." *Marine Mammal Science*, vol. 18 (2002): 843-862.] and, in fact, evidence of the acoustic sensitivity of the harbor porpoise has led scientists to call for a revision to the NMFS acoustic exposure criteria for behavioral response. [Footnote 85: Tougaard, J., Wright, A. J., and Madsen, P.T., "Cetacean noise criteria revisited in the light of proposed exposure limits for harbor porpoises," *Marine Pollution Bulletin*. vol. 90 (2015): 196-208.] Impacts to harbor porpoises must, therefore, also be minimized and mitigated to the full extent practicable during offshore wind siting and development in the waters off Rhode Island and Massachusetts.

Comment Number: BOEM-2023-0037-0127-0019

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The agency is obligated by NEPA to consider the full range of potential impacts on all marine mammal species and to protect the critically endangered North Atlantic right whale from additional harmful impacts of human activities. Considering the elevated threat to federally protected large whale species and populations in the Atlantic, emerging evidence of dynamic shifts in the distribution of large whale habitat, and acoustic sensitivity of the harbor porpoise, BOEM must ensure that any potential stressors posed by construction and operations

on affected species and stocks are avoided, minimized, mitigated, and monitored to the fullest extent possible. [Footnote 86: 16 U.S.C. § 1371(a)(5)(D)(ii)(I)(2020).]

Comment Number: BOEM-2023-0037-0127-0020

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: To adequately assess the occurrence of and potential impacts to marine mammals, it is extremely important that BOEM consider a variety of local and regional data sources. Data sources that should be assessed include aerial surveys and passive acoustic studies, [Footnote 87: Kraus, S.D., et al., 2016, supra; Leiter, S.M., et al., 2017, supra; Stone, K.M., et al., 2017, supra; Quintana, E., et al., 2019, supra; O'Brien, O., et al., 2021a, 2021b, supra.] other regional acoustics data, [Footnote 88: Estabrook, B.J., K. B. Hodge, D. P. Salisbury, D. Ponirakis, D. V. Harris, J. M. Zeh, S. E. Parks, and A.N. Rice. 2019. Year 1 annual survey report for New York Bight whale monitoring passive acoustic surveys October 2017-October 2018. Contract C009925. Prepared for Division of Marine Resources, New York State Department of Environmental Conservation, Albany, NY by Bioacoustics Research Program, Cornell Lab of Ornithology, Cornell University, Ithaca, NY; Estabrook, B.J., K. B. Hodge, D. P. Salisbury, D. Ponirakis, D. V. Harris, J. M. Zeh, S. E. Parks, and A.N. Rice. 2019. Year 2 annual survey report for New York Bight whale monitoring passive acoustic surveys October 2018 – October 2019. Contract C009925. Prepared for Division of Marine Resources, New York State Department of Environmental Conservation, Albany, NY by Bioacoustics Research Program, Cornell Lab of Ornithology, Cornell University, Ithaca, NY. Right whales were acoustically detected year-round in the New York Bight during the NYSDEC's passive acoustic monitoring study conducted from October 2017 through October 2019.] the Center for Coastal Studies surveys, [Footnote 89: See <https://coastalstudies.org/right-whale-research/population-monitoring/>.] and the Atlantic Marine Assessment Program for Protected Species (AMAPPS) data, [Footnote 90: NEFSC (Northeast Fisheries Science Center) and SEFSC (Southeast Fisheries Science Center). 2020; 2019 annual report of a comprehensive assessment of marine mammal, marine turtle, and seabird abundance and spatial distribution in US waters of the western North Atlantic Ocean - AMAPPS II.] as well as verified opportunistic sightings data. [Footnote 91: E.g., NOAA Fisheries, "NOAA right whale sighting advisory system," <https://apps-nefsc.fisheries.noaa.gov/psb/surveys/MapperiframeWithText.html>.] Where possible, density estimate modeling for the wind energy areas should include these multiple data sources, particularly the most recent data for this region. In some cases these data must be combined to provide the best estimates of seasonal and annual occurrences of certain species.

Comment Number: BOEM-2023-0037-0127-0021

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: In other offshore wind Draft EISs, BOEM has relied on estimates of marine mammal densities derived from the habitat-based density model (the "Roberts et al." model) produced by the Duke University Marine Geospatial Ecology Laboratory. [Footnote 92: See, e.g., Roberts, J.J., Best, B.D., Mannocci, L., Fujioka, E., Halpin, P.N., Palka, D.L., Garrison, L.P., Mullin, K.D., Cole, T.V., Khan, C.B. and McLellan, W.A., "Habitat based cetacean density models for the U.S. Atlantic and Gulf of Mexico," Scientific Reports, vol. 6, p.22615 (2016); Roberts J.J., Mannocci L., and Halpin P.N., "Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2016-2017 (Opt.

Year 1).” Document version 1.4. Report prepared for Naval Facilities Engineering Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC (2017); Roberts J.J., Mannocci L., Schick R.S., and Halpin P.N., “Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2017-2018 (Opt. Year 2).” Document version 1.2 - 2018-09-21. Report prepared for Naval Facilities Engineering Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC. (2018).] The current “Roberts et al.” model, which was released in May 2023 (version 12.1), does not include all the available site-specific and regional data sources mentioned above, and therefore may not accurately reflect marine mammal occurrence and density in the region. While it has recently been peer-reviewed, it is currently being updated, and it is the best available science, BOEM should not use the Duke University habitat-density models as the sole information source from which to estimate marine mammal occurrence, density, and impact as it does not currently include opportunistic or acoustic detections.

Comment Number: BOEM-2023-0037-0127-0023

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: While certain seasonal restrictions that temporally separate development activity from North Atlantic right whales are justified, and we expect to see such measures incorporated into the Draft EIS, there is no time of “low risk” for North Atlantic right whales in southern New England given the population size. In addition, climate-driven changes in oceanographic conditions, and resulting shifts in prey distribution, are rapidly changing the spatial and temporal patterns of habitat use for North Atlantic right whales and other large whale species. [Footnote 93: Davis, G.E., et al., “Exploring movement patterns and changing distributions of baleen whales in the western North Atlantic using a decade of passive acoustic data,” supra note 87; Davis, G.E., Baumgartner, M.F., Bonnell, J.M., Bell, J., Berchick, C., Bort Thornton, J., Brault, S., Buchanan, G., Charif, R.A., Cholewiak, D., et al., “Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014,” *Scientific Reports*, vol. 7, p. 13460 (2017); Record, N., et al., 2019, supra; Meyer-Gutbrod, E.L., et al, 2021, supra.] Therefore, we recommend BOEM work with NMFS and other relevant agencies, experts, and stakeholders, towards developing a robust and effective near real-time monitoring and mitigation system for North Atlantic right whales and other endangered and protected species (i.e., fin, sei, minke, and humpback whales) during all phases of offshore wind energy development.

At this time, however, real time monitoring is an aspirational goal and investigation into such monitoring is only now being initiated; thus, it cannot substitute for traditional monitoring measures such as passive acoustic monitoring, aerial surveys, and vessel-based surveys, which are often collectively necessary to reliably detect right whales (see Section II.F).

Comment Number: BOEM-2023-0037-0127-0024

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: There are technologies in various stages of development that may allow near real-time detection of protected species (e.g., Robots4Whales, [Footnote 94: Woods Hole Oceanographic Institution WHOI and WHOI/WCS, “Robots4Whales,” supra note 39.] SeaTrac [Footnote 95: <https://www.seatrac.com/>]) to be conveyed to decision makers (e.g., “Mysticetus” [Footnote 96: Available at: <https://www.mysticetus.com/>]) and inform

mitigation action in the future. An unmanned acoustic glider capable of auto- detecting North Atlantic right whale calls is currently informing decisions being made by Transport Canada on when to impose vessel speed restrictions so that ten-knot speed limits can be issued within an hour of North Atlantic right whales being detected. [Footnote 97: See, e.g., CBC News, “Underwater glider helps save North Atlantic Right Whales from Ship Strikes” (Aug. 30, 2020). Available at: <https://www.cbc.ca/news/canada/new-brunswick/nb-north-atlantic-right-whales-underwater-glider-1.5701984>.] All of these technologies, however, rely on animals to vocalize and be identified and detected, which does not always occur for a variety of reasons. As technology progresses, BOEM should coordinate with NMFS to evaluate the current status of near real-time detection technologies and develop recommendations for an integrated near real-time monitoring and mitigation system that combines, at minimum, both visual and acoustic detections. As part of this work, the acoustic detection ranges for different species of large whale should be modeled for each offshore wind energy area (i.e., accounting for site-specific oceanographic conditions, ambient and anthropogenic noise levels, etc.) to inform the subsequent expansion of the near real-time monitoring and mitigation approach to other protected large whale species.

Comment Number: BOEM-2023-0037-0127-0025

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Excerpt Text: BOEM Must Include an Accurate Assessment of the Risks Posed by Vessel Strikes in the DEIS Vessel strikes remain one of the leading causes of large whale injury and mortality and are a primary driver of the existing UMEs. Serious injury or mortality can occur from a vessel traveling above 10 knots irrespective of its length, [Footnote 98: NOAA-NMFS, “Reducing ship strikes to North Atlantic right whales.” Available at: <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales>. To reflect the risk posed by vessels of any length, the Commonwealth of Massachusetts established a mandatory vessel speed restriction for all vessels (including under 20 m) in the Cape Cod Bay SMA.] and vessels of any length traveling below this speed still pose a serious risk. [Footnote 99: Kelley, D. E., Vlasic, J. P. and Brilliant, S. W., “Assessing the lethality of ship strikes on whales using simple biophysical models,” *Marine Mammal Science*, vol. 37, pp. 251-267 (2020).] The number of recorded vessel collisions on large whales each year likely grossly underestimates the actual number of animals struck, as animals struck but not recovered, or not thoroughly examined, cannot be accounted for. [Footnote 100: Reeves, R.R., Read, A.J., Lowry, L., Katona, S.K., and Boness, D.J., “Report of the North Atlantic Right Whale Program Review.” 13–17 March 2006, Woods Hole, Massachusetts (2007) (prepared for the Marine Mammal Commission); Parks, S.E., Warren, J.D., Stamieszkin, K., Mayo, C.A., and Wiley, D., “Dangerous dining: surface foraging of North Atlantic right whales increases risk of vessel collisions.” *Biology Letters*, vol. 8, p. 57-60 (2011).] In fact, observed carcasses of North Atlantic right whales from all causes of death may have only accounted for 36 percent of all estimated death during 1990-2017. [Footnote 101: Pace III, R. M., Williams, R., Kraus, S. D., Knowlton, A. R. and Pettis, H. M., “Cryptic mortality of North Atlantic right whales,” *Conservation Science and Practice*, e346 (2021).] Offshore wind development will result in a marked increase in vessel activity. In the Final EIS for the South Fork Project, the agency noted that up to an additional 379 construction and operations vessels associated with reasonably foreseeable offshore wind development (under the No Action Alternative not including the South Fork Project) may be operating within the geographic analysis area at the peak of projected offshore wind farm development in 2024. [Footnote 102: South Fork Wind Final EIS at 3-61.] Here, although the Beacon Wind COP

states that construction of BW1 and BW2 will each require 40 vessels and lists the type of vessels that will be used, [Footnote 103: See BW COP, Vol. 1 at 3-34, 37.] there is no information on the total vessel trips necessary during construction, as required by 30C.F.R. § 585.626(11). [Footnote 104: Under 30 C.F.R. § 585.626(11), a COP must contain a “description of any vessels” used to support construction activities, including an “estimate of the frequency and duration of vessel” traffic. Id.] This information must be provided and factored into BOEM’s analysis on vessel strike risk in the Draft EIS.

Comment Number: BOEM-2023-0037-0127-0026

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Vessel collision risk to large whales must be fully analyzed for the following reasons:

First, any interaction between a vessel and whale poses a risk of serious injury or mortality. This is true irrespective of the number of other vessels operating in the same location. As demonstrated by the documented death of an adult North Atlantic right whale this year (2023), [Footnote 105: “Vessel Strike Killed Critically Endangered North Atlantic Right Whale,” Center for Biological Diversity (Feb. 15, 2023), <https://biologicaldiversity.org/w/news/press-releases/vessel-strike-killed-critically-endangered-north-atlantic-right-whale-2023-02-15/>.] as well as calves in July 2020 and February 2021, and the serious injury and, thus, likely death of a third calf in January 2020, an addition of even a single vessel traveling at speeds over 10 knots poses an unacceptable risk. Therefore, when analyzing impacts from vessel traffic, BOEM should concern itself less with “relative risk” and instead focus on the actual risk to the animal and the offshore wind project vessel.

Second, even through the lens of relative risk, the North Atlantic right whale cannot currently withstand a single vessel strike if the species is to survive. Reasonably foreseeable wind development activities will primarily occur off of New Jersey, New York, Rhode Island, Massachusetts, and just outside this region, meaning that vessel activity associated with construction, including vessel transits, will be similarly concentrated in that region. As previously discussed (see Section II.A.1 above), waters in and around the Project Area represent an important year-round habitat for the North Atlantic right whale, a species for which vessel strike is a leading factor in its trajectory towards extinction. Vessel strikes therefore pose an unacceptable risk in this region and BOEM must acknowledge that any vessel operating in that region has the potential to strike a North Atlantic right whale and, in doing so, expedite the species’ decline.

Third, BOEM’s assumptions about smaller vessels posing lower risk of a fatal collision are not supported by best available science. Vessel strikes can result in either “blunt force trauma,” where injuries can range from non-lethal superficial abrasions and contusions to severe lethal impact wounds resulting from contact with a non-rotating feature of the vessel, or “propeller-induced trauma,” that results in incising wounds resulting from contact with the sharp, rotating propeller of the vessel (also termed “sharp force trauma”). [Footnote 106: Van der Hoop, J., Barco, S.G., Costidis, A.M., Gulland, F.M., Jepson, P.D., Moore, K.T., Raverty, S. and McLellan, W.A., “Criteria and case definitions for serious injury and death of pinnipeds and cetaceans caused by anthropogenic trauma,” *Diseases of Aquatic Organisms*, 103(3), pp.229-264 (2013);; Sharp, S.M., McLellan, W.A., Rotstein, D.S., Costidis, A.M., Barco, S.G., Durham, K., Pitchford, T.D., Jackson, K.A., Daoust, P.Y., Wimmer, T. and Couture, E.L., “Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis* mortalities between 2003 and 2018,” *Diseases of Aquatic Organisms*, 135(1), pp.1-31 (2020).] Observations compiled by Laist et al. (2001) [Footnote 107: Laist, D.W., Knowlton, A.R., Mead, J.G., Collet, A.S. and Podesta,

M., “Collisions between ships and whales,” *Marine Mammal Science*, 17(1), pp.35-75 (2001).] —the primary reference cited by BOEM in previous offshore wind impact analyses—suggest that the most severe injuries occur as a result of vessel strikes by large ocean-going vessels; this research has led to a number of mitigation and management actions in the United States and internationally. However, there is increasing recognition that smaller vessels can also cause lethal injury, even when traveling at relatively low speeds (i.e., below 10 knots). [Footnote 108: Kelley, D.E., Vlastic, J.P. and Brilliant, S.W., “Assessing the lethality of ship strikes on whales using simple biophysical models,” *Marine Mammal Science*, 37(1), pp.251-267 (2021).] The NMFS Large Whale Ship Strike Database reveals that blood was seen in the water—indicative of serious injury—in at least half of the cases where a vessel known to be less than 65 feet in length struck a whale. [Footnote 109: Jensen, A.S. and Silber, G. K., “Large Whale Ship Strike Database,” U.S. Department of Commerce, NOAA Technical Memorandum NMFS-OPR-25 (Jan. 2004) at 12–37.] This is likely an underestimate of the magnitude of the threat, as small vessel collisions with whales are underreported. [Footnote 110: Hill, A.N., et al., “Vessel collision injuries on live humpback whales, *Megaptera novaeangliae*, in the southern Gulf of Maine,” *Marine Mammal Science*, vol. 33, pp. 558–573 (2017). A.S. Jensen and G.K. Silber, Large Whale Ship Strike Database, U.S. Department of Commerce, NOAA Technical Memorandum NMFS-OPR-25 (Jan. 2004), at 12–37.] In addition, passengers have been knocked off their feet or thrown from the boat upon impact with a whale, [Footnote 111: Bigfish123, Comment to Collision at Sea, The Hull Truth (May 1, 2009, 5:44 am), <http://www.thehulltruth.com/boating-forum/222026-collision-sea.html>.] demonstrating this is also a significant human safety issue. Fourth, BOEM’s assertions in previous environmental analyses that existing federally required mitigation measures will “minimize” collision risk is flawed. The National Oceanic and Atmospheric Administration (NOAA) requires a mandatory vessel speed restriction of vessels 65 feet and greater within Seasonal Management Areas (SMAs) to reduce the risk to North Atlantic right whales and voluntary 10-knot speed reduction zones (i.e., NOAA DMAs and North Atlantic right whale “Slow Zones”) offer an additional layer of protection. [Footnote 112: 73 Fed. Reg. 60,173 (Oct. 10, 2008).] However, a recent analysis undertaken by NMFS shows that compliance with voluntary speed reductions is woefully low. [Footnote 113: National Marine Fisheries Service, “North Atlantic Right Whale (*Eubalaena glacialis*) Vessel Speed Rule Assessment” (June 2020), https://media.fisheries.noaa.gov/2021-01/FINAL_NARW_Vessel_Speed_Rule_Report_Jun_2020.pdf.] While PSOs stationed aboard a vessel may increase the likelihood that a whale is detected, this approach cannot be relied upon, particularly in periods of darkness or reduced visibility, and the whale would need to be detected with adequate time for the vessel captain to be alerted and to undertake evasive action (which may inadvertently strike another undetected whale). The use of vessel-based PSOs may therefore provide some additional benefit when a vessel is already traveling at slow speeds (i.e., less than 10 knots), but will provide little benefit for faster vessels. We encourage BOEM to require 10-knot vessel speed restrictions on all project vessels at all times.

Comment Number: BOEM-2023-0037-0127-0027

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Given the acute vulnerability of the North Atlantic right whale, it is essential that, at a minimum, BOEM conduct a technical, quantitative analysis of the cumulative impacts of offshore wind development against a baseline of other reasonably foreseeable actions on the North Atlantic right whale population. This analysis should be incorporated into the agency’s NEPA compliance documents. We recommend that the analysis quantify the

percentage of the North Atlantic right whale population potentially exposed to conceivable impacts from offshore wind development on an annual basis [Footnote 114: For example, by following the approach of Dr. Wing Goodale, Biodiversity Research Institute, in the analysis of “cumulative adverse effects” on four bird taxa. See, Goodale, W. (2018). Cumulative adverse effects of offshore wind energy development on wildlife. Presentation at the New York State Energy Research and Development Authority “State of the Science Workshop on Wildlife and Offshore Wind Development,” Fox Hollow, Woodbury, New York, Nov. 14, 2018. Available at: http://www.briloon.org/uploads/BRI_Documents/Wildlife_and_Renewable_Energy/NYSERDA_workshop_WingGoodale_CumulativeImpacts.pdf.] and the potential impact on population viability of a permanent loss of foraging and other habitat within all lease areas expected to be developed. The analysis should also examine the additional energetic expenditure experienced if right whales were to avoid all Lease Areas expected to be developed during their migration. This is particularly important in light of new scientific information indicating the need for North Atlantic right whales to undertake efficient and uninterrupted foraging in order to maintain their energy budget. [Footnote 115: Van der Hoop, J., et al., “Foraging rates of ram-filtering North Atlantic right whales,” *supra*.] The energetic implications for displacement of pregnant females during their southern migration (e.g., offshore into the Gulf Stream) should also be taken into consideration.

BOEM should conservatively assess the potential loss to the right whale of communication and listening range and assume that any substantial decrement will result in adverse impacts on the species’ foraging, mating, or other vital behavior. A conservative approach is justified given the species’ extreme vulnerability, where any additional stressor may potentially result in population-level impacts, and the difficulty in obtaining empirical data on population-level impacts on wild animals, and recent scientific information on the estimated levels of underwater noise generated by operational projects.

Comment Number: BOEM-2023-0037-0127-0028

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The design of an offshore wind farm, such as the location, number of turbines, and foundation types, may affect local and regional hydrodynamics. [Footnote 116: Segtnan OH, Christakos K. 2015. Effect of offshore wind farm design on the vertical motion of the ocean. *Energy Procedia* 80(2015): 213-222.] As tidal currents move past the offshore wind foundations, they generate a turbulent wake that will contribute to a mixing of the stratified water column. [Footnote 117: Schultze, L. K. P., L. M. Merckelbach, J. Horstmann, S. Raasch, and J. R. Carpenter. Increased mixing and turbulence in the wake of offshore wind farm foundations. *Journal of Geophysical Research: Oceans* 125, no. 8 (2020): e2019JC015858.] The loss of stratification within the wake of a single offshore wind turbine has been observed in the German Bight, a relatively shallow area of the North Sea with typical water depths between 20 and 50 m. [Footnote 118: *Id.*] A single monopile was found to be responsible for 7-10 percent additional mixing to that of the bottom mixed layer, whereby approximately 10 percent of the turbulent kinetic energy generated by the structure is used in mixing. [Footnote 119: *Id.*] Although the effect of a single turbine on stratification is relatively low, large-scale build-out of offshore wind energy (i.e., 100 km²) could significantly affect the vertical structure of a weakly stratified water column, and could modify the stratification regime and water column dynamics on a seasonal scale, depending on local conditions and turbine layout. [Footnote 120: *Id.*; Carpenter JR, Merckelbach L, Callies U, Clark S, Gaslikova L, Baschek B (2016) Potential Impacts of Offshore Wind Farms on North Sea Stratification. *PLoS ONE* 11(8): e0160830. <https://doi.org/10.1371/journal.pone.0160830>] NOAA Fisheries has also acknowledged that

large-scale build out of offshore wind energy in the Northeast region may cause local oceanographic changes that may affect the distribution of North Atlantic right whale prey. [Footnote 121: State of the Ecosystem New England (Presentation to the New England Fishery Mgmt. Council), NMFS (Apr. 15, 2021). See also 2021 STATE OF THE ECOSYSTEM NEW ENGLAND, NMFS (revised Apr. 26, 2021), <https://apps-nefsc.fisheries.noaa.gov/rcb/publications/SOE-NEFMC-2021-508-Final.pdf>, at 37 (“Right whales may be displaced, and altered local oceanography could affect the distribution of their zooplankton prey.”)]

In the Draft EIS, BOEM should examine the potential for impacts to short-period, long-period, and wind driven waves from development of Beacon Wind, as well as impacts to waves from the turbine blades changing wind patterns or strengths. [Footnote 122: BOEM’s analysis should determine whether there are expected impacts to wave height, shape, peel angle, frequency, pattern, speed, and quality from the Beacon Wind Project. While not discussed in these comments, changes to waves could have serious impacts on recreation. In addition to considering how changes in waves may affect marine life, the BOEM should consider how changes in waves affect ocean users. Beacon Wind and BOEM should engage in a robust and transparent stakeholder process with coastal and ocean recreation enthusiasts and experts, including sailors, kiteboarders, surfers, and other stakeholders to vet modeling data in relation to potential impacts on wave riding breaks and other wind- driven activities. Such a process would use the best available science and expertise to help build understanding of impacts to wind, waves, and associated recreation opportunities, which may assist in conflict mitigation.] These impacts should be examined both individually and cumulatively. Further, BOEM should require Beacon Wind to monitor these oceanographic conditions such that changes in waves post-construction can be detected. BOEM should further consider the effects of individual turbines and the cumulative effects of large-scale build out of offshore wind energy on mixing and stratification in the area off southern New England. Additionally, BOEM, in collaboration with NOAA and the states of Rhode Island and Massachusetts, should establish baseline stratification conditions for the area off southern New England and design and implement a monitoring system capable of detecting deviations from that baseline.

Comment Number: BOEM-2023-0037-0127-0029

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Moreover, based on scientific findings emerging from Europe on the large-scale hydrodynamic and associated ecosystem changes related to offshore wind development, [Footnote 123: E.g., Daewel et al. 2022. Offshore wind farms are projected to impact primary production and bottom water deoxygenation in the North Sea. *Commun Earth Environ* 3, 292. <https://doi.org/10.1038/s43247-022-00625-0>; Schultze et al. 2020. Increased Mixing and Turbulence in the Wake of Offshore Wind Farm Foundations. *JGR Oceans* 125, 8. <https://doi.org/10.1029/2019JC015858>.] we agree with comments made by the Atlantic Scientific Review Group [Footnote 124: Letter from the Atlantic Scientific Review Group (ASRG) to Ms. Janet Coit, Assistant Administrator for NOAA Fisheries, conveying the recommendations of the 2022 meeting of the ASRG, Feb. 22, 2022.] and the Northeast Fisheries Science Center (NEFSC), [Footnote 125: May 13, 2022 letter from Sean Hayes to Brian Hooker, available at <https://drive.google.com/file/d/1V8RDtdVAAMWGjPMqb2s98C5HWppLkNEO/view?usp=sharing>.] and BOEM and NOAA Fisheries in the Draft North Atlantic Right Whale and Offshore Wind Strategy, [Footnote 126: Draft BOEM and NOAA Fisheries North Atlantic Right Whale and Offshore Wind Strategy, October 2022. <https://www.regulations.gov/document/BOEM-2022-0066-0003>] that the hydrodynamic effects of offshore wind turbines, individually and

cumulatively, and potential impacts to marine mammal prey resources are a priority research topic. This issue is particularly pertinent for Nantucket Shoals, which represents an extremely important foraging area for North Atlantic right whales; as we have previously expressed, foraging opportunities and quantity and quality of prey must be maintained if this species is to ever recover. As discussed earlier, we are pleased to see the recent establishment of a committee of experts by the National Academies that will work to understand the potential effects of offshore fixed-bottom WTGs on marine hydrodynamics and resulting impacts on marine mammals, specifically the North Atlantic right whale. Once available, we urge BOEM to incorporate the findings of this committee into its requirements for planned and future offshore wind development.

Comment Number: BOEM-2023-0037-0127-0032

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The imperiled status of the North Atlantic right whale demands the implementation of strong protective measures to safeguard this species during construction and operations of the Beacon Wind Project. BOEM must also require strong protections for other endangered and threatened marine mammal species, including those currently experiencing a UME, and for species particularly sensitive to noise and development. The specific mitigation measures that will be implemented for marine mammals detailed in the COP are generally under protective and not based on best available scientific information, including recent scientific studies indicating the increased year-round use of the Project Area and surrounding waters by North Atlantic right whales. [Footnote 131: E.g., The COP stresses that North Atlantic right whales are mainly expected to be in the Project Area during winter and spring. BW COP, Vol. 2b, at 5-356.]

As a general matter, BOEM must take all necessary precautions to reduce the number of Level A takes (any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild) and Level B takes (any act that has the potential to disturb [but not injure] a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering) [Footnote 132: 16 U.S.C. 1361 §§ 101(a)(5)(A) and (D), 86 Fed. Reg. 1520 (Posted January 4, 2021).] for large whales to be as close to zero as possible. In general, when designing mitigation, BOEM must require the most protective measures possible for all endangered and at-risk species, including right whales, fin whales, humpback whales, and minke whales, as well as harbor porpoises.

Comment Number: BOEM-2023-0037-0127-0034

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The mitigation measures described below reflect our current set of recommendations for North Atlantic right whales during construction and operations of fixed foundation turbines along the East Coast. Mitigation measures that offer co-benefits to other large whale species are noted below. Please note that these recommendations may be subject to change based on new scientific and/or technological developments

1. Mitigation Recommendations for Gravity-based and Suction Bucket Jacket Foundationsa. Require clearance zone and exclusion zone distances that will eliminate Level A take and minimize behavioral harassment:i. Clearance and exclusion zone distances for North Atlantic

right whales and other large whale species must be designed to eliminate Level A take and minimize behavioral harassment to the full extent practicable during the installation of gravity-based or suction bucket foundations, considering noise levels expected to be generated during installation.

b. Require shutdown of activities if a large whale is detected visually or acoustically:i. Installation of gravity-based and suction bucket jacket foundations should not be initiated when the application of monitoring methods defined in subsection (c) results in a detection of a North Atlantic right whale or other large whale species within the relevant clearance zone (as defined based on noise levels expected during installation; see subsection (a)).ii. Installation of gravity-based and suction bucket jacket foundations should be halted, unless continued installation activities are necessary for reasons of human safety or installation feasibility, [Footnote 133: “Installation feasibility” refers to ensuring that the pile installation event results in a usable foundation for the wind turbine (i.e., foundation installed to the target penetration depth without refusal and with a horizontal foundation/tower interface flange). In the event that pile driving has already started and nightfall occurs, the lead engineer on duty will make a determination through the following evaluation: 1) Use the site-specific soil data on the pile location and the real-time hammer log information to judge whether a stoppage would risk causing piling refusal at re-start of piling; and 2) Check that the pile penetration is deep enough to secure pile stability in the interim situation, taking into account weather statistics for the relevant season and the current weather forecast. Such determinations by the lead engineer on duty will be made for each pile location as the installation progresses and not for the site as a whole. This information will be included in the reporting for the project. For the avoidance of doubt, the determination that pile driving must proceed for human safety reasons need not be made by the lead engineer on duty. In the event that the lead PSO directs that impact pile driving be halted because of a visual observation or acoustic detection of a North Atlantic Right Whale within the Clearance Zone, installation feasibility shall be determined by the lead engineer on duty.] when the application of monitoring methods defined in subsection (c) results in a detection of a North Atlantic right whale or other large whale species within the relevant exclusion zone (as defined based on noise levels expected during installation; see subsection (a)).iii. Once halted, installation may resume after use of the methods set forth in subsection(c) and the lead Protected Species Observer (PSO) [Footnote 134: The term “PSO” refers to an individual with a current National Marine Fisheries Service (NMFS) approval letter as a Protected Species Observer.] confirms no North Atlantic right whales or other large species have been detected within the relevant clearance zones.

c. Require the following near real-time monitoring protocols during clearance and installation:i. Monitoring of the clearance and exclusion zones should be undertaken using near real-time passive acoustic monitoring (PAM) [Footnote 135: Throughout these comments “PAM” refers to a real-time passive acoustic monitoring system, with equipment bandwidth sufficient to detect the presence of vocalizing North Atlantic right whales and/or if available at the time of construction other similar high performance sound monitoring systems and arrays.] and should be undertaken from a vessel other than the installation vessel, or from a stationary unit, to avoid the hydrophone being masked by installation-related noise.ii. Monitoring of the clearance and exclusion zone should be undertaken by vessel based PSOs stationed at the installation site. On each vessel, there must be a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon per foundation installation location.iii. Acoustic and visual monitoring should be required, and monitoring should begin at least 60 minutes prior to the commencement or installation activity and should be conducted throughout the duration of installation. Visual monitoring should continue until 30 minutes after installation.iv. Additional observers and monitoring technologies (e.g., infrared, drones, hydrophones) should be deployed, as needed, to ensure the ability to monitor the established

clearance and exclusion zones, including at night and during periods of poor visibility.

d. Require mandatory vessel speed restrictions:i. All Project-associated vessels must adhere to a mandatory 10-knot speed restriction at all times except in limited circumstances where the best available scientific information demonstrates that whales do not occur in the area.ii. If it is proven through peer-reviewed scientific study that an “Adaptive Plan” which modifies these vessel speed restrictions is equally or more effective than a 10-knot speed restriction, BOEM and NMFS may allow Beacon Wind to use such a plan as an alternative to a 10-knot speed limit. The Adaptive Plan must be developed in consultation with BOEM and NMFS and must follow a scientific study design using vessels traveling 10 knots or less.

e. Consider other vessel-related measures:i. All personnel working offshore should receive training on observing and identifying North Atlantic right whales and other large whale species.ii. Vessels must maintain a separation distance of at least 500 m for North Atlantic right whales and 100 m for other large whale species. They must maintain a vigilant watch for North Atlantic right whales and other large whale species, and slow down or maneuver their vessels as appropriate to avoid any potential interaction with them.iii. All vessels responsible for crew transport (i.e., service operating vessels) should carry automated thermal detection systems to assist monitoring efforts while vessels are in transit, maintaining a speed of 10 knots.

f. Require mandatory reporting of all North Atlantic right whale and other large whale detections:i. Project personnel should report all visual observations and acoustic detections of North Atlantic right whales to NOAA Fisheries or the Coast Guard as soon as possible and no later than the end of the PSO shift. We note that, in some cases, such as with the use of near real-time autonomous buoy systems, the detections will be reported automatically on a preset cycle.ii. Project personnel must immediately report an entangled or dead North Atlantic right whale or other large whale species to NOAA Fisheries, the Marine Animal Response Team (1-800-900-3622), or the United States Coast Guard immediately via one of several available systems (e.g., phone, app, radio). Methods of reporting are expected to advance and streamline in the coming years, and agencies should require projects to commit to supporting and participating in these efforts.iii. Quarterly reports of PSO sightings data should be made publicly available to inform marine mammal science and protection.

Comment Number: BOEM-2023-0037-0127-0035

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Mitigation Recommendations for Pile-driven Foundationsa. Prohibit pile driving during times of highest risk (North Atlantic right whales only):i. Pile driving should not occur during periods of highest risk to North Atlantic right whales, defined as times of highest relative density of animals during foraging and migration, and times when mother-calf pairs, pregnant females, surface active groups (indicative of breeding or social behavior), or aggregations of three or more whales (indicative of feeding or social behavior) are, or are expected to be, present. Time periods must be defined based on the best available scientific information.ii. If a near real-time monitoring system and mitigation protocol for North Atlantic right whales and other large whale species is developed and scientifically validated, the system and protocol may be used to dynamically manage the timing of pile driving and other construction activities to ensure those activities are undertaken during times of lowest risk for all relevant large whale species. The development of such a protocol is particularly important where foraging aggregations of other large whale species are observed coincident with the times that pile driving would most likely be undertaken based on times of lower relative risk to North Atlantic right whales.

b. Restrict pile driving activity at night and during periods of low visibility (all large whale

species):i. Pile driving shall not be initiated within 1.5 hours of civil sunset or in times of lowvisibility when the visual “clearance zone” and “exclusion zone” (as hereinafter defined)cannot be visually monitored, as determined by the lead PSO on duty.ii. Pile driving may continue after dark only if the activity commenced during daylight hours and must proceed for human safety or installation feasibility reasons, [Footnote 136: See footnote in II.F.1.b.iii above about installation feasibility reasons.] and if required night-time monitoring protocols are followed (see subsection e).

c. Require the following clearance zone distances prior to pile driving and exclusion zone distances during pile driving (provided here for a minimum of 10-12 dB noise reduction (see subsection h) though technologies have achieved significantly greater noise reduction, [Footnote 137: See, e.g., AdBm Demonstration at Butendiek Offshore Wind Farm with Ballast Nedam “Attenuation of up to 36.8 dB was realized across all hammer strikes at this location.” <https://tethys.pnnl.gov/sites/default/files/publications/AdBm-2014.pdf>.] which would provide more protections to marine life and allow more project flexibility; North Atlantic right whales only):i. A visual clearance zone and exclusion zone must extend at minimum 5,000 m in all directions from the location of the driven pile.ii. An acoustic clearance zone must extend at minimum 5,000 m in all directions from the location of the driven pile.iii. An acoustic exclusion zone must extend at minimum 2,000 m in all directions from the location of the driven pile.iv. Clearance and exclusion zone distances for other large whale species must be designed in a manner that eliminates Level A take and minimizes behavioral harassment to the full extent practicable.

d. Require shutdown of activities if a right whale is detected visually or acoustically (for a minimum of 10-12 dB noise reduction (see subsection h); North Atlantic right whales only):i. Pile driving must not be initiated when monitoring methods defined in subsection (e), below, result in either an acoustic detection within the acoustic clearance zone or a visual detection within the visual clearance zone of one or more North Atlantic right whales.ii. Pile driving must not be initiated or, if already underway, must be shut down unless continued pile driving activities are necessary for reasons of human safety or installation feasibility when monitoring methods defined in subsection (e) result in acoustic detection within the acoustic exclusion zone or a visual detection within the visual exclusion zone of one or more North Atlantic right whales.iii. Pile driving must be shut down, unless continued pile driving activities are necessary for reasons of human safety or installation feasibility, if a North Atlantic right whale is visually detected by PSOs at any distance from the pile.iv. Once halted, pile driving may resume only after using the methods set forth in subsection (e) and the lead PSO confirms no North Atlantic right whales or other large whale species have been detected within the relevant acoustic and visual clearance zones.

e. Require the following near real-time monitoring protocols during pre-clearance and when pile driving activity is underway (all large whale species):i. Monitoring of the acoustic clearance and exclusion zone must be undertaken using near real-time PAM, assuming a detection range of at least 10,000 m, and must be undertaken from a vessel other than the pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by the pile driving vessel or development-related noise.ii. Monitoring of the visual clearance and exclusion zone must be undertaken by vessel based PSOs stationed at the pile driving site and on additional vessels circling the pile driving site, as required. On each vessel, there must be a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon per pile driving location. Additional vessels must survey the clearance and exclusion zones at speeds of 10 knots or less.iii. Acoustic and visual monitoring must begin at least 60 minutes prior to the commencement or re-initiation of pile driving and should be conducted throughout the duration of pile driving activity. Visual observation must continue until 30 minutes after cessation of pile driving.iv. PAM and infrared technology must be used during any pile driving activities that extend into periods of darkness.v. The

deployment of additional observers and monitoring technologies (e.g., infrared, drones, hydrophones) should be undertaken, as needed, to ensure the ability to effectively monitor the established clearance and exclusion zones.

f. Require mandatory vessel speed restrictions (all large whale species):i. All Project-associated vessels must adhere to a mandatory 10-knot speed restriction at all times except in limited circumstances where the best available scientific information demonstrates that whales do not occur in the area.ii. If it is proven through peer-reviewed scientific study that an “Adaptive Plan” which modifies these vessel speed restrictions is equally or more effective than a 10-knot speed restriction, BOEM and NMFS may allow Beacon Wind to use such a plan as an alternative to a 10-knot speed limit. The Adaptive Plan must be developed in consultation with BOEM and NMFS and must follow a scientific study design using vessels traveling 10 knots or less.

g. Consider other vessel-related measures (all large whale species):i. All personnel working offshore should receive training on observing and identifying North Atlantic right whales and other large whale species. ii. Vessels must maintain a separation distances of 500 m for North Atlantic right whales and 100 m for other large whale species, maintain a vigilant watch for North Atlantic right whales and other large whale species, and slow down or maneuver their vessels as appropriate to avoid a potential interaction with a North Atlantic right whale or other large whale species.iii. All vessels responsible for crew transport (i.e., service operating vessels) should carry automated thermal detection systems to assist monitoring efforts while vessels are in transit (while maintaining a speed of 10 knots).

h. Require underwater noise reduction levels based on best commercially available technology (all large whale species):i. A combination of near field (e.g., reduced blow energy, resonant panel noise abatement system, [Footnote 138: See, e.g., AdBm Technologies. [https://adbmtech.com/.](https://adbmtech.com/)] Hydrosound Damper, [Footnote 139: See, e.g., OffNoise-Solutions Hydro-Sound-Damper-System (HSD-System). [https://www.offnoise-solutions.com/.](https://www.offnoise-solutions.com/)] isolation casings (Noise Mitigation Screen (NMS)), [Footnote 140: Koschinski, S. & Lüdemann, K. (2020, March). Noise mitigation for the construction of increasingly large offshore wind turbines: Technical options for complying with noise limits. Report commissioned by the Federal Agency for Nature Conservation, Isle of Vilm, Germany.] dewatered cofferdam. [Footnote 141: Id.]) and far field noise mitigation (e.g., single bubble curtain), and/or a combination system (double bubble curtain), expected to achieve at least 15dB (SEL) noise attenuation; as a baseline, projections from prior noise measurements of unmitigated piles from Europe and North America should be required. A minimum of 10 dB (SEL) must be attained in the field during construction in combined noise reduction and attenuation.ii. Field measurements should be conducted on at least the first pile installed, and ideally data should be collected from a random sample of piles throughout the construction period. We do not support field testing using unmitigated piles.iii. Sound source validation reports of field measurements must be evaluated by both BOEM and NMFS prior to additional piles being installed, and subsequently be made available to the public.

i. Require mandatory reporting of all North Atlantic right whale and other large whale detections:i. Project personnel must report all visual observations and acoustic detections of North Atlantic right whales to NMFS or the Coast Guard as soon as possible and no later than the end of the PSO shift. We note that, in some cases, such as with the use of near real-time autonomous buoy systems, the detections will be reported automatically on a preset cycle.ii. Project personnel must immediately report an entangled or dead North Atlantic right whale or other large whale species to NMFS, the Marine Animal Response Team (1-800- 900-3622), or the United States Coast Guard immediately via one of several available systems (e.g., phone, app, radio). Methods of reporting are expected to advance and streamline in the coming years, and BOEM should require projects to commit to supporting and participating in these efforts.iii. Quarterly reports of PSO sightings data should be made publicly available to inform marine

mammal science and protection.

Comment Number: BOEM-2023-0037-0128-0016

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Marine Mammals: o Identify seasonal distribution, abundance, and migration routes, incorporating recent research such as aerial and acoustic monitoring. Note: there are important seal haul-out sites in New York State (e.g., Great Gull Island).

Comment Number: BOEM-2023-0037-0128-0048

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Marine Mammals: o Evaluate impacts from construction, pile driving and vessel traffic (i.e., vessel strikes and alteration of migratory patterns). o Evaluate behavior and physiological impacts from noise and EMF. o Evaluate impacts associated with pre-construction surveys and possible drill/blasting construction methods, including takes of protected species under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA). Such an approach could be used to facilitate the National Oceanic and Atmospheric Association's (NOAA) review, improve permitting efficiencies and consistency across projects, and ensure projects have sufficient time to collect at least two (2) years of baseline data.

Comment Number: BOEM-2023-0037-0128-0065

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Assess risks associated with Formerly Used Defense Sites (FUDS). In eastern LIS, NYS is aware of the following FUDS: Fort Michie FUDS Property, Michie Batteries - Water Acreage, and C02NY061203; and Fort H G Wright FUDS Property, Range Complex #1, and C02NY061001. Since this region has been very active with our military throughout history, there may be more areas that require further evaluation. Further information can be found at: www.fuds.mil.

Comment Number: BOEM-2023-0037-0131-0025

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: Graphics provided in the COP (Figs 5.6-5A – 5.6 -5E) suggest that North Atlantic Right Whale (RW) densities are typically low in the proposed lease site, except for February when they're higher, and the COP acknowledges that RW winter distribution is largely unknown (p. 5-354). The graphics (Figs 5.6-5A – 5.6 -5E) appear to be based on monthly aerial surveys conducted between March 2017 – February 2018. The COP also points out (p. 5-354) the apparent shift in RW distribution away from the Gulf of Maine to an increasing use of Mid-Atlantic waters (p. 5- 355). The paucity of current RW distribution data combined with the observed increase in their presence in Mid-Atlantic waters, possibly including the proposed lease site, warrants a thorough and rigorous evaluation of potential impacts to highly

endangered RWs from this project in the EIS including measures to avoid impacts.

Comment Number: BOEM-2023-0037-0131-0028

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: The EIS should discuss whether unexploded ordinance (UXO) is likely to be encountered in the project area and the management strategies that will be implemented to avoid environmental impacts and to prevent harm during project construction and operation of the project.

Comment Number: BOEM-2023-0037-0133-0019

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Assess the possibility of rectified diffusion and other stresses from Seismic Surveys: the Project, like other offshore wind projects, uses high voltage, boomers (3000 V), sparkers (20- 200Hz), and multibeam echo sounders, side scan sonars (100-500 kHz), shallow and mid penetration sub-bottom profilers, ultra short baseline positioning equipment, and marine magnetometers to collect their high-resolution geophysical maps of the seabed. The frequency of the sound waves can cause rectified diffusion, which can initiate decompression sickness in marine mammals independent of any effect on the behavior of the animals. Decompression sickness can disorient, cause hearing loss, unconsciousness, and death. Moreover, all of these symptoms increase the risk of ship strikes. BOEM must require an adequate examination of anthropogenic noise, particularly from seismic surveys on marine mammals. This examination must address the possibility that rectified diffusion may be the mechanism that produces harm (Crum, 1996). Prior DEISs have failed to adequately address this issue. The correlation between the unprecedented numbers of coastal whale deaths (UMEs) and the increase in seismic survey activity suggests that the Project may violate the MMPA and the ESA, and must be researched before any approvals are given.

Comment Number: BOEM-2023-0037-0133-0020

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Obtain a scientifically validated baseline: All of the marine species need a validated scientific baseline obtained over the course of 3-5 years immediately prior to construction as specified in the draft strategy for the North Atlantic right whale. This must include all species. Because a scientifically validated baseline cannot be obtained for whales undergoing unusual mortality events, these must be resolved prior to the collection of baseline data.

Comment Number: BOEM-2023-0037-0133-0021

Commenter: Lisa Quattrocki Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: North Atlantic Right Whales: The US has designated the area planned

for construction as a critical habitat for the North Atlantic Right Whale (NARW). With approximately 334 members alive today, the NARW faces extinction. The unusual mortality event (UME) that began in 2017 has affected 20% of the population. Deaths outpace births. Pre-construction seismic surveys and impact drilling within whale habitats coincided with the onset of their UME and the most recent NARW death today (02/14/2023) substantiates this association. BOEM and NOAA have a legal obligation to protect and promote the recovery of this species under the ESA and the MMPA. Absence of Evidence is NOT evidence of absence. Seismic surveys are associated with whale morbidity and mortality (Engel, 2004). As evidenced by the most recent death, BOEM's monitoring mitigation strategies cannot ensure the safety of the species. Because whales sequester carbon, the loss of a single whale, let alone an entire whale species, will increase the carbon footprint of this project (Chami, 2019). Moreover, an alarming 224 Level B Incidental Harassment Authorizations for NARW's are active and an even more alarming 691 applications for Level B IHA's are in process. These IHA's are in direct conflict with the mandate to protect and promote the recovery of the species. Offshore wind farms (OWFs) will inevitably drive threatened whale species closer to extinction (Seals, 2017) without mitigation measures that are proven to work. To date, no such measures exist. BOEM cannot approve any DEIS and COP that violates the MMPA and the ESA.

Comment Number: BOEM-2023-0037-0151-0002
Commenter: Michael Pentony
Organization: National Marine Fisheries Service
Commenter Type: Federal Agency

Comment Excerpt Text: Endangered North Atlantic right whales occur in the Beacon Wind lease area, along the proposed cable corridor, and along many of the anticipated vessel transit routes (see for example, Quintana-Rizzo et al. 2021). [Footnote 1: Quintana-Rizzo, E., Leiter, S., Cole, T. V. N., Hagbloom, M. N., Knowlton, A. R., Nagelkirk, P., ... & Kraus, S. D. (2021). Residency, demographics, and movement patterns of North Atlantic right whales *Eubalaena glacialis* in an offshore wind energy development in southern New England, USA. *Endangered Species Research*, 45, 251-268.] As you are aware, the status of this species is extremely poor. The 2022 Stock Assessment Report includes a median abundance value of 338 individuals as of November 2020 (95-percent Credible Interval 325-350). We have significant concerns about the potential development of the portion of the Beacon Wind lease area adjacent to Nantucket Shoals and the consequences of such development and operation of the wind farm on the Nantucket Shoals ecosystem and impacts to foraging right whales. These concerns are in addition to potential risks of construction noise and vessel strikes.

Comment Number: BOEM-2023-0037-0151-0014
Commenter: Michael Pentony
Organization: National Marine Fisheries Service
Commenter Type: Federal Agency

Comment Excerpt Text: These effects of WTG presence and operation may disrupt prey aggregations, primarily of planktonic organisms, such as copepods and gelatinous organisms, that are transported by currents. Studies have shown that the physical presence of offshore wind structures alter horizontal currents and vertical water column stratification that influence the distribution of plankton. As right whales are obligate zooplanktivores, we expect that these documented ecological impacts may affect right whale prey in a way that is likely to affect right whale foraging. As many individual right whales are in poor body condition (Christiansen et al. 2020; Stewart et al. 2021), and there are few, if any, known alternate locations for foraging during at least some winter months, impacts to foraging in and around Nantucket Shoals are of

great concern. Impacts to the health and body condition of individual right whales that result in decreased reproductive success is expected to have population level consequences.

Comment Number: BOEM-2023-0037-0151-0021

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: North Atlantic right whales are present in the lease area and surrounding waters year round. “Hotspots” for right whales have been identified within the Beacon lease area during the spring and winter seasons and within adjacent waters during the summer and fall; feeding and social behavior have been observed in these areas. [Footnote 5: Quintana-Rizzo, E., Leiter, S., Cole, T. V. N., Hagbloom, M. N., Knowlton, A. R., Nagelkirk, P., ... & Kraus, S. D. (2021). Residency, demographics, and movement patterns of North Atlantic right whales *Eubalaena glacialis* in an offshore wind energy development in southern New England, USA. *Endangered Species Research*, 45, 251-268.] In recent studies, mean residence time of whales was an average of 13 days, indicating that individual whales persist and may forage in these areas for multi-day periods of time and are not just traveling through. These persistent aggregations occur in areas that overlap and are adjacent to the Beacon Wind lease area.

Comment Number: BOEM-2023-0037-0151-0041

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Using the best scientific information available for all marine trust resources is critical to analyzing the impacts resulting from this project. Data used should include a sufficient range of years to reflect natural variability in resource conditions and fishery operations, but also current conditions. We recommend that fisheries and marine resource survey analyses consider at least 10 years of data up to and including data within the past two years. [Footnote 16: Fisheries data are available upon request to nmfs.gar.data.requests@noaa.gov and are available in summarized reports for the existing lease area at https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm_medium=email&utm_source=govdelivery] This is especially important for marine mammals given recent distribution and habitat utilization shifts.

Comment Number: BOEM-2023-0037-0151-0051

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: As part of our review, we must also determine if your EIS meets the requirements of 40 CFR Part 1500-1508, specifically basic requirements for an EIS as described in 40 CFR 1502. Therefore, the EIS must contain an adequate evaluation of the impacts on all marine mammals that may be present in the project area. In order to take a requisite “hard look” at environmental impacts, the analysis should consider the affected environment and degree of impact on each resource which involves an evaluation of direct and indirect effects, as well cumulative effects; the duration of the impact; whether it is beneficial or adverse and the geographic scale in which the action is occurring (e.g., local, regional). Specifically, the EIS must include an analysis of the impacts of elevated underwater noise on

marine mammals resulting from pile driving, site characterization surveys, and other project-related activities; the risk of vessel strike due to increases in vessel traffic and/or changes in vessel traffic patterns; any activities that may increase the risk of entanglement; any activities that may result in the displacement of individuals or changes to migratory behavior; any activities that may result in altered prey assemblages or changes in feeding behavior; and any other activities that may result in harassment, injury, or mortality to marine mammals. We recommend BOEM refer to the Ocean Wind 1 EIS to guide development of the structure and analysis of the Beacon Wind document, particularly for marine mammal sections.

Comment Number: BOEM-2023-0037-0151-0052

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: For specific marine mammals issues, we refer you to the discussion on marine mammals in the ESA section below and in Attachment B. We note because all marine mammals are protected under the MMPA, those comments apply to all marine mammal species. We specifically recommend that the analysis of impacts on marine mammals and corresponding significance determinations be separated by species group (i.e., mysticetes, odontocetes, and pinnipeds). For the noise impacts analysis, we recommend a similar approach using the hearing groups identified in NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (NMFS, 2018).

Comment Number: BOEM-2023-0037-0152-0010

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Determine the expected effects of operational turbines from effects elicited by low- frequency and infrasound

Comment Number: BOEM-2023-0037-0152-0012

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Estimate effective habitat loss for NARW.

Comment Number: BOEM-2023-0037-0152-0013

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Operation of large windturbine power plants produces low-frequency noise. Therefore estimate: o Compromise of immune function, using known relation between cortisol change and immune suppression. • Quantitatively estimate the impact on survival in Humpback, Minke, and NARW of noise-induced immunosuppression o Whether Cardiovascular disease states could result from apoptosis of cardiac myocytes. o Energetic expenditure from repeat arousal from noise emitted during various phases of wind-turbine power plant survey research, construction, operation, and decommissioning [Footnote 39: Suction-cup hydrophones have successfully been used in the past to record heart rates in

bottlenose dolphins, providing objective psychophysiological measures for physically unrestrained cetaceans.].

Comment Number: BOEM-2023-0037-0152-0014

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: For the NARW, quantitative estimates of alteration of prey density (/m³) in the lease area expected to result from: • Turbulent wakes formed by ocean currents passing the masts in the turbine array• Ocean front disruption• Strata mixing• Effect of operational noise on copepod (and other zooplankton likely prey) populations within radius of a turbine• Effect of HRG equipment to survey the sea floor (in consideration for turbine siting decisions and turbine foundation type feasibility studies, etc.) on copepod (and other zooplankton likely prey) populations within the lease area and study oceanic study area

Comment Number: BOEM-2023-0037-0152-0015

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Quantify expected increase in mortality from vessel collisions due too Increase in vessel traffic due to the construction, operation, and decommissioning of the Beacon Wind Power Plant, and, separately, all wind-turbine power plants collectively

Comment Number: BOEM-2023-0037-0152-0016

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Consider the effects of full but temporary hearing loss and of temporary hearing impairment reducing the maximum distance at which ships are detected, and probability of detection, thus impairing dolphin, seal, and whale's ability to detect and avoid oncoming ships.

Comment Number: BOEM-2023-0037-0152-0026

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: The importance of the Southern New England Shelf between the 20 meter and 50 meter isobaths and the importance of the Shoals cannot be overstated. They contain unique features that have engendered specific ecological relationships dependent upon such features. There must be a detailed report on how water current changes in direction speed and quality , as well as how ocean strata mixing and temperature changes resulting from the changed currents and from direct heat from the power plant operations will affect this area's heat flow, mixing,and currents.

A.2.16 Sea Turtles

Comment Number: BOEM-2023-0037-0127-0036

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: Four species of federally-listed sea turtles forage in coastal waters off the northeast coast of the U.S. in late spring, summer and fall: leatherbacks (*Dermochelys coriacea*) (endangered), loggerheads (*Caretta caretta*) (threatened), Kemp's ridleys (*Lepidochelys kempii*) (critically endangered) and greens (*Chelonia mydas*) (threatened). Earlier this month (July 2023), new density models for sea turtles species along the U.S. East Coast were released. [Footnote 142: Available at <https://seamap.env.duke.edu/models/NUWC/EC/>] These models, developed by the U.S. Naval Undersea Warfare Center, offer long-term averages of monthly density, abundance, and distribution for the four sea turtle species and this information should be integrated into BOEM's impact analysis.

Available sighting data [Footnote 143: seaturtlesightings.org] off the Northeast Coast are mostly leatherback and loggerhead. Juvenile Kemp's ridleys and greens may be present but too small to typically be observed by boaters. Sea turtles are also recorded in stranding data. Based on both opportunistic observational reporting systems and sea turtle stranding rescue programs, sea turtle presence is trending northward into the Gulf of Maine. Historically, strandings occurred more south of Cape Cod and in Long Island Sound, although in recent years higher numbers of strandings have occurred in Cape Cod Bay. [Footnote 144: Griffin LP, Griffin CR, Finn JT, Prescott RL, Faherty M, Still BM, et al. (2019) Warming seas increase cold-stunning events for Kemp's ridley sea turtles in the northwest Atlantic. *PLoS ONE* 14(1): e0211503. <https://doi.org/10.1371/journal.pone.0211503>] Sea turtles migrating north in spring/early summer and south in the fall transit over the continental shelf, including the Beacon Wind Lease Area. Some may migrate across the shelf to deeper water while others migrate close to the US coast, over the shelf, as shown in studies of satellite-tagged leatherbacks. [Footnote 145: Dodge KL, Galuardi B, Miller TJ, Lutcavage ME (2014) Leatherback Turtle Movements, Dive Behavior, and Habitat Characteristics in Ecoregions of the Northwest Atlantic Ocean. *PLoS ONE* 9(3): e91726. <https://doi.org/10.1371/journal.pone.0091726>] Since 2002, Mass Audubon's Wellfleet Bay Wildlife Sanctuary in Wellfleet, Massachusetts, has operated a hotline and website, seaturtlesightings.org, aimed at communicating with marine vessel operators about sea turtles. This site gathers data on strandings and deceased turtles that do not wash ashore ("floaters") in southeast Massachusetts. Although more rigorous data gathering is needed, the observations available indicate that many of the dead floaters show evidence of vessel strikes.

Comment Number: BOEM-2023-0037-0127-0037

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The Draft EIS should evaluate the vessel strike fatality risk associated with increased offshore wind vessel traffic from cable-laying, construction, personnel transport and maintenance for Beacon Wind and cumulatively for all offshore wind projects. Measures to avoid and minimize these risks should be identified including observers on vessels and reduction in speed and altering course when possible. All vessel collisions with turtles should be documented and reported. Beacon Wind and other offshore projects should also report turtle sightings to contribute to the advancement of research on sea turtles. Beacon Wind should also

immediately report any turtles entangled in marine debris to appropriate authorities for response.

All the organizations in NOAA's Greater Atlantic Region sea turtle stranding network are private. The majority of these organizations respond to marine mammal strandings as well as sea turtles, and those organizations can apply for federal funding for the marine mammal work. There is no federal funding for these sea turtle stranding response organizations, although a small federal funding program is anticipated to get underway next year. The majority of funding and support comes from private sources and volunteers. The offshore wind industry and federal government should collaborate to support ongoing data collection and stranding rescue programs.

Comment Number: BOEM-2023-0037-0128-0017

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Sea Turtles:o Identify seasonal distribution, abundance, and migration routes.

Comment Number: BOEM-2023-0037-0128-0049

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Sea Turtles:o Evaluate behavior and physiological impacts from vessel traffic, noise, foundation lighting and EMF.

Comment Number: BOEM-2023-0037-0152-0021

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Proliferation of barnacles due to explosion of surface area available for colonization• Increased barnacle loado Higher energetic cost of swimming

A.2.17 Wetlands and Waters of the U.S.

Comment Number: BOEM-2023-0037-0128-0023

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Wetlands and Waterbodies:o Identify freshwater and tidal wetlands and regulated adjacent areas that might be impacted.

Comment Number: BOEM-2023-0037-0128-0051

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Wetlands and Waterbodies: Evaluative impacts to freshwater and tidal wetlands and regulated adjacent areas.

A.2.18 Commercial Fisheries and For-Hire Recreational Fishing

Comment Number: BOEM-2023-0037-0022-0005

Commenter: Nivo Rovedo

Commenter Type: Individual

Comment Except Text: Equinor is not working in the shadows: it has consulted with regional stakeholders and collaborated with local fishing industry partners across the Northeast to collect input and data that informed the 1x1 nautical mile wind turbine layout that Beacon Wind will utilize. This layout will preserve the existing fishing agreements and allow for navigation through, and activities within, the Beacon Wind and adjacent lease areas. And Equinor continues to contract with the fishing industry to support Offshore Fisheries Liaison Representatives and scout boat services during offshore survey efforts and will continue to do so during future installation.

Comment Number: BOEM-2023-0037-0027-0001

Commenter: Anthony Favale

Commenter Type: Individual

Comment Except Text: This area is part of the eastern seaboard fishing lanes. How will the fish be affected by the installation and noise from the windmills?

Comment Number: BOEM-2023-0037-0040-0003

Commenter: Tom Helling

Commenter Type: Individual

Comment Except Text: Equinor is not working in the shadows: it has consulted with regional stakeholders and collaborated with local fishing industry partners across the Northeast to collect input and data that informed the 1x1 nautical mile wind turbine layout that Beacon Wind will utilize. This layout will preserve the existing fishing agreements and allow for navigation through, and activities within, the Beacon Wind and adjacent lease areas. And Equinor continues to contract with the fishing industry to support Offshore Fisheries Liaison Representatives and scout boat services during offshore survey efforts and will continue to do so during future installation.

Comment Number: BOEM-2023-0037-0061-0006

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We recommend working closely with NOAA Fisheries to identify appropriate fishing and habitat data to use when informing alternatives development and any

potential impacts and mitigation measures needed.

Comment Number: BOEM-2023-0037-0061-0007

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The DEIS should address impacts to radar for vessels transiting and fishing within the lease area in a 1x1 nm layout. The COP emphasizes that impacts are not expected 1.5 nm from the turbines.

Comment Number: BOEM-2023-0037-0061-0008

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Given the current pace of offshore wind energy development in this region combined with workload constraints, we are unable to provide a detailed review of the COP for this project. However, we recognize that the analyses in the EIS will have important ramifications for terms and conditions which may be implemented through final project approval, including fisheries mitigation and compensation measures. With this in mind, we strongly encourage BOEM to consider the recommendations listed in the wind energy policies adopted by both Councils, which apply across all projects. [Footnote: Available at https://www.mafmc.org/s/MAFMC_wind_policy_Dec2021.pdf] Our two Councils worked together and adopted the same wording for these policies. We also urge BOEM to adopt the recommendations provided by NOAA Fisheries for this project, including recommendations for alternatives to consider, data sources, impacts analysis, and ways to minimize the negative impacts of this project on marine habitats, commercial and recreational fisheries, and fishery species.

Comment Number: BOEM-2023-0037-0061-0023

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: BOEM should coordinate early and often with NOAA Fisheries on the most appropriate data for analysis of potential impacts to fisheries, including fishing and transiting locations, as well as socioeconomic impacts. The EIS should clearly and repeatedly acknowledge the limitations of each data set. Summary information on Council-managed fisheries is also available on the Council websites, www.mafmc.org, and www.nefmc.org, at fishery management plan-specific links, typically via annual fishery information reports (MAFMC) or recent plan amendment or framework documents (both councils).

Comment Number: BOEM-2023-0037-0061-0025

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Commercial and recreational fisheries provide a wide range of benefits to coastal communities; not all are captured by looking only at financial metrics. The EIS should not overly rely on ex- vessel value when assessing and weighting impacts across various

fisheries. Focusing on ex- vessel value can mask other important considerations such as the number of impacted fishery participants, the use of a low-value species as bait for a high-value species, or a seasonally important fishery.

Comment Number: BOEM-2023-0037-0061-0026

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Models exist to estimate the amount of fisheries revenue generated from within the project area; however, it is important to acknowledge that changes in transit patterns will also have economic impacts and the associated economic impacts will be challenging to accurately quantify.

Comment Number: BOEM-2023-0037-0061-0028

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: We recognize that data on private angling are very limited; therefore, it will be important to clearly articulate the limitations of the available data and work with local fishermen to understand how the project area is used by recreational fisheries. Volume 2e Section 8.8.2.1 of the COP describes the number of angler trips by impacted state and total catch by most highly targeted species in 2020 to evaluate private recreational activity within and near the lease area. The EIS should expand the dataset to include more recent years given 2020 was highly impacted by the pandemic. The EIS should consider how the number of impacted trips and estimated catch may translate into impacts from construction, operations, and decommissioning of Beacon Wind on angler satisfaction, shoreside economic impacts, and other impacts for private recreational fisheries. Quantitative data to assess these impacts are lacking; therefore, the EIS may be required to describe these impacts qualitatively.

Comment Number: BOEM-2023-0037-0061-0029

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Fishing vessels utilize certain fishing grounds based on where target species are located and where management regulations allow, thus, vessels cannot necessarily relocate to a different area to avoid the windfarm without socioeconomic impacts. The COP suggests in Volume 2e that commercial fishing will likely continue in the area given the proposed adoption of 1x1 nm spacing within the array (page 8-242), however, this may not be true for all conditions (weather, safety concerns, towed fishing gear, etc.). The EIS should not assume “continued access to traditional fishing grounds” (page 8-242) will occur uninterrupted for all commercial and recreational fishermen. This contrasts with the SouthCoast Wind DEIS which concluded that with the same turbine spacing “It is conceivable that some of the small number of fishing operations that derive a large percentage of their total revenue from areas where Project facilities would be located would choose to avoid these areas once the facilities become operational.

Therefore, BOEM expects that the impacts resulting from the Proposed Action would range from minor to major, depending on the fishery and fishery operation” (SouthCoast Wind DEIS page 3.6.1-59) [Link: [---

A-209](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-</p></div><div data-bbox=)

activities/Mayflower_DEIS_Vol_I_WEB_508.pdf 3.6.1-59]. There is no obvious reason why the conclusion for the Beacon Wind project, using the same spacing, is different. The likely extent of impacts will be important to understand in the context of developing mitigation agreements for affected fishing industry members.

Comment Number: BOEM-2023-0037-0061-0031

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The impacts of the project will not be felt only by fishermen from nearby ports; the EIS should consider commercial and recreational fisheries over a wide geographic area that may be impacted by the project. For example, vessels traveling from ports north and south of the project area may transit through and/or fish in the area. In addition, the COP Volume 2e acknowledges that “landings fluctuate on an interannual basis”, however, the revenue exposure tables only reflect an average value from 2008 – 2019 (page 8-201). Fluctuations in fishing effort should be reflected in the EIS, either with annual data, or by presenting a multi-year average alongside peak years. We appreciate the acknowledgement that non-AIS fishing activity occurs within the lease area and along the export cable route, and that the COP incorporated additional data sources such as VMS, visual survey data, etc. (Volume 2e, page 8-120). BOEM should coordinate with NOAA Fisheries on the best data regarding fishing and transit, the EIS should clearly acknowledge the limitations of the available data, and local fishermen should be consulted to better understand use patterns not captured in the data.

Comment Number: BOEM-2023-0037-0061-0035

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Turbine foundations and their associated fouling communities will create artificial reefs, which are expected to attract certain fishery species (e.g., black sea bass). Volume 2E (page 8-50) briefly describes this impact on recreational fishing, whereby an increased number of fishing trips from nearby ports is anticipated while page 8-235 states that “it is possible...the two offshore substation facilities may have long-term safety and security exclusions during operations due to the nature of the substation facility infrastructure.” The EIS should clearly describe this operational difference and the likely impacts to both recreational and commercial fishing vessels. Pages 8-239 and onward describe the impact of a potential reef effect on commercial vessels and concludes that commercial fishermen will also benefit from “a richer diversity of marine life now assembled in a smaller area.” This assumes that commercial fishing will continue in this project area and will benefit from this effect. This may be the case for some commercial fishing vessels using pots/traps or hook and line gear; however, commercial fishing vessels using mobile bottom tending gear may choose to avoid fishing within the project area due to safety and navigation concerns. The EIS should acknowledge that the benefits of this artificial reef effect will vary by target species and by fishing sector. For example, any benefit to recreational anglers targeting highly migratory species (e.g., tunas and sharks) could be offset by the inability to anchor or to drift throughout the area. If operators shift their effort outside the project area during construction or long-term operations, this will potentially put them in areas of higher vessel traffic and gear conflict. Also, depending on operating conditions at sea, commercial and recreational fishermen cannot always reap the benefits of any increased catchability of target species due to safety concerns of fishing in swells around the turbines.

Comment Number: BOEM-2023-0037-0061-0036

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: As we have stated in many previous comment letters, it should not be assumed that commercial fishermen will switch gear types and/or target species. This may not be feasible given the high cost, potentially lower prices, and different permits that would be required. Such adaptation would only occur over the longer term and may require fishery management changes. It should not be assumed that fisheries management will adapt in any particular way as it must achieve multiple objectives and offshore wind energy development is just one consideration.

Comment Number: BOEM-2023-0037-0061-0038

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: Regarding radar, the COP Volume 2e states that “only marine radar was found to have any quantifiable effect within 1.5 nm (2.7 km) of a structure” (page 8-158). Given the 1x1 nm spacing between turbines, this would mean that vessels transiting within the lease area would experience radar interference. Fishermen have noted there is a need to declutter radar within lease areas, otherwise fine scale targets may be lost while navigating through them. If AIS transponders are most appropriate on a subset of structures only (versus on every turbine, offshore substation, and any other offshore structures), BOEM should consult with the fishing industry and the U.S. Coast Guard to identify where AIS would be most helpful.

Comment Number: BOEM-2023-0037-0061-0039

Commenter: Thomas A. Nies, Christopher M. Moore

Organization: New England and Mid-Atlantic Fishery Management Council

Commenter Type: Organization

Comment Except Text: The COP states that “submarine export and interarray cables will be retired in place or removed in accordance with a Decommissioning Plan” based on a separate approval process from BOEM (Volume 1, Section 3.7). It is essential that cables be removed during decommissioning.

Abandoned, unmonitored cables could pose a significant safety risk for fisheries that use bottom- tending gear and the long-term risks to marine habitats are unknown.

Comment Number: BOEM-2023-0037-0115-0010

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: RODA reiterates the importance of any entity analyzing fisheries data to work cooperatively with NOAA Fisheries, state agencies, and the fishing industry. To that end, BOEM would improve its prior analyses by expanding the time series of data analyzed and by expanding its cooperation with the fishing industry and/or NOAA Fisheries and state agencies to enhance appropriate data sets. Fishery management measures make it difficult to predict future fishing patterns because they are modified frequently based on variations in stock

size and distribution. This also means that a short snapshot of fishing activity is not representative of the long-term needs of individual fisheries.

Comment Number: BOEM-2023-0037-0115-0011

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: Because existing federal data gives an incomplete picture of fisheries effort on the individual (or cumulative) project scale, it is necessary for BOEM to work with fisheries experts and the industry to evaluate and augment these data sets. For example, knowing where fleets operate can be difficult as most fishing vessels do not use Automatic Identification Systems (AIS) and VMS does not offer fine-scale spatial data. Some fisheries have very limited reporting requirements from which to derive spatial information at all. To put a finer point on it, the best source of information regarding fishing effort is the fishing industry itself. These experts' local ecological, business, and community knowledge must be included in planning discussions or this information will not be effectively available for informed OSW development.

Comment Number: BOEM-2023-0037-0115-0031

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: It is extremely important to consider impacts from inter-array and export cables for all species found in the lease area. The EIS must analyze impacts from installation (including the duration of impacts after installation) and impacts from the cables themselves. The COP identifies a target burial depth of between 3 to 7 ft, depending on seabed conditions. The fishing industry has consistently requested cables be buried as deep as possible, generally at a minimum of 8-10 ft. below the seabed. If these depths cannot be achieved, at a minimum BOEM must require developers to work directly with the fishing industry to design cable protection methods that are as compatible (as possible) with fishing practices.

Comment Number: BOEM-2023-0037-0115-0043

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: Beacon Wind's ongoing and proposed fisheries research is not well coordinated with other OSW projects and fisheries science experts. BOEM must require such coordination, not just assume that its recommendations will be followed without oversight.

Comment Number: BOEM-2023-0037-0117-0005

Organization: New Bedford Port Authority

Commenter Type: State Agency

Comment Except Text: Almost uniformly, previously approved EIS have made assumptions or statements in multiple sections that attempt to minimize the potential impact to commercial fishing caused by a WEA by stating that fishing was going to be less productive anyway due to global warming and/or fisheries regulations. The COP for Beacon Wind does just this when it points to global warming and ocean acidification as potential causes for reduced catch. Given

the near-term impacts of the WEA and the unknown and yet to be studied long-term impact of warming or OA, it is pure unsupported speculation that such impacts will occur before any damage done by the WEA. The fisheries impact numbers utilized in the prior EIS have relied on very uncertain and sometimes flawed assumptions. We would point to the Fisheries and Offshore Wind Interactions: Synthesis of Science, NOAA technical memorandum NMFS-NE ; 291 (“NOAA SOS Report”) released in March of this year, which details the many unknown areas of potential adverse effects on the ecosystem and the fishery. It is patently unfair and another flaw in any NEPA review to use scientific uncertainty to simultaneously state in an EIS that uncertain science in the future shows a negative impact on commercial fishing while uncertain science now shows that the WEA won’t have a detrimental impact on the same fishing.

Comment Number: BOEM-2023-0037-0117-0006
Organization: New Bedford Port Authority
Commenter Type: State Agency

Comment Except Text: As for the use of potential fisheries regulatory actions having a negative impact on commercial fishing as a measure of evaluating a project in an EIS, NOAA itself has repeatedly stated that the use of such assumptions is flawed. In cooperating agency review comments submitted to BOEM in connection with the Ocean Wind I wind project DEIS on August 22, 2022, the Regional Administrator of the Greater Atlantic Regional Fisheries Office (GARFO) for NMFS and NOAA, wrote that:

“The DEIS states that fishery management has a major impact on fishing operations, and suggests that fishery management actions will have a greater impact on fishing operations and revenue than the Ocean Wind project or other reasonably foreseeable future projects. Given that fishery management actions are taken to ensure the long-term optimal yield for the fishery, and no justification for the statement is provided, these conclusions appear without merit.”

Comment Number: BOEM-2023-0037-0117-0008
Organization: New Bedford Port Authority
Commenter Type: State Agency

Comment Except Text: We applaud Beacon for its commitment of \$10,000 per MW to support regional “monitoring of key commercial fish stocks to better understand how offshore wind energy development is potentially altering the biomass and/or distribution of these stocks; and also support regional monitoring of wildlife to better understand how offshore wind energy development effects distribution and abundance of sensitive species.” COP 8.8.4.2. We also note that Beacon will certainly participate in financial mitigation based upon estimated fisheries exposure. We also note and applaud that the Ocean Wind ROD contains new language acknowledging the authority of BSEE to reopen any mitigation fund if it determines that the funding is insufficient to cover losses.

Comment Number: BOEM-2023-0037-0118-0001
Organization: Massachusetts Office of Coastal Zone Management
Commenter Type: State Agency

Comment Except Text: The EIS should characterize the extent and value of commercial, for-hire, and charter fishing within the Beacon Wind project footprint (i.e., the lease area and cable corridors) in a Fisheries Assessment. The Assessment should include a breakdown of the economic exposure of the proposed project by state, Massachusetts port, gear type, and fishery. The proponents should coordinate with CZM, the Massachusetts Division of Marine

Fisheries, and the Massachusetts Fisheries Working Group for Offshore Wind as they characterize Massachusetts fisheries and the effects on those fisheries to ensure the best available data is incorporated.

Comment Number: BOEM-2023-0037-0118-0002

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: Using BOEM's Draft Fisheries Mitigation Guidance (BOEM-2022-0033) as a baseline, the EIS should also outline mitigation measures in place to protect Massachusetts fisheries. In keeping with the Draft Guidance, the Assessment should include multipliers to ensure that shoreside income loss is adequately covered, and that fisheries lacking complete landings or revenue data are adequately represented. The impacted period subject to compensatory mitigation should include construction and a minimum of 5 years of operations post-construction, as recommended in the Draft Guidance.

Comment Number: BOEM-2023-0037-0118-0008

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should include a calculation of equivalent adult losses of commercially important finfish species expected from the unavoidable entrainment of eggs and larvae. To ensure that these losses are and remain small through the operational lifetime of the project, a monitoring plan should be developed and described in the EIS. This should include a description of regular operational procedures to inspect the cooling water intake system, any screens or entrainment prevention apparatus, and remediation measures that will be taken if intake velocity is found to exceed limits or if impacts to target species are observed.

Comment Number: BOEM-2023-0037-0118-0015

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: The EIS should evaluate potential impacts on the distribution, abundance, and feeding of key species that currently inhabit areas within and adjacent to the project footprint, and it should include an estimate of the area of lost fishable seafloor within the export and inter-array cable corridors due to secondary cable protection and seafloor disturbance including boulder relocation (see below). For all calculations, the best available localized data should be used. The EIS should describe a fisheries and benthic research plan that describes how Beacon Wind will coordinate with other developers to better understand and report on project-specific and regional effects on fisheries species. The EIS should also include any technologies, procedures, or other project elements that will help ensure that fishermen have access to the lease area during the operations phase of the project.

Comment Number: BOEM-2023-0037-0122-0013

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We request that transit be shown using VMS rather than AIS in the DEIS and that all AIS charts prior to March 2016 be discontinued for use.

Comment Number: BOEM-2023-0037-0122-0014

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: The COP does not contain a true analysis of cable impacts, particularly cumulative cable impacts, in its commercial fishing section in Volume 2E. However, cable impacts are an important source of adverse impacts for mobile bottom tending gear vessels and we request this be rectified in the DEIS.

Comment Number: BOEM-2023-0037-0122-0017

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: Beacon Wind is adjacent to Nantucket Shoals, an area notorious for strong tides and currents. It is likely that cables will become exposed and cause hazardous conditions for fishermen. This is also highly likely considering the sheer length of export cable routes. Subsea structure, turbine structure above water, marine radar interference, and strong currents do not lend themselves to “operating safely”. We request that BOEM specifically acknowledge and incorporate all of these issues in DEIS analysis and conduct a DEIS analysis specifically for mobile bottom tending gear vessels, per BOEM’s regulatory requirement that “the project will not cause undue harm or damage to...life (including human...) and “not unreasonably interfere with other uses of the Outer Continental Shelf”. [Footnote 27: 30 CFR § 585.621 (d) and (c).]

Comment Number: BOEM-2023-0037-0128-0041

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: A range of depths to avoid interactions with commercial shipping and fishing vessels should be evaluated. A shallow-buried cable of 3 feet depth presents an increased risk of impacts to ocean users because it would occupy heavily trafficked routes and traditional fishing grounds for squid, striped bass, black sea bass, scup, surfclam/ocean quahog, and scallop. Additionally, if periodic cable exposures occur, New York shipping and fishing industries could be directly affected by the increased risk of interactions, displacement during maintenance and remedial burial activities, and increased vessel traffic and noise during maintenance. Note: The Agencies have received reports of anchor strikes and gear interactions on buried cables in the vicinity of the export cable route.

Comment Number: BOEM-2023-0037-0128-0090

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Commercial and For-hire Fishing Industries and Land-based Fishing Communities: o Perform an economic impact analysis for commercial and recreational for-hire fishermen, including direct and indirect exposure and downstream economic effects to seafood processing, ship repair, and other shore-based industries. This should include impacts

associated with all project phases and components, including export cables. Provide details if there are any instances where conformance with BOEM's Fisheries Mitigation Guidance may not be feasible. Details on multiplier(s) for economic impacts to shoreside industries (e.g., processors, bait dealers, distributors) should be provided as they vary between areas and fisheries. For example, a 2020 report by Murray et al.²² provided estimates of value added for summer flounder that suggest a multiplier of 12. A 2020 study from Scheld³³ reported a multiplier for longfin squid of 7.64.

- o Analyze fishing area displacement. Evaluate impacts from increased steam time (i.e., increased travel time/fuel costs to navigate around the Proposed Action to access fishing grounds and ports).
- o Evaluate potential gear loss. Assess conflicts with cable and turbine scour protection (e.g., concrete mattresses, rock bags, nature-inclusive designs) including requiring that these measures meet stability and overtrawlability criteria to minimize fishing gear interactions.
- o Assess potential impacts of the uncovering of buried cables over time due to strong tidal currents at Eastern and Western ends of the Long Island Sound and following storm events.

Comment Number: BOEM-2023-0037-0131-0002
Commenter: Timothy Timmermann
Organization: U.S. Environmental Protection Agency
Commenter Type: Federal Agency

Comment Except Text: We also encourage BOEM to continue to expand upon past coordination with the fishing industry and state and federal agencies charged with protecting fishing and marine mammal resources.

Comment Number: BOEM-2023-0037-0133-0018
Commenter: Lisa Quattrochi Knight
Organization: Green Oceans
Commenter Type: Organization

Comment Except Text: Fishing Industry Impacts: Cod rely on acoustic communication to spawn, as do other fish species (Zemeckis, 2014). Noise from construction and operations of turbines will interfere with their communication and have "population-level impacts on Southern New England Atlantic Cod," (Chiarella, 2021). Other fisheries, such as lobster, that are less mobile and more site specific will be even more impacted. The DEIS needs to assess the cumulative impact of Beacon Wind together with the other offshore developments that will cover 1500 square miles on all fisheries. This analysis should consider multiplicative effects of interactions among multiple stressors.

Comment Number: BOEM-2023-0037-0134-0001
Commenter: Bonnie Brady
Organization: Long Island Commercial Fishing Association
Commenter Type: Organization

Comment Except Text: We would like to see analyzed all New York's commercial fishing landings data from the area of the Beacon Wind lease, since at no point were New York commercial landings taken into account before creating the Massachusetts Wind Energy Area when it was initially established I believe in 2014. The lease areas were created with only Massachusetts fisheries landings data, and as such completely ignored the federal fishermen from other states. New York was simply left out of the BOEM Massachusetts Task Force process and given no opportunity to have federal consistency review over the project like Massachusetts and Rhode Island had. That analysis should include from landings since 2006,

pre-Northeast Multispecies groundfish catch shares data. That data should include all fishing methods.

Comment Number: BOEM-2023-0037-0134-0002

Commenter: Bonnie Brady

Organization: Long Island Commercial Fishing Association

Commenter Type: Organization

Comment Except Text: We would like an analysis of the amount of commercial fishing effort and transit by New York commercial boats using Vessel Monitoring Systems, not AIS. As has been noted on multiple occasions, approximately 80 percent of New York boats are under the 65-foot requirement for AIS, and AIS was not required of boats larger than 65-feet until March of 2016, so for Beacon to analyze fishing effort and traffic based on AIS is disingenuous. We've been saying this since Empire Wind. Especially in light of the fact that Beacon Wind is more than 12 miles from shore, AIS data will be unreliable at best.

Comment Number: BOEM-2023-0037-0134-0004

Commenter: Bonnie Brady

Organization: Long Island Commercial Fishing Association

Commenter Type: Organization

Comment Except Text: We would like to have an analysis as to how much in acres/feet/miles of the state/federal export cable route will be utilizing cement mattresses, and specifically analyze the length, height and weight of mattresses as it relates to the ability to continue to trawl in the area of the cable and cable corridor. We would like an analysis as to how much area of the cable and surrounding corridor will be armored and therefore "taken" by Equinor through construction and thereby unusable in the future by commercial fishermen.

Comment Number: BOEM-2023-0037-0135-0004

Commenter: Michelle Bachman

Organization: New England Fishery Management Council

Commenter Type: Organization

Comment Except Text: In terms of the cable route, you know, this obviously is a really really long cable route and that potentially provides, presents some concerns for interaction of fishing vessels and fishing gear especially if there is areas where the cable can't be buried, it goes all the way through Long Island Sound. We are not aware of other projects that have a cable through Long Island Sound unless we are missing something, so that's an impact, set of impacts that needs to be looked at carefully in terms of impacts to fisheries, and benthic resources, or fish species.

Comment Number: BOEM-2023-0037-0136-0002

Commenter: Meghan Lapp

Organization: Sea Freeze

Commenter Type: Organization

Comment Except Text: I also disagree with BOEM that they have had conscientious planning through NEPA. I will say that earlier in BOEM's presentation they said there were areas taken off the table of the original Massachusetts wind energy area, but those were only done in consultation with the Massachusetts State Task Force. This project is in federal waters and is utilized by commercial fishing vessels from Rhode Island as well as New York, some of the

vessels are customers of Sea Freeze's as well as our own vessels, and you know, the areas that were taken off the table were to accommodate Massachusetts fisheries not Rhode Island or New York fisheries and that's a problem for us. That should really happen at this point in the process, the deconfliction, but that doesn't seem to be the case as Equinor is proposing to put wind turbines on the entirety of the lease, and BOEM continues to make the purpose and need of the NEPA review for Equinor to fulfill its power purchase agreements which is improper.

Comment Number: BOEM-2023-0037-0136-0003

Commenter: Meghan Lapp

Organization: Sea Freeze

Commenter Type: Organization

Comment Except Text: I have a lot of concerns about the cables from this project. Beacon Wind cables are like I believe it was 165 miles long, I could be wrong but going all the way into Queens, New York from off the coast of Massachusetts. Those cables are hazards to our vessels. These are the longest cables of any planned project, they cross a bunch of preexisting cables as well as cables from other projects which creates more conflict for our vessels because our vessels will catch their gear, they will hang up their gear on the armor used for all the cable crossings. That's not conscientious planning, that is haphazard throw cables all over the ocean.

Comment Number: BOEM-2023-0037-0151-0005

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The habitats within the proposed project areas and associated export cable corridors support fishery resources and overlap with important regional commercial and recreational fisheries. Fisheries for longfin squid, silver hake (whiting), Jonah crab, skates, scup, summer flounder, lobsters, and monkfish occur within the lease area, while fisheries for skates, whiting, scallops, and surfclams/ocean quahogs occur along the proposed export cable corridor. In addition to measures to reduce impacts to fisheries habitats, Attachment A also recommends mitigation measures to reduce impacts to regional commercial and recreational fisheries in the project area. We recommend these measures be evaluated in the EIS for all alternatives under consideration.

Comment Number: BOEM-2023-0037-0151-0034

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The discussion of the affected commercial and recreational (party/charter and private angler) fisheries should assess landings, revenue, and effort; fishery participants, including vessels, gear types, and dependency upon fishing within the project area; potential impacts beyond the vessel owner level (e.g., shoreside support services such as dealers, processors, distributors, suppliers, etc.); and coastal communities dependent on fishing. Our offshore wind socioeconomic impacts page can help identify important commercial and recreational fisheries, while the status of many species can be found on our individual species pages, and recent trends can be found on our Stock SMART page. [Footnote 7: https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm_medium=email&utm_source=govdelivery] [Footnote 8: <https://www.fisheries.noaa.gov/find-species>] [Footnote 9:

<https://www.st.nmfs.noaa.gov/stocksmart?app=homepage>] Information that can help characterize communities engaged in fishing activity can be found on our website describing social indicators for coastal communities (available at:) and should be integrated into the EIS. [Footnote 10: <https://www.fisheries.noaa.gov/national/socioeconomics/social-indicators-coastal-communities>]

Comment Number: BOEM-2023-0037-0151-0065

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: In addition to the biological impacts to marine species caused by the temporary or permanent loss/conversion of bottom habitat (i.e., resource distribution, productivity, or abundance changes), the EIS should discuss direct or indirect socioeconomic impacts to commercial and recreational fishing activities and support businesses from project construction and operation such as loss of access to important fishing areas due to the presence of structures (WTGs, substations, cables, scour protection). This evaluation should also include any potential displacement of fishing activities and resulting changes to catch rates and increased gear conflicts, bycatch, and fishing pressure in other locations. When structuring the fishery socioeconomic impact evaluation, BOEM should address all of the elements identified in the checklist we provided in January 2021, or explain why specific elements on that checklist were not included in the EIS. Our fishery socioeconomic impact summaries can and should serve as the foundation for this analysis in the EIS, although additional project-specific analysis may be necessary to address particular impacts or mitigation/compensation arrangements with affected fisheries.

Comment Number: BOEM-2023-0037-0151-0067

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Species important to both commercial and recreational interests are found within the project area and associated cable corridors. The COP adequately identifies most fishery management plans and individual species and fisheries that may be affected by the proposed operations based on an overview of publicly available information. As referenced in the COP, our socioeconomic impact summary reports for this project (commercial report and party/charter report available on our website) indicate that silver hake (whiting), longfin squid, Jonah crab, skates, scup, monkfish, summer flounder, and American lobster are the primary commercial fisheries affected in terms of landing amounts and fishery revenue revenue.

[Footnote 29: Please note that our socioeconomic impact summary reports consider the lease area as a whole and does not break the area down into separate projects identified in the COP.]

[Footnote 30:

https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/com/OCS_A_0520_Beacon_Wind_com.html] [Footnote 31:

https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/rec/OCS_A_0520_Beacon_Wind_rec.html] This is similar to the 2008- 2019 data summarized in the COP based on a data request using the same underlying methods. The project area and surrounding waters (statistical area 537) are particularly important to the Jonah crab fishery, which may be underrepresented in existing data sources. While scallops and surfclams/ocean quahogs are generally not caught within the lease area, they are harvested along portions of the export cable route, as noted in the COP.

Comment Number: BOEM-2023-0037-0151-0068

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: BOEM should use information from all available and appropriate sources to characterize fishing operations and evaluate the potential impacts of the proposed project on private anglers, commercial and party/charter fishing vessels, and associated communities. As noted above, consideration of data across a broad time frame (10 years or more), including data from the most recent two years, is necessary to reflect both recent operations and annual fluctuations in fishing operations due to changing environmental conditions, market price, and management measures. As such, while the COP includes fishing footprint VTR data through 2019, the EIS should include the most recent information available from all sources, including VMS as well (data through 2016 are included in the COP, but data through 2019 are available on the Northeast Ocean Data Portal and current data are available through request to the NOAA Office of Law Enforcement. We recommend the lessee request more recent socioeconomic impact data (2022 data will be available on our website shortly) from GARFO and coordinate with NMFS staff with expertise on socioeconomic impact analysis before the development of the EIS for this project. Any requests for fishery data should be submitted to nmfs.gar.data.requests@noaa.gov

Comment Number: BOEM-2023-0037-0151-0069

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Multiple sources of data should be analyzed together to present a more complete picture of overall fishery operations and avoid drawing misguided conclusions by considering only one data source. We rely on VTRs as the best source of area-based data for all federally-managed commercial and party/charter fisheries, but other sources provide additional spatial resolution for certain fisheries and help identify general operational trends (e.g., vessel transit/fishing bearings and effort). Both VMS and automatic identification system (AIS) data provide higher resolution spatial data, but such sources are not adequate to provide information on all commercial fisheries or fishing vessels, especially the skate and whiting fisheries which do not have a VMS requirement. In evaluating the use of existing data sources, please refer to the list of data limitations provided in our January 2021 socioeconomic checklist. [Footnote 32: Available at: <https://media.fisheries.noaa.gov/2022-02/Socioeconomic-InfoNeeds-OSW-GARFO.pdf>] When using these data to analyze the impacts of the proposed project, BOEM should recognize such limitations and tailor impact conclusions based on the data used. Care should be taken to put operations into the proper context in future analysis to avoid mischaracterizing fishing operations and potential impacts associated with the proposed project. Further, assumptions and methods used to extrapolate data from incomplete data sources should be clearly articulated, although extrapolations should be minimized to avoid reaching inaccurate conclusions from limited data.

Comment Number: BOEM-2023-0037-0151-0072

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: Consistent with our comments on other projects, we recommend BOEM avoid/minimize impacts to fishery resources and existing and anticipated future fishing operations throughout the duration of this project. In order to identify measures to avoid and minimize impacts, the EIS should fully evaluate the potential long-term impacts to fishery resources, the fisheries that target them, and the communities that rely upon fishery operations. In the evaluation of impacts, BOEM should not only consider historic data to represent present impact, but should also consider potential future trends in resource abundance and distribution and scale and geographical extent of fishery operations, both of which may change over time. As discussed in sections above, the proposed project could have impacts on fisheries resources (ranging from short-term to permanent), which may have resulting consequences to fisheries that target them.

Comment Number: BOEM-2023-0037-0151-0073

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: In addition to indirect effects from biological impacts, the project could also result in direct impacts to fishing operations in the form of reduced area access, increased steaming time, and navigational/operational impediments. Beyond the operational impacts (access/navigation) due to the presence of structures, the COP notes that pre-construction preparation could involve relocating boulders and unexploded ordnance (UXO). Shifting the location of known obstructions or UXO may cause safety impacts to vessels, including gear/vessel damage and personal injury. The EIS should discuss these issues and include measures to avoid and minimize such impacts beyond communicating planned operations as suggested in the COP's reference to the "Fisheries Mitigation Plan."

A.2.19 Cultural, Historical, and Archaeological Resources

Comment Number: BOEM-2023-0037-0084-0001

Commenter: Jonathan Kinney

Organization: Connecticut State Historic Preservation Office

Commenter Type: State Agency

Comment Except Text: It is the opinion of CTSHPO that the proposed terrestrial and offshore project components will not have adverse visual impacts to any of Connecticut's previously documented cultural resources. Our office does have concerns regarding potential impacts to unidentified submerged and terrestrial archaeological resources. CTSHPO's initial review of the limited mapping depicting the marine APE within Connecticut waters revealed no previously documented submerged resources. However, it is the opinion of our office that the marine APE retains the potential to contain unidentified submerged cultural resources as well as ancient submerged landforms (ASLs).

Comment Number: BOEM-2023-0037-0084-0002

Commenter: Jonathan Kinney

Organization: Connecticut State Historic Preservation Office

Commenter Type: State Agency

Comment Except Text: Further, the environmental characteristics of the terrestrial APE and its proximity to previously recorded archaeological sites suggests that the terrestrial APE also retains the potential to contain significant unidentified archaeological resources. CTSHPO recognizes that large portions of the terrestrial APE have undergone significant prior disturbances related to the construction and maintenance of the Millstone Power Station, but the extent of these disturbances is not known. Readily available historic aerial imagery suggests that there may be portions of the terrestrial APE that retain intact soils and archaeological sensitivity.

Comment Number: BOEM-2023-0037-0084-0003

Commenter: Jonathan Kinney

Organization: Connecticut State Historic Preservation Office

Commenter Type: State Agency

Comment Except Text: Because of the potential for the project to impact historic properties, CTSHPO requests the completion of professional submerged and terrestrial cultural resources reconnaissance surveys prior to selection of a preferred alternative. The submerged cultural resources investigation should identify all cultural resources and ASLs with the potential to retain archaeological sensitivity within the marine APE. The terrestrial cultural resources reconnaissance survey should identify all areas within the terrestrial APE with the potential to retain archaeological sensitivity. Subsurface testing should follow unless sufficient research or fieldwork demonstrates that this level of effort is unwarranted. All work should be done in compliance with our Environmental Review Primer for Connecticut's Archaeological Resources. If cultural resources investigations within Connecticut have already been completed, CTSHPO requests the opportunity to review the resultant reports prior to the selection of a preferred alternative.

Comment Number: BOEM-2023-0037-0121-0005

Commenter: Delia Kulukundis

Commenter Type: Individual

Comment Except Text: In addition to inventorying the impacts to historic properties and the viewshed that will occur as a result of the project, BOEM must weigh the impacts to historic properties that would occur as a result of sea level rise. In other words, it won't matter if visitors can see wind turbines from historic properties if those historic properties are under water or are continually damaged by extreme weather caused by climate change.

Comment Number: BOEM-2023-0037-0127-0014

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: The development of offshore wind and associated structures has the potential to directly affect archaeological resources, architectural resources, or traditional cultural properties, and the protection of these cultural resources is managed under the National

Historic Preservation Act (NHPA). [Footnote 33: 36 C.F.R. § 800.1] Successful compliance with Section 106 of the NHPA involves identifying and collaborating with state, tribal, and private interests involved in historic preservation within the development areas. These collaborations should continue throughout project development in case any unknown cultural or archaeological resources are discovered during development.

In the COP, Beacon Wind states that it “continues to engage with Native American Tribes in concert with Empire Wind, including the Delaware Nation, Delaware Tribe of Indians, Narragansett Indian Tribe, Mashpee Wampanoag Tribe, Mohegan Tribe, Wampanoag Tribe of Gay Head-Aquinnah, Shinnecock Indian Nation, and the Mashantucket Pequot Tribal Nation to discuss activities specific to the LeaseArea.” [Footnote 34: BW COP Section 1.6, p. 1-43.] Table B.1 of the COP indicates that BOEM, along with Beacon Wind, has had a meeting with federal Tribes. [Footnote 35: BW COP Tbl. B.1, at B-1.] We are glad this engagement is occurring, but remind BOEM that it has this responsibility and cannot rely on engagement by Beacon Wind. Additionally, we urge BOEM to include state recognized Tribes that may be affected by the Project as well as federal Tribes. Finally, while BOEM must consult under Section 106, we urge BOEM to follow the principles of free, informed, and prior consent regarding any impacts to Tribes, which better ensures that Tribal and indigenous peoples’ concerns are heard and addressed.

Comment Number: BOEM-2023-0037-0128-0054

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Cultural Resources Impacts• Four federally recognized Indian Nations have areas of interest that overlap with Long Island: the Delaware Nation; the Delaware Tribe; Mohican-Stockbridge-Munsee Community; the Shinnecock Indian Nation. Long Island is also an area of interest to the State recognized tribe, the Unkechaug. Note: New York shares geographic borders with the Shinnecock Indian Nation (and the Unkechaug Indian Nation, and urges BOEM to engage in consultation with indigenous communities through all stages of the National OCS Program. Statutory reference: 43 USC §1344 (a)(1), (a)(2)(B), (F).

- Evaluate impacts to archeological and cultural resources, including the presence of submerged landforms.

Comment Number: BOEM-2023-0037-0130-0004

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: First, the Town expects BOEM to use this consultation opportunity to fulfill its obligations to consult under federal law. “Consultation,” under the NHPA, “means the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process.” [Footnote 1: 36 C.F.R. § 800.16(f)] As consulting parties, we expect BOEM to actively seek, discuss, and consider our views in permitting and mitigating this Project. According to the COP, Nantucket is expected to incur severe visual impacts and we therefore urge and expect BOEM to work closely with the Town to ensure the setting and character of our historic resources are preserved to the greatest extent possible by employing all possible planning to avoid or minimize harm.

Comment Number: BOEM-2023-0037-0130-0005

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: Furthermore, we encourage BOEM to consult with the Nantucket Historic District Commission (HDC) and other local groups throughout this permitting process.

Comment Number: BOEM-2023-0037-0130-0006

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: In light of the Town's high cultural and historic sensitivity, and its proximity to the Project, we strongly urge that Nantucket's historical and cultural review boards and stakeholders, such as the Nantucket HDC and the Nantucket Historical Commission, be consulted and engaged in any historic or archaeological review process of the Project.

Comment Number: BOEM-2023-0037-0130-0008

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: BOEM must also ensure compliance with the NHPA, and in doing so must work with the Town to identify historically significant resources.

Comment Number: BOEM-2023-0037-0130-0009

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: In addition to its obligations under Section 106 of the NHPA, BOEM must address impacts to NHLs differently than it addresses other historic properties, something the COP fails to mention. To fulfill its legal obligations for permitting, BOEM must undertake all possible planning to minimize harm to the Nantucket Historic District pursuant to Section 110(f) of the NHPA.

Comment Number: BOEM-2023-0037-0130-0010

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: The COP and NOI do not make clear whether BOEM has initiated the Section 110(f) process or whether and how BOEM has undertaken such planning and actions as would be necessary to minimize harm to the Town. In fact, none of the available documents contain any information at all about how BOEM intends to demonstrate compliance with Section 110(f) of the NHPA. BOEM must address impacts to the Town differently than it addresses impacts to other historic properties in the Project area for Section 110(f) purposes, and we are concerned that BOEM is overlooking this requirement in its review.

Comment Number: BOEM-2023-0037-0130-0011

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: As BOEM proceeds with the evaluation of the Project, it must consider

the Town of Nantucket as an NHL, and work closely with consulting parties to evaluate impacts.

Comment Number: BOEM-2023-0037-0130-0013

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: In addition to considering impacts on the natural environment, NEPA requires federal agencies to consider impacts on historic and cultural resources. BOEM must consider a wide range of effects, specifically including impacts that are “historic, cultural, [and] economic.” [Footnote 7: 40 C.F.R. § 1508.1(g)(1) Spoliation of the historic landscape of the Town—including its unimpeded ocean views—will have irreparable effects on historic and culturally significant land and these potential adverse effects must be carefully considered. Furthermore, because the Town relies so heavily on tourism for its economy, impacts to historic and cultural resources pose economic risk that BOEM must consider.

Comment Number: BOEM-2023-0037-0133-0028

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Cultural Heritage and Tourism: The Project will negatively impact the cultural value of hundreds of properties with historical relevance within the viewshed. Colonial landmarks attract more tourists than any other type of historical site (Cameron, 2010). The harm to these resources may be irreversible. The impact on historic properties violates the Historic Preservation Act (Public Law 89-665; 54 U.S.C. 300101 et seq.) The DEIS should consider the difference between colonial history and other types of historical landmarks.

Comment Number: BOEM-2023-0037-0149-0001

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: NPS has program responsibilities for National Historic Landmarks (NHLs) in or near the project Area of Potential Effect (APE) identified pursuant to the NHPA, including “Nantucket Historic District, NHL”, and Gay Head Light, which is listed on the National Register of Historic Places (NRHP) and monitored by NPS under the National Historic Lighthouse Preservation Act (NHLPA). NPS has provided information on these areas below, which may be useful to incorporate into your baseline environmental information. We have then identified potential areas of interest and concern and provided initial comments for your consideration in the forthcoming evaluation of the project. As more information is developed and shared with the parties, we will review and offer additional comments as appropriate. We are particularly interested in Appendix V – the Terrestrial Archaeological Resources Assessment (TARA), and Appendix W – the Historic Resources Visual Effects Analysis (HRVEA), which do not appear to be available at this time. We are also interested in reviewing the Cumulative Historic Resources Visual Effects Analysis (CHRVEA) when it is prepared.

Comment Number: BOEM-2023-0037-0149-0002

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: Under Sections 106 and 110(f) of the Act, federal agencies must take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking and its effects. Implementing regulations of the ACHP may be found in 36 CFR § 800 Protection of Historic Properties, which establishes a process of consultation with the ACHP, State Historic Preservation Officer (SHPO) and consulting parties to reach agreement on how the undertaking will avoid, minimize, or mitigate adverse effects. Steps in the process include identification and evaluation of historic properties that may be affected, assessment of the effects of the federal action, and resolution of any adverse effects that would occur. If a federal activity will directly and adversely affect a Landmark, Section 110(f) of the Act also calls for federal agencies to undertake such planning and actions as may be necessary to minimize harm to such Landmark. As with Section 106, the agency must provide the Advisory Council with a reasonable opportunity to comment in accordance with 36 CFR§ 800.

Comment Number: BOEM-2023-0037-0149-0006

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: As always, NPS encourages BOEM to consult with the Massachusetts and Rhode Island SHPOs (per 36 CFR 800.4(a)(2) to identify any National Register properties or additional NHLs within the APE that may be affected by the undertaking. Additionally, as a general rule, BOEM should always invite NHL & NHLPA lighthouse owners to participate in consultation. NPS can provide contact information for NHLPA lighthouses.

Comment Number: BOEM-2023-0037-0149-0010

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: NPS notes that many coastal areas across from the Beacon Wind project, including Martha's Vineyard and Nantucket Island, are important to the Wampanoag Tribe of Gay Head, a Federally Recognized Tribe. NPS encourages meaningful tribal consultation between BOEM and the Wampanoag Tribe of Gay Head.

Comment Number: BOEM-2023-0037-0149-0012

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: The Nantucket Historic District is a National Historic Landmark District that encompasses the entire island of Nantucket, as well as the small islands of Tuckernuck and Muskeget, Massachusetts. At over 30,000 acres, it is the largest conventional historic NHL District by area in the contiguous United States. The town is the finest surviving architectural and environmental example of a late 18th- and early 19th- century New England seaport town.

The whaling industry in America originated on the island of Nantucket in the late 17th century, as colonists followed the example of the island's original American Indian inhabitants. Nantucket developed much of its present appearance in the 18th century. Dwellings from this time, including the Nathaniel Macy House at 12 Liberty Street and the Tristram Bunker House at 3 Bear Street, are similar to those built in the 17th century. The Golden Age of Nantucket began about 1820 and the large homes built between 1820 and 1850 are indicative of local sea captains' and merchants' wealth. According to the Nantucket Preservation Trust: [T]he island has been recognized as a national treasure since 1966 – the first year the National Register of Historic Places and National Historic Landmark programs were implemented – only Nantucket's structures built prior to 1900 were considered contributing to the island's historic character. The update extends the period of significance from 1900 to 1975; it also recognizes the significance of Nantucket's 19th and 20th century resort industry and the island's national role in the evolution of land conservation and historic preservation – in addition to Nantucket's whaling era. According to the NHL nomination, "Nantucket in its entirety, today presents an accurate impression of the ambience of the early whaling industry and serves as an important part of Americas' material culture.

Comment Number: BOEM-2023-0037-0149-0013

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: Gay Head Light was authorized by the U.S. Congress in 1798 and constructed in 1799 and is one of the first U.S. lighthouses to use a revolving illuminating apparatus to generate a flashing white light signal. In 1852, a Lighthouse Board report listed Gay Head Light as one of the most important lighthouses on the Atlantic Coast. According to the National Trust for Historic Preservation:

Gay Head Lighthouse was the first lighthouse built on Martha's Vineyard and one of the first in the U.S. to receive a first order Fresnel lens in 1856. Many men in the Aquinnah community, including members of the Wampanoag tribe, worked at the lighthouse. Standing atop the National Natural Landmark Gay Head Cliffs, the lighthouse serves as a beacon to Wampanoag tribal heritage and is the only lighthouse with a history of Native American Lighthouse keepers. "Gay Head Lighthouse represents an important part of Massachusetts coastal communities' identity and the cultural and nautical history of the United States," said Stephanie Meeks, president of the National Trust for Historic Preservation.

The light is currently owned by the Town of Aquinnah, MA. Ownership was transferred from the U.S. Coast Guard to the Town of Aquinnah in 2015, through the National Historic Lighthouse Preservation Act. Under the NHLPA, lighthouse recipients are required to submit detailed annual reports to NPS. These Reports outline the recipients' activities and include information about preservation actions, maintenance, finances, and other issues or problems.

A.2.20 Demographics, Employment, and Economics

Comment Number: BOEM-2023-0037-0002-0003

Commenter: Sara Gronim

Commenter Type: Individual

Comment Except Text: Other benefits we see in Brooklyn are the economic boons. A major manufacturing and supply chain facility is being developed at a long-underutilized marine facility in one of our neighborhoods, which generates a host of good jobs. We have a number of

workforce development programs to help young people flourish as renewable energy flourishes. And our marine workforce, such as tugboat operators, will find good opportunities in ferrying crews and supplies to the construction site. These economic impacts—positive if the project is built and negative in its absence—should be part of your analysis.

Comment Number: BOEM-2023-0037-0003-0002

Organization: Queens Borough President's Office

Commenter Type: State/Local Elected Official

Comment Except Text: Beacon Wind is actively partnering with New York industry leaders, suppliers, and businesses, developing local port infrastructure, and hiring New York-based employees. Already, Equinor has led Supply Chain Expos to connect local New York businesses to the offshore wind supply chain and launched a \$5 million Ecosystem Fund to support workforce development and training focused on historically marginalized communities. As Beacon Wind continues to develop, I expect to see further economic benefits for the state.

Comment Number: BOEM-2023-0037-0003-0004

Organization: Queens Borough President's Office

Commenter Type: State/Local Elected Official

Comment Except Text: With bp, Equinor has committed to distributing \$52 million in social investments across New York to support workforce development, innovation, and local communities.

Comment Number: BOEM-2023-0037-0004-0006

Commenter: Marc Schmied

Commenter Type: Individual

Comment Except Text: Beacon Wind will bring good, union jobs to Brooklyn and help make NYC a hub for Wind Energy and its related industries.

Comment Number: BOEM-2023-0037-0012-0005

Commenter: Mimi Bluestone

Commenter Type: Individual

Comment Except Text: Building Beacon Wind would benefit the New York region in many ways:

- It would help establish New York City as a hub for the nascent offshore wind industry.
- The South Brooklyn Marine Terminal's operations and maintenance hub would offer job training and serve as a hub for future offshore wind development.
- Grassroots groups, such as UPROSE in Sunset Park, support Beacon Wind and its potential to benefit their communities' health, economy, and educational resources.
- Offshore wind developers in New York must sign Project-Labor Agreements before they build their projects. This means that offshore wind is creating good, union jobs for New Yorkers. This is the kind of energy transition we need: It respects workers, hires New Yorkers, and brings clean energy to the communities that have been harmed by fossil fuel pollution.

Comment Number: BOEM-2023-0037-0013-0002

Commenter: Diane Matza

Commenter Type: Individual

Comment Except Text: Equinor, the developer of the project, has considerable expertise in

wind installation and has shown itself to be a reliable partner by committing to recruit and train local New York workers for job opportunities in the offshore wind industry.

Comment Number: BOEM-2023-0037-0019-0003

Commenter: Jiahua Huang

Commenter Type: Individual

Comment Except Text: Moreover, the Beacon Wind project promises to stimulate our local economy by creating job opportunities in the offshore wind industry, providing training for local workers, and making significant social investments across New York. This is not just a project about renewable energy; it's a project about investing in our communities and our future.

Comment Number: BOEM-2023-0037-0022-0006

Commenter: Nivo Rovedo

Commenter Type: Individual

Comment Except Text: Further benefits of the projects include: the developers distributing \$52 million in social investments across New York to support workforce development, innovation, and communities as part of an overall commitment to \$2.5 billion in economic development impact to the state; the creation of jobs, skills training, and business opportunities for New Yorkers; grants in workforce development and training focused on historically marginalized communities and Minority/Women-Owned Business Enterprises (MWBEs) in New York City to bring a measure of social justice to bear; support of innovative start-ups in offshore wind technology by Equinor has funding the Offshore Wind Innovation Hub in partnership with NYCEDC.

Comment Number: BOEM-2023-0037-0040-0001

Commenter: Tom Helling

Commenter Type: Individual

Comment Except Text: Further benefits of the projects include: the developers distributing \$52 million in social investments across New York to support workforce development, innovation, and communities as part of an overall commitment to \$2.5 billion in economic development impact to the state; the creation of jobs, skills training, and business opportunities for New Yorkers; grants in workforce development and training focused on historically marginalized communities and Minority/Women-Owned Business Enterprises (MWBEs) in New York City to bring a measure of social justice to bear; support of innovative start-ups in offshore wind technology by Equinor has funding the Offshore Wind Innovation Hub in partnership with NYCEDC.

Comment Number: BOEM-2023-0037-0055-0002

Commenter: William Roberson

Commenter Type: Individual

Comment Except Text: Beacon Wind is actively partnering with New York industry leaders, suppliers, and businesses, developing local port infrastructure, and hiring New York-based employees. Already, Equinor has led Supply Chain Expos to connect local New York businesses to the offshore wind supply chain and launched a \$5 million Ecosystem Fund to support workforce development and training focused on historically marginalized communities. As Beacon Wind continues to develop, we expect to see further economic benefits for the state.

Comment Number: BOEM-2023-0037-0055-0004

Commenter: William Roberson

Commenter Type: Individual

Comment Except Text: With bp, Equinor has committed to distributing \$52 million in social investments across New York to support workforce development, innovation, and local communities.

Comment Number: BOEM-2023-0037-0066-0004

Commenter: Annabella Cockerell

Organization: Mothers Out Front

Commenter Type: Organization

Comment Except Text: The development of Beacon Wind brings economic benefits to Brooklyn and beyond. It establishes New York City as a hub for the offshore wind industry, creating job opportunities and fostering clean energy innovation.

Comment Number: BOEM-2023-0037-0070-0003

Commenter: Joseph P. Dragone

Organization: Capital Region BOCES

Commenter Type: Organization

Comment Except Text: Equinor's commitment to supporting local workforce development projects for community stakeholders is already evident through their \$5 million Offshore Wind Ecosystem Fund in partnership with the New York City Economic Development Corporation (NYCEDC) and the Sunset Park Task Force (SPTF) to award grants in workforce development and training focused on historically marginalized communities in addition to a \$1.75 million investment for STEM education programs. As a leader in workforce development, Capital Region BOCES recognizes the tremendous career pathways available in the offshore wind industry, as well as the opportunities that projects such as Beacon Wind provides to support economic mobility to residents in underserved communities.

Comment Number: BOEM-2023-0037-0108-0003

Commenter: Katie Cubina

Organization: Mystic Aquarium

Commenter Type: Organization

Comment Except Text: The Beacon Wind project's success is not only critical for the Northeast to reach its renewable energy goals but will also support local job creation and benefit the regional economy. Investing in local ports and regional supply chains to encourage economic development and employment contributions is central to Connecticut's industry goals. Beacon Wind has expressed interest in partnering with Connecticut industry leaders and suppliers and hiring Connecticut-based employees. Equinor has a longstanding and growing presence in Connecticut, with an office in Stamford established in 1993 that hosts over 125 employees and serves as the backbone of Equinor's renewable energy growth. We urge Equinor and other offshore wind companies to approach career readiness and workforce development needs early, often, and with an equity lens in concert with the Biden-Harris America the Beautiful, Ocean Justice and Justice 40 initiative.

Comment Number: BOEM-2023-0037-0112-0002

Commenter: Ed Hill Jr

Commenter Type: Individual

Comment Except Text: The Construction and Operations plan, summaries, and other studies indicate the Project(s) will generate thousands of jobs and many millions of dollars of economic impact in NY. These would include an estimated 190 direct jobs in Queens and Brooklyn NY for each of the BW 1 and BW 2 projects for construction. Operations would expect 140 direct jobs for BW 1 and 150 direct jobs for BW 2 in NY.

Comment Number: BOEM-2023-0037-0112-0003

Commenter: Ed Hill Jr

Commenter Type: Individual

Comment Except Text: Overall, the Project is estimated to support 5,958 to 6,491 job-years cumulatively during the development and construction phases, including indirect and induced employment opportunities. During the operations and maintenance phase, the Project is estimated to support 21,117 to 22,681 jobs-years during an estimated 40 years of operation and maintenance (including decommissioning). These jobs are expected to be family-sustaining, high-wage union jobs which will assist in achieving the objectives of the Administration's Justice40 initiatives.

Comment Number: BOEM-2023-0037-0113-0001

Organization: Bristol Community College's National Offshore Wind Institute

Commenter Type: Organization

Comment Except Text: Equinor is a partner of the NOWI, which serves as a one-stop location for workforce training and services to the offshore wind industry, will implement workforce development initiatives that are demonstrably relevant to career pathways, accelerating the development of the U.S. offshore wind industry, and will provide comprehensive and responsive workforce skill development and training initiatives. The NOWI provides Massachusetts and the U.S. access to a comprehensive array of required training to ensure the workforce has the skills, competencies, and certifications required for careers in the offshore wind industry as well as other maritime-related workforce development services.

Comment Number: BOEM-2023-0037-0115-0018

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: BOEM must fully corroborate statements by developers regarding project economics, which the public cannot do as BOEM considers this information to be confidential. It is particularly concerning to have no independent verification of what alternatives are possible, within the bounds of project economics, given that other developers have provided incorrect information in the past and that BOEM leadership is already touting project benefits before any economic analysis whatsoever. This holds true across a range of project considerations from design and mitigation alternatives to research, monitoring, and decommissioning.

Comment Number: BOEM-2023-0037-0115-0019

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: There is little peer-reviewed information regarding the economic costs and benefits of OSW. Most of the information in the public domain is generated by OSW developers or trade associations and based upon information deemed confidential so that it cannot be verified. The true ecological cost of OSW is site specific, as well as cumulative. The public must understand the overall Beacon Wind project cost, the amount of federal, state, or local taxpayer subsidies devoted to the project, projections of the full cost to ratepayers (including the contract price in addition to any predictions of project contingencies or overages), and portion of project costs that will accrue to foreign markets. This information is required to make even a basic informed evaluation of the project's desirability or whether BOEM's final project decision will constitute a reasoned decision among alternatives.

Comment Number: BOEM-2023-0037-0115-0020

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: OSW appears to have widely different costs and benefits as compared to other renewable power sources. Multiple technologies exist at commercial scales that may have relative benefits in comparison to OSW. Depending on site-specific conditions, technology that may be inappropriate in one area due to unreasonable conflicts or environmental conditions may be the most desirable in another. For example, in California, the State Groundwater Management Act required certain farmland to be fallowed during drought conditions, leading to a potential opportunity for co- location of agrivoltaic solar projects. Similar examples likely exist for OSW; regardless, a comparison of relative costs and environmental impacts of alternative technologies should be included in the EIS.

Comment Number: BOEM-2023-0037-0115-0021

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: BOEM regularly conducts economic cost-benefit analyses for oil and gas activities, and it is unclear why it does not follow the same approach for OSW. This disparity is abundantly obvious in 2020's "Economics Issue" of the agency's Ocean Science newsletter.

[Footnote 12: BOEM. 2020. Ocean Science 17(2)

[https://www.boem.gov/sites/default/files/documents/newsroom/ocean-](https://www.boem.gov/sites/default/files/documents/newsroom/ocean-science/BOEM%20Ocean%20Science%202020%20Issue%20.pdf)

[science/BOEM%20Ocean%20Science%202020%20Issue%20.pdf](https://www.boem.gov/sites/default/files/documents/newsroom/ocean-science/BOEM%20Ocean%20Science%202020%20Issue%20.pdf).] That bulletin appears to

describe how BOEM evaluates tradeoffs, costs, and benefits across its programs. While it

provides a user-friendly overview of how it prepares cost estimates for OCS oil and gas

projects, the OSW- related sections merely repeat vague descriptions of the leasing process

without any economic information whatsoever.

Comment Number: BOEM-2023-0037-0115-0022

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: The economic importance of fishing, and economic losses associated with loss of fishing grounds and indirect effects, have been systematically underrepresented both in this COP and throughout OSW development more generally. Any economic analysis in a forthcoming EIS must analyze the significant “multiplier effects” that make fisheries far more valuable throughout the supply chain than a simple exposure calculation would suggest. This includes an expected “cascading effect” in diversified fishing businesses where economic stability in one season is required to support their activities in other fisheries throughout the year.

Comment Number: BOEM-2023-0037-0117-0003

Organization: New Bedford Port Authority

Commenter Type: State Agency

Comment Except Text: The DEIS should also include the allocation of funds by the developer for environmental and economic initiatives for those communities most affected. Also, commitments to port infrastructure for those ports dedicated to marshaling and O&M activities.

Comment Number: BOEM-2023-0037-0119-0001

Commenter: Nora Brown

Commenter Type: Individual

Comment Except Text: The Beacon Wind Project will bring clean air and economic benefits to our communities in NYC. Helping to establish New York City as a hub for the new offshore wind industry, the operations and maintenance hub at the South Brooklyn Marine Terminal will include a center for job training, and is intended to be a hub for future offshore wind projects. Additionally, grassroots climate organizations like UPROSE that represent the interests of the community and historically marginalized groups are participating in the development of the hub. Offshore wind developers in New York must sign Project-Labor Agreements before they build their projects. This means that offshore wind is creating good, union jobs for New Yorkers. This is the kind of energy transition we need: It respects workers, hires New Yorkers, and brings clean energy to the communities that have been harmed by fossil fuel pollution.

Comment Number: BOEM-2023-0037-0123-0001

Commenter: Ross Gould

Organization: Business Network for Offshore Wind

Commenter Type: Organization

Comment Except Text: In addition to building general investor confidence in the U.S. market, advancing the Beacon Wind project is critical to strengthening the domestic supply chain and manufacturing capabilities. The project is already under contract to deliver 1.32 GW of power generation to New York and could further develop the lease area to deliver power to states like Massachusetts. Both states have played critical roles in the formation of the emerging U.S. supply chain; the Network has identified \$603 million and nearly \$5.7 billion in offshore wind related investments towards supply chain development, workforce programs, port upgrades, transmission systems and more in Massachusetts and New York respectively. The Network has

also tracked supplier contracts across the entire U.S. market and found 330 of those contracts have gone to 105 companies with at least one location in Massachusetts and 214 contracts that have gone to 84 organizations with at least one New York address in the state. Supporting the Beacon Wind project supports these emerging suppliers.

Comment Number: BOEM-2023-0037-0123-0002

Commenter: Ross Gould

Organization: Business Network for Offshore Wind

Commenter Type: Organization

Comment Excerpt Text: Through New York's 2020 Offshore Wind Solicitation, NYSERDA selected and contracted with Equinor and bp to solidify the Empire Wind 2 and Beacon Wind projects. The two projects outline public and private commitments of over \$600 million in infrastructure, specifically \$287 million to the development of an offshore wind staging and assembly facility at the South Brooklyn Marine Terminal (SBMT) and \$357 million towards the first offshore wind tower and transition piece manufacturing facility in the US. The SBMT can emerge as one of the nation's largest offshore wind hubs capable of supporting the assembly and staging needs of projects across the East Coast in addition to the Empire and Beacon Wind projects. The tower and transition piece facility is being developed in partnership with Marmen and Welcon and will be located at the Port of Albany, injecting economic activity and employment opportunities (up to 350 direct jobs) beyond the coastal communities of the state. The aforementioned NREL report, "The Demand for a Domestic Offshore Wind Energy Supply Chain," outlines the number of critical components required to achieve the Biden Administration's goal of 30GW of Offshore Wind energy by 2030. To achieve the goal, 2,100 offshore wind turbines, each equipped with a tower and transition piece component, will be required. Being the first of its kind, the Marmen-Welcon facility will be relied upon to provide the critical tower and transition piece components for numerous offshore wind projects through 2030 and beyond in addition to the Empire Wind and Beacon Wind projects, creating a pipeline of continued economic activity and job creation in the state for years to come. Further, incentives laid out in the Inflation Reduction Act will encourage future projects to source critical components, including towers and transition pieces, domestically, increasing the demand of U.S. manufactured products. Specifically, tower components fall under certain stipulations that require the steel used to be sourced domestically, potentially expanding the economic impacts throughout the United States. The advancement of the Beacon Wind project and its attached infrastructure is critical to unlocking the full potential of the nation's offshore wind industry.

Comment Number: BOEM-2023-0037-0125-0002

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Excerpt Text: As BOEM explained in the Information Memorandum documenting the rationale for certain provisions of the New York Bight Final Sales Notice, project labor agreements promote safety and the expansion of a workforce of well-trained personnel, which is particularly important since operations on the outer continental shelf (OCS) can be hazardous and complex.

Comment Number: BOEM-2023-0037-0125-0004

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: Given that one of the biggest factors affecting workers' compensation is whether they are members of a trade union, [Footnote 3: Bureau of Labor Statistics, "Union Members," 2021. Available online: www.bls.gov/news.release/pdf/union2.pdf] we recommend evaluating and reporting in the EIS the status of negotiations between the developer and labor unions as a critical factor in determining whether economic benefits to residents will be maximized.

Comment Number: BOEM-2023-0037-0125-0005

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: Similarly, readers of the EIS would benefit from a greater analysis of specific workforce development needs, plans, and collaborations associated with the Project. Many unions run high-quality, registered workforce development programs that train participants in various trades that have transferable skills to the offshore wind industry. However, for a U.S. workforce to access opportunities in offshore wind, developers must share information about the specific skills training and certifications required as well as information about the employment opportunities related to the project.

Comment Number: BOEM-2023-0037-0125-0008

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: NEPA analyses also need to include environmental and socioeconomic benefits analyses." [Footnote 33: Department of Interior, "Evaluating Benefits of Offshore Wind Energy Projects in NEPA." July 2017. Available Online: <https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/Final-Version-Offshore-Benefits-White-Paper.pdf>] The study also states that benefits analysis should consider electricity system benefits, including injecting power into the existing grid; average retail cost of power; evaluating system benefits from offshore wind energy production; environmental benefits over key periods of a projects life-cycle, including water, wetlands, biological and cultural resources, recreation and tourism, fisheries, safety, soils, land use, air quality, noise, and raw materials used for construction; and socioeconomic considerations. The study describes that although NEPA does not specifically require a socioeconomic assessment, it does require an integrated use of the social sciences to assess impacts on the human environment.

Comment Number: BOEM-2023-0037-0125-0009

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: The EIS provides information related to job creation, including direct,

indirect, and induced jobs. The EIS should build on this information and include further specificity for each of these categories.

Comment Number: BOEM-2023-0037-0125-0010

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: The DOL's Good Jobs Initiative highlights equity and job quality principles and metrics to be used in federal grant making processes that should be strongly considered by BOEM for use in the EIS. The equity and job quality principles include proactively addressing racial equity; reducing barriers to opportunity; supporting the creation of good-paying jobs with the free and fair choice to join a union; providing opportunities for all workers, including workers underrepresented to be trained in placed in good-paying jobs directly related to the Project; utilization of Project Labor Agreements and/or Local Hire provisions, training and placement programs for underrepresented workers; and adopting an equity and inclusion program/plan focused on procurement, material sourcing, construction, inspection and hiring. [Footnote 34: Department of Labor, "Previous Bipartisan Infrastructure Law (BIL) grants with focus on equity and job quality." Available online: <https://www.dol.gov/general/good-jobs/making-good-jobs-through-federal-investments>] These are great examples of metrics related to equity and job quality and should be considered for evaluating the job creation benefits associated with this Project.

Comment Number: BOEM-2023-0037-0125-0011

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: The EIS should specify job categories and job numbers per category resulting from each domestically manufactured component, as well as how these numbers are accounted for in the total number of direct, indirect, and induced jobs, gross state product, and personal income anticipated from the project. The EIS should also include an assessment of education and certifications necessary to access each job category, the training, average wages, hours, career advancement, physical demands and safety information, as well as any commitments the company has made to ensure workers have the free and fair choice to join a union, such as through a union neutrality agreement. This information is essential for the U.S. workforce to have equitable access to employment opportunities.

Comment Number: BOEM-2023-0037-0125-0013

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: Similarly, for O&M job impacts, the EIS should specify O&M job categories, job numbers in each category, and how job numbers are accounted for in the total number of direct, indirect, and induced jobs, gross state product, and personal income anticipated from the Project. The EIS should also include an assessment of education and certifications necessary to access those jobs, training, average wages, career advancement, hours, physical demands, and safety information, as well as any commitments the company has made to ensure workers have the free and fair choice to join a union, such as through a union neutrality agreement. The EIS should also indicate the number of jobs that, if any, require

specialized experience that would prohibit workers in the U.S. from accessing those jobs, and the specific experience and training that is required. When it comes to training, the EIS should specify whether workers will need to go overseas to receive training, and the duration of that training. Given the size of offshore wind projects, the EIS should be sure to specify jobs categories related to the operation and maintenance of every aspect of the Project, including the turbines themselves, cables, and onshore and offshore substations. Any apprenticeship utilization should also be documented, and the types of apprenticeships to ensure that they are DOL-certified.

Comment Number: BOEM-2023-0037-0125-0014

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: The EIS provides information related to job creation in the construction of the Project. This should include all construction jobs associated with the Project, including any construction jobs anticipated to prepare the port that is selected for assembly, preparation of the cable route and interconnection, and the construction or site preparation of any manufacturing facilities. Consistent with the previous two categories, BOEM should specify job categories, job numbers in each category, and how job numbers are accounted for in the total number of direct, indirect, and induced jobs, gross state product, and personal income anticipated from the Project. The EIS should also include an assessment of education and certifications necessary to access each job category, the training, average wages, hours, career advancement, physical demands and safety information. If any construction jobs require specialized experience that prohibit workers in the U.S. from accessing these jobs, that should also be detailed, including the number of jobs, as well as the training and experience required. The EIS should also specify whether workers will need to go overseas to receive training, and the duration of that training.

Comment Number: BOEM-2023-0037-0125-0015

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: The EIS should be sure to include the status of Project Labor Agreements (PLAs) or Community Workforce Agreements (CWAs) associated with all aspects of the construction of the Project.

Comment Number: BOEM-2023-0037-0125-0016

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: BOEM should also include any language access needs for the local community that may be present in order to access jobs benefits. The NEPA guidance study does not require demographics related to language or education, but BOEM should consider these and other qualities that should be taken into account to ensure jobs are accessible to a diverse workforce.

Comment Number: BOEM-2023-0037-0125-0022

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: Apprenticeship utilization should also be documented, and the types of apprenticeships to ensure that they are union programs or DOL-certified, as well as the ratio of apprentice to journeymen on the various job sites.

Comment Number: BOEM-2023-0037-0128-0062

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Assess population, economy, and employment related impacts. As articulated in the BOEM-New York-New Jersey Shared Vision for the NY Bight, NYS is committed to requiring developers to pay workers a prevailing wage and to utilize project labor agreements where possible; creating resilient port facilities by leveraging public and private funds; and collaboratively establishing training centers to transition the workforce into good-paying green jobs. Source: <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/BOEM%20NY%20NJ%20Shared%20Vision.pdf>.

Comment Number: BOEM-2023-0037-0128-0063

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Assess impacts to housing and property values.

Comment Number: BOEM-2023-0037-0133-0027

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Economic Development: All economic reports, including the PPAs, if they exist, should be readily available to the public. Prior projects (Revolution Wind) have restricted the public from access to the economic development report. No permissions can be granted without the public's complete understanding of the economic impacts of this project and ALL projects in the area.

The executive order mandates offshore developments should stimulate economic development. No DEIS that determines a negative economic impact should be permitted.

Comment Number: BOEM-2023-0037-0144-0002

Commenter: Pushkar Bhatia

Organization: Business Network For Offshore Wind

Commenter Type: Organization

Comment Except Text: The Network monitors the market and has found that public and private investors committed \$9.8 billion in new capital in 2022, more than triple of what was

spent the previous year. Advancing the Beacon Wind project is vital to improving the local supply chain and manufacturing capabilities. Based on our knowledge of the industry, the Network estimates that 603,315,953 has been invested in the Commonwealth of Massachusetts, which includes supply chain workforce, ports and vessels, and research. The Network monitors supplier contracts for offshore wind projects in the United States. There have been 1,478 supplier contracts in total with 229 of those contracts going to 78 companies with at least one location in Massachusetts. Furthermore, 491 firms with at least -- have at least one Massachusetts address listed in the network supplies -- in the Network supply chain directory

Comment Number: BOEM-2023-0037-0144-0003
Commenter: Pushkar Bhatia
Organization: Business Network For Offshore Wind
Commenter Type: Organization

Comment Except Text: The Network also estimates that \$5,696,224,731 has been invested in the state of New York, excluding leasing of the 1,478 supplier contracts awarded. 102 were awarded to 48 companies with at least one site in New York. Hundreds of construction and installation jobs are expected to be created because of the Beacon Wind project. This, and the Empire Wind project, are estimated to produce thousands of direct new employments for New York employees, as well as more than \$3.2 billion in new economic activity in the state. According to project economic return estimates, for every one dollar invested developing an offshore wind farm, \$1.72 will be generated in New York's economy. In addition, two more than 140 direct, indirect and induced employment. Beacon Wind has committed more than \$287 million in an offshore wind staging and assembly facility at the South Brooklyn Marine Terminal generating up to 1,000 short-term and 200 long-term jobs.

Comment Number: BOEM-2023-0037-0144-0005
Commenter: Pushkar Bhatia
Organization: Business Network For Offshore Wind
Commenter Type: Organization

Comment Except Text: BOEM must include the economic implications of climate change when weighing the social and economic advantages of offshore wind.

Comment Number: BOEM-2023-0037-0148-0002
Commenter: Richard Khuzami
Organization: Old Astoria Neighborhood Association
Commenter Type: Organization

Comment Except Text: The Beacon Wind project's success is not only critical for New York to reach its renewable energy goals but will also support local job creation and benefit the state's economy. Investing in local infrastructure and supply chains to encourage economic development and employment contributions is central to New York's industry goals. Beacon Wind is actively partnering with New York industry leaders, suppliers, and businesses, developing local port infrastructure, and hiring New York-based employees. Already, Equinor has led Supply Chain Expos to connect local New York businesses to the offshore wind supply chain and launched a \$5 million Ecosystem Fund to support workforce development and training focused on

historically marginalized communities.

As Beacon Wind continues to develop, we expect to see further economic benefits for the state.

Comment Number: BOEM-2023-0037-0151-0066

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: It is vital that all costs and benefits of available alternatives, including the no action alternative, are considered in a cost-benefit analysis. Costs and benefits should include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider (including potential economic, environmental, public health and safety, distributive impacts, equity, etc.).

Comment Number: BOEM-2023-0037-0151-0070

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: A quantitative analysis of the potential biological, social and economic costs of the project to fishing industries and their communities must be included in the EIS. As noted above, we have provided a checklist outlining the elements we expect to be included in an analysis of the socioeconomic impacts of this project. Our previously referenced socioeconomic impact summaries address nearly all of the elements on the checklist and can be used as the foundation of such an analysis. The analysis should also address potential costs associated with reduced fishing revenues as a result of short or long-term effort displacement, impacts on catch rates, changes to species composition, potential impacts of construction activity on spawning success and future recruitment, and permanent or short-term changes to EFH during construction, operation, and decommissioning the project. Vessels may experience increased operational costs from increased insurance rates to fish within wind farms or additional fuel required to transit around wind farms or search for new fishing locations. Opportunity costs such as revenue lost by fishing effort that is displaced into less productive areas, including vessels displaced out of the project area and those already fishing in an area into which displaced vessels move, should be assessed. This is a critical analysis, as even marginal changes in costs could be impactful for some fisheries or individual operations. Similarly, analysis of the affiliated non-market social impacts of such activities should be included in the EIS, including impacts to cultural norms, fishermen or fishing community social relationships, and health and well-being (see Fisheries Social Impact Assessment Guidance Document and Practitioner's Handbook). [Footnote 33: <https://media.fisheries.noaa.gov/dam-migration/01-111-02.pdf>] [Footnote 34: https://spo.nmfs.noaa.gov/sites/default/files/TM212_0.pdf] Finally, the EIS should consider and discuss any mitigation measures contemplated to reduce any adverse impacts to fishing operations, particularly those due to loss of area access or gear damage/loss.

Comment Number: BOEM-2023-0037-0169-0002

Commenter: Mike Okoniewski

Organization: West Coast Pelagic Conservation Group

Commenter Type: Organization

Comment Except Text: That's why I'm -- the second one is is the cost of the -- and it keeps

going up because of supply chain issues. I think that it's averaged 20 percent in costs to the projects over the last two years. And some developers have pulled back and annuled their contracts with pretty serious penalties because it just wasn't penciling out. And are you going to do any evaluation of that in the EIS?

Comment Number: BOEM-2023-0037-0170-0001

Commenter: Fred Zalcman

Organization: New York Offshore Wind Alliance

Commenter Type: Organization

Comment Except Text: Indeed the Beacon Wind Project is about much much more than carbon-free electrons that it will begin producing mid decade. The Beacon Wind Project is a major impetus for the developer's significant investment in a modernization of New York's poor infrastructure including the transformation of the Brooklyn Marine Terminal Sunset Park Brooklyn into a pre-assembly area for the construction of the northeast portfolio for Equinor. Known as a regional operation and maintenance hub creating hundreds of permanent high-quality high-paying jobs over the 30-plus years operating life of this wind farm.

Comment Number: BOEM-2023-0037-0176-0001

Commenter: John Dunderdale

Organization: for Local 56 Pile Drivers and Divers

Commenter Type: Organization

Comment Except Text: I'm here -- I'm joining the hearing today to speak on support of Beacon Wind Project on behalf of North Atlantic States Council of Carpenters and our members. This project is vital in transferring our region and the entire country into new green economy -- energy economy. These turbines substations and associated infrastructure projects will rely heavily on the workforce of an experienced union worker. First and foremost our organization is an educational institution. The North Atlantic States Regional Council Training Fund provides training access and opportunity to the communities across the northeast. We primarily work to ensure our membership looks like our communities we serve. That means a diverse workforce including higher percentages of women and minority trades people that you might likely see anywhere else -- anywhere else to reach our goals and renewable infrastructure. Beacon Wind Project is planned to include offshore substations and turbines. In all we estimate that that will be 90 to 100000 work hours of our members. Even after the project's completion we'll be responsible of portions of the associated maintenance throughout its lifespan. These hours will represent money in the pockets of union pile drivers and start hundreds of new careers throughout our apprenticeship program. These apprentices will take this experience to continue growing the green economy across North America. Beacon Wind is not just an investment in renewable energy but it's also an investment in our people building the next generation and promoting careers in the trades that will help raise families into the middle class.

A.2.21 Environmental Justice

Comment Number: BOEM-2023-0037-0002-0004

Commenter: Sara Gronim

Commenter Type: Individual

Comment Except Text: As is true of many areas of NYC, greenhouse gas emissions and wildfire smoke have significant health effects. Two weeks ago, for example, asthma admissions to local emergency rooms rose dramatically as PCM counts soared. Please account for these

health effects—both the improved health because of renewable energy generation and the health burdens of fossil fuel combustion—when developing your assessment of Equinor’s Beacon Wind proposal.

Comment Number: BOEM-2023-0037-0010-0003

Commenter: Zoë Kaplan-Lewis

Commenter Type: Individual

Comment Except Text: It is satisfying to hope that historically disadvantaged communities who get the brunt of poor air quality will have former gas plants replaced with facilities that do not pollute and offer the possibility of new jobs that provide an important service.

Comment Number: BOEM-2023-0037-0013-0003

Commenter: Diane Matza

Commenter Type: Individual

Comment Except Text: Equinor has also launched a \$5 million Offshore Wind Ecosystem Fund in partnership with the New York City Economic Development Corporation (NYCEDC) and the Sunset Park Task Force (SPTF), specifically to award grants in workforce development and training focused on historically marginalized communities; so they understand the social justice element of their work.

Comment Number: BOEM-2023-0037-0019-0002

Commenter: Jiahua Huang

Commenter Type: Individual

Comment Except Text: The health benefits that the Beacon Wind project will bring to our city cannot be overstated. By contributing to better air quality, particularly in communities like Astoria, Queens, that have long suffered from the negative impacts of local pollutant fossil fuel infrastructure, the project will bring a substantial improvement in public health.

Comment Number: BOEM-2023-0037-0123-0005

Commenter: Ross Gould

Organization: Business Network for Offshore Wind

Commenter Type: Organization

Comment Except Text: As BOEM moves forward in assessing the impacts under the EIS, BOEM should ensure that it includes the full scope of benefits to environmental justice communities in the socio-economic analysis, including job creation and funding in communities that have experienced disproportionate levels of environmental degradation. If clean energy projects such as Beacon Wind are not built, the result will be a higher capacity factor for existing fossil fuel plants, or perhaps construction of new facilities.

Comment Number: BOEM-2023-0037-0123-0006

Commenter: Ross Gould

Organization: Business Network for Offshore Wind

Commenter Type: Organization

Comment Except Text: Individuals who live near fossil fuel power plants have historically had incomes lower than the national average and have faced lower home values. Living in the vicinity of fossil fuel power generating facilities has a direct correlation to negative health

outcomes for the communities. A policy brief [Link: <https://www.nature.com/articles/s41560-020-0622-9>] in the journal of Nature Energy demonstrated a coal plant's closure reduces the use of emergency inhalers and other signs of poor lung-health in nearby communities. According to the National Association for the Advancement of Colored People (NAACP) report [Link: <https://naacp.org/resources/coal-blooded-putting-profits-people>] "68 percent of African Americans live near a coal-fired power plant". Latinos are also disproportionately exposed to toxic chemicals emanating from fossil fuel plants. A 2016 report from the Clean Air Task Force states that "the air in many Latino communities violates air quality standards intended to protect human health" and Latino children are more likely to die from an asthma attack than white children. Numerous studies support the findings of racial and socio- economic disparities in impacts [Link: socio- <https://energynews.us/2019/12/11/midwest/study-black-low-income-americans-face-highest-risk-from-power-plant-pollution/>] from fossil burning power plants. The final EIS for US Wind must incorporate these reports and data as part of its analysis in assessing the impacts of the Proposed Action and the No Action Alternatives.

Comment Number: BOEM-2023-0037-0125-0006

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: In the EIS socioeconomic impacts analysis, these factors should be considered, along with the status of negotiations related to project labor or community workforce agreements, labor peace agreements, and Community Benefits Agreements with labor unions and grassroots organizations based in environmental justice communities affected by offshore wind development, port activity, or supply chain activities related to this project. If there are no such negotiations, this also merits consideration in the EIS.

Comment Number: BOEM-2023-0037-0125-0017

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: The Biden Administration has made historic commitments to environmental justice, including the goal for 40 percent of the overall benefits of federal investments to flow to disadvantaged communities. While benefits from offshore wind projects are not explicitly considered in Justice40, generally, any federal program that addresses climate change, clean energy and energy efficiency, clean transit, affordable and sustainable housing, training and workforce development, legacy pollution, and clean water infrastructure is considered a J40 covered program. BOEM should do its due diligence to ensure that communities and tribes receive the maximum possible benefits.

Comment Number: BOEM-2023-0037-0128-0055

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Environmental Justice• Incorporate environmental justice concerns addressed pursuant to Section 7(3) of New York State's Climate Leadership and Community Protection Act (Climate Act) that are complimentary to the federal Justice 40 Initiative.

- Consider impacts on disadvantaged communities, as defined by the Climate Act, including measures being taken to ensure that current and future offshore wind development does not

disproportionately burden disadvantaged communities.

- Analyze impacts on PEJAs identified by NYSDEC and mitigation measures intended to address and/or minimize such impacts.

Comment Number: BOEM-2023-0037-0131-0043

Commenter: Timothy Timmermann

Organization: U.S. Environmental Protection Agency

Commenter Type: Federal Agency

Comment Except Text: To assist in the evaluation of disproportionate and adverse effects on communities with environmental justice concerns, consider using the following screening tools (which should be ground-truthed and supplemented as needed):

- EPA's [Link: <https://www.epa.gov/ejscreeen>] as a first step in environmental justice analyses.
- CEQ's [Link: <https://screeningtool.geoplatform.gov/en/%233/33.47/-97.5>].
- Center for Disease Control (CDC)'s [Link: <https://ephtracking.cdc.gov/>], contains data and information on environments and hazards, health effects, and population health.
- EPA's [Link: <https://www.epa.gov/healthresearch/health-impact-assessment-hia-resource-and-tool-compilation>], includes tools and resources related to the HIA process and those that can be used to collect and analyze data, establish a baseline profile, assess potential health impacts, and establish benchmarks and indicators for monitoring and evaluation. These resources include literature and evidence bases, data and statistics, guidelines, benchmarks, decision and economic analysis tools, scientific models, methods, frameworks, indices, mapping, and various data collection tools.
- EPA's [Link: <https://www.airnow.gov/>] portal, for air quality data.
- CDC's [Link: Social Vulnerability Index], identifies communities that may need support before, during, or after disasters.
- EPA's [Link: <https://nepassisttool.epa.gov/nepassist/nepamap.aspx>] a screening tool that contains environmental and socioeconomic information with national GIS data layers. The application links to EPA's EJSCREEN tool as well.
- EPA's [Link: <https://enviro.epa.gov/>] and [Link: <https://www.epa.gov/enviroatlas>] which are points of access to a large number of EPA environmental data sets covering, climate, criteria air pollution, air toxics, water pollution, waste sites, toxic releases, enforcement, and more.
- EPA's [Link: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>] which has an EJ mapping layer that will allow users to view demographic indicator information using census tract information. EPA's Greenhouse Gas Reporting Program (GHGRP) also has an [Link: <https://edap.epa.gov/public/extensions/GHGRP-Demographic-Data-Highlights/GHGRP-Demographic-Data-Highlights.html> Demographic Highlights dashboard] to view data on demographic indicators in proximity to GHGRP reporting facilities by industry through interactive maps, graphs, and charts.
- The [Link: https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf for EJ Methodologies in NEPA Reviews] report, or the Promising Practices Report, provides ways to both consider environmental justice concerns during environmental analyses and encourage effective participation by communities with environmental justice concerns.

Comment Number: BOEM-2023-0037-0133-0026

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Environmental Justice: Prior projects in the area have determined that they will have major negative impacts on environmental justice populations (see Revolution Wind DEIS, Table 2.3-1). BOEM has not yet required a cumulative analysis that includes interactive effects on environmental populations. Moreover, the projects in the MA/RI lease area

burden RI, the poorest of the New England States, disproportionately. Both CT and MA, much richer states per capita, and with more carbon emissions, do not share the burden equally. BOEM should address the relative injustice to the people of RI. Again, this violates the dictum expressed in the Executive order to promote environmental justice, not to burden the most economically depressed state in the region with the entire build-out of offshore wind development.

Comment Number: BOEM-2023-0037-0144-0006
Commenter: Pushkar Bhatia
Organization: Business Network For Offshore Wind
Commenter Type: Organization

Comment Except Text: As BOEM moves forward in assessing the impacts under the EIS, they should ensure that this whole economic analysis includes the full scope of benefits to environment justice communities such as job creation and funding and in communities that have experienced disproportionate levels of environmental degradation.

Comment Number: BOEM-2023-0037-0148-0001
Commenter: Richard Khuzami
Organization: Old Astoria Neighborhood Association
Commenter Type: Organization

Comment Except Text: One of our priorities is to support conversion of these facilities to a sustainable, green model, and the Beacon Wind, Equinor project is an important facet of this change. Our formally red lined neighborhood needs to enjoy the healthy, vibrant neighborhood so long denied we deserve.

Comment Number: BOEM-2023-0037-0151-0075
Commenter: Michael Pentony
Organization: National Marine Fisheries Service
Commenter Type: Federal Agency

Comment Except Text: The NEPA document should address effects of the project on Environmental Justice, including those specific to fishing communities with minority and low-income populations. We anticipate Environmental Justice concerns will be included as required under Executive Order 12898 (E.O. 12898, 59 FR 7629; February 16, 1994) Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This E.O. requires that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories...” and take into account E.O. 13985 (86 FR 7009; January 20, 2021) On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. In addition, for coastal communities that include tribal nations who value the sea and fish to sustain Native American life, projects should also consider E.O. 13175 (65 FR 67249; November 6, 2000), which requires federal agencies to establish regular and meaningful consultation and collaboration with tribal officials where tribal implications may arise.

A.2.22 Land Use and Coastal Infrastructure

Comment Number: BOEM-2023-0037-0035-0011

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: They are also currently constructing “stations” in people’s back yards (case in point...Island Park resident has one). These stations have gallons and gallons of diesel fuel and oil (ironically, fossil fuels) to help run the machinery and equipment related to these Wind Turbines. They have large and noisy fans. All “fossil fuels” Are they hurricane ready?

Comment Number: BOEM-2023-0037-0118-0016

Organization: Massachusetts Office of Coastal Zone Management

Commenter Type: State Agency

Comment Except Text: CZM may request a federal consistency review (FCR) of the Beacon Wind project. The FCR filing will initiate a review by CZM for consistency with Massachusetts enforceable program policies and will provide additional information regarding potential impacts to the environment and to the commercial and for-hire fishing industry of Massachusetts.

Comment Number: BOEM-2023-0037-0128-0056

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Parkland and Public Access Impacts• Evaluate measures to maintain public access and avoid impacts to coastal uses. Note: limitations or prohibitions on public access would be incompatible with New York State’s efforts.

- Characterize potential use of nearshore coastal and beach areas for pipe stringing activities during construction. Evaluate alternative locations to minimize disturbance.
 - Identify the potential for alienation or conversion of parkland in NYS. Source: <https://parks.ny.gov/documents/publications/AlienationHandbook2017.pdf>.
-

Comment Number: BOEM-2023-0037-0128-0061

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Assess impacts to public services (e.g., utilities, community).

Comment Number: BOEM-2023-0037-0128-0078

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify details on potential utility crossings, for both in-service and out-of-service assets.

A.2.23 Navigation and Vessel Traffic

Comment Number: BOEM-2023-0037-0086-0010

Commenter: Gib Brogan

Organization: Oceana

Commenter Type: Organization

Comment Except Text: Expanded industrial activities in and around the project area will undoubtedly increase the amount of vessel traffic in the area. The EIS must include alternatives for a vessel traffic plan to minimize the effects of all vessels associated with the wind energy project on marine wildlife.

These alternatives should include requirements for all vessels associated with the project, regardless of function, ownership or operator including:

Observers/Vessels should be required to carry and use protected species observers at all times when under way. Additionally, because visual sighting of whales, including NARWs is difficult, particularly in low light conditions, the EIS should include alternatives to require service vessels to complement observer coverage with additional monitoring technologies such as, infrared (IR) detection devices for whales and other protected species. Research suggests that a complementary approach combining human and technological tools is most effective for marine mammal detection. [Footnote 8: Smith, et al. 2020. A field comparison of marine mammal detections via visual, acoustic, and infrared (IR) imaging methods offshore Atlantic Canada. *Marine Pollution Bulletin*. 154 (2020) 111026.] The EIS should include IR camera requirements in the range of wildlife observing alternatives.

Speed Research suggests that reducing vessel speed to 10 knots or less will reduce risk of vessel collision mortality up to 86 percent for large whales like the NARW. [Footnote 9: Conn and Silber. 2013. Vessel speed restrictions reduce risk of collision-related mortality for North Atlantic right whales. *Ecosphere* (4)4. April, 2013. 1-16.] Due to the risk of ship strikes to NARWs in the project area, the EIS must include alternatives to limit vessels of all sizes associated with the offshore wind project to speeds less than 10 knots at all times due to the year-round presence of NARW in the project area.

Separation Distance Consistent with NOAA regulations under the ESA for all vessels, aircraft, the EIS should include requirements that all vessels must maintain a separation distance of at least 500m from NARWs at all times with clear requirements to safely move away from NARWs that are detected within this range.

Vessel Transparency To support oversight and enforcement of the conditions on the project the EIS should include alternatives requiring all vessels to be equipped with a Class A Automatic Identification System (AIS) device and transmit AIS signals at all times while on the water. This requirement should apply to all vessels, regardless of size, associated with the offshore wind siting, development, construction, and operations of the project.

Applicability and Liability The EIS must include alternatives to specify and require all vessels associated with the project, at all phases of development, follow the vessel plan and rules including vessels owned by the developer, contractors, employees, and others regardless of ownership, operator, contract. Exceptions and exemptions will create enforcement uncertainty and incentives to evade regulations through reclassification and redesignation. BOEM can simplify this by requiring all vessels to abide by the same requirements, regardless of size, function, or other specifics.

The EIS must also include an alternative to specify that developers are explicitly liable for behavior of all employees, contractors, subcontractors, consultants, and associated vessels and machinery.

Comment Number: BOEM-2023-0037-0111-0001

Commenter: Brian Vahey

Organization: The American Waterways Operators

Commenter Type: Organization

Comment Except Text: The COP acknowledges the importance of burying the offshore export cables 15 feet in federally maintained shipping channels and anchorages. This is in line with best practices for cable burial in areas of heightened vessel activity. If a vessel's anchor strikes an undersea power cable, it could be dangerous to the vessel's crew, cause damage to equipment, interrupt operations, or cause sensitive cargoes to spill into the water. Burying cables 15 feet in areas of high traffic is therefore important to the safety, efficiency, and sustainability of maritime operations.

Comment Number: BOEM-2023-0037-0111-0002

Commenter: Brian Vahey

Organization: The American Waterways Operators

Commenter Type: Organization

Comment Except Text: The cable routes proposed in the COP would cross federal safety fairways and the Long Island Sound Regulated Navigation Area (RNA). Given that these are areas of concentrated vessel activity, they should be treated similarly to federal navigation channels and anchorages, and any portion of the offshore export cables that traverse these areas should be buried at least 15 feet. As can be seen in the picture below, towing vessels and barges vessels transited these areas in great numbers in 2022, necessitating a greater need for deeper burial depths across Block Island Sound and Long Island Sound.

Comment Number: BOEM-2023-0037-0115-0025

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: BOEM and USCG's analyses of fishing vessel transit in the New England lease areas to date have been replete with missing information, unfounded conclusions, lack of cumulative-scale analysis, and absent or incorrectly referenced citations. The need for safe transit lanes of 4 nm has been raised time and again by fishermen and other fisheries experts, and the proposal RODA submitted to BOEM on behalf of our members in January 2019 remains urgent. The full history of these requests is detailed in RODA's comments to BOEM on the Vineyard Wind SEIS and South Fork DEIS.

Comment Number: BOEM-2023-0037-0115-0026

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: BOEM must also work with USCG to resolve inconsistent positions regarding the MA/RI Port Access Route Study (MARIPARS). Analysis in the Massachusetts Rhode Island Port Access Route Study by USCG outlined traffic and navigation risks associated with the 1x1 nm spacing proposed by developers, but did not provide recommendations on project design. This proposed spacing will make fishing operations and transiting much less safe and likely prohibitive. RODA filed an appeal of the MARIPARS alleging deficiencies under

the Information Quality Act. USCG denied that appeal stating, in part:
The MARIPARS is only “influential” to the extent that it would form the basis of a subsequent Coast Guard policy decision to commence a rulemaking for the purpose of establishing a new routing measure or amending an existing one... Your letter suggests the MARIPARS is tantamount to a final decision about the turbine layout within the MA/RI WEA, however that decision will ultimately be made by BOEM, which in addition to the Coast Guard’s navigational safety opinion, will consider many other inputs... the MARIPARS is not influential because the decisions on wind turbine siting could be made in its absence.

Comment Number: BOEM-2023-0037-0115-0027
Commenter: Lane Johnson
Organization: Responsible Offshore Development Alliance
Commenter Type: Organization

Comment Except Text: Previous BOEM EISs have contained no analyses of the impacts of transit lanes to the following crucial topics: fishing economics, product quality, markets, fisheries management, and living marine resources that may benefit from migration corridors. They also fail to identify the history of collaboration and negotiation that led to the transit lane proposal. These topics must be given full due consideration in any EIS for future projects.

Comment Number: BOEM-2023-0037-0122-0018
Commenter: Meghan Lapp
Organization: Seafreeze Shoreside, Seafreeze Ltd.
Commenter Type: Organization

Comment Except Text: We request that a proven, groundtruthed, peer reviewed, and immediately implementable marine vessel radar solution be required by the DEIS prior to any approval of the COP.

Comment Number: BOEM-2023-0037-0122-0019
Commenter: Meghan Lapp
Organization: Seafreeze Shoreside, Seafreeze Ltd.
Commenter Type: Organization

Comment Except Text: We also request a full investigation and analysis into the decrease in effectiveness of USCG SAR inside and adjacent to an offshore wind farm in the fog, in inclement weather, and in the dark, in the presence of radar interference as modeled for the number and height of the turbines being planned for the Beacon Wind project, as well as a cumulative analysis to this effect that incorporates bull buildout of the MA WEA.

Comment Number: BOEM-2023-0037-0122-0020
Commenter: Meghan Lapp
Organization: Seafreeze Shoreside, Seafreeze Ltd.
Commenter Type: Organization

Comment Except Text: We also request an analysis of expected allision/collisions as a result of both the presence of structures and marine radar interference and associated projected economic losses for inclusion in the DEIS. The developer must be held accountable for all impacts, and these impacts must be quantified. Mitigation which is not effective is not mitigation.

Comment Number: BOEM-2023-0037-0128-0058

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Water-dependent Industries: o Evaluate impacts due to restricted port and small harbor access as well as regional ferry traffic from increased vessels and construction activities. o Evaluate conformance with U.S. Coast Guard Marine Planning Guidelines (NVIC 01- 19). o Evaluate impacts to marine vessel radar and implementation pathways for possible mitigation measures (e.g., hardware and software requirements to operate safely, cost and timing of equipment upgrades, training uptake). Source: <https://www.nationalacademies.org/our-work/wind-turbine-generator-impacts-to-marine-vessel-radar>. o Evaluate risk from vessel allisions, collisions and groundings. o Assess impacts from potential displacement of vessel traffic and alteration of the movement of vessels in and around New York, including: • Commercial vessels using the navigation traffic lanes established by the International Maritime Organization and appearing on official nautical charts. Note: analysis should incorporate US Coast Guard (USCG) Port Access Route Studies and proposed rulemakings.

Comment Number: BOEM-2023-0037-0128-0059

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Commercial vessels using established but not officially designated trade routes. Note: the Maritime Technical Working Group (M-TWG) has developed resources on anchor strikes, anchorage areas, and cable routing that are available at <https://www.nymtwg.com/m-twg-studies-and-other-resources/>. • Commercial vessels using designated and undesignated anchorages. • Commercial and recreational fishing vessels, and general recreational vessels departing from or arriving at ports or marinas along Long Island's south shore and Long Island Sound. Note: the Northeast Recreational Boating Survey is a good source for recreational information, and data can be accessed on the Mid-Atlantic and Northeast Data Portals. DOS developed offshore recreational fishing areas that are available on the NYS Geographic Information Gateway: <https://www.nymtwg.com/m-twg-studies-and-other-resources/>. o Analyze risk to smaller vessels during construction and evaluation of how the USCG- mandated construction safety zone may mitigate this risk. o Assess conflicts with concrete mattresses and other cabling and scour protection measures. o Assess potential impacts of cable exposures over time and following storm events.

Comment Number: BOEM-2023-0037-0128-0068

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Construction Related Impacts • Traffic considerations (from Vessels, Vehicles and Aircraft): o Traffic impacts from construction vessels, such as those transporting turbine parts. o Evaluating the need for in-water safety zones and the potential for restricting or re- routing vessel traffic to avoid these work areas (e.g., East River, Western Long Island Sound, The Race). o Traffic impacts from construction of export cable and associated upland infrastructure. o Traffic impacts (vessel and vehicle) from use of Ports and O&M facilities.

Comment Number: BOEM-2023-0037-0134-0006

Commenter: Bonnie Brady

Organization: Long Island Commercial Fishing Association

Commenter Type: Organization

Comment Except Text: We request a full, peer-reviewed analysis of the Codar HF radar responsible for Search and Rescue capability of the USCG. As per the DOE's WTRIM Wind Turbine Radar Interference Mitigation workshop, in 2020 [Footnote 1: <https://www.energy.gov/eere/wind/articles/offshore-wind-turbine-radar-interference-mitigation-wtrim-webinar-presentations>], on July 27, 2020 [Footnote 2: <https://www.energy.gov/sites/default/files/2020/07/f77/offshore-wind-turbine-radar-interference-mitigation-webinar-7-27-2020.pdf>] the discussions were had about the CODAR radar which is used for the MARACOOS and other Ocean Observing Systems (OOS) for NOAA oil spill modelling and also to be used for USCG Search and Rescue.

Comment Number: BOEM-2023-0037-0152-0030

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: From expected increase in vessel collisions owing to increased quantity of vessels during construction and for 35 years (this project, and culmulative across all projects reasonably anticipated in the next 12 years)• From increase in frequency of expected vessel distress conditions and sinking/capsizedo Difficulty maintaining safe operating conditions of vessels faced by turbulent wakeso Less predictable currentso Von Karmen Vorticeso Accidental collisions with turbines• From impairment of rescue operations for boat vessels in distresso Radar system disruption(artifact)o Other• From shark attacks fostered by increases in shark density closer to coastal areas owing to the 'artificial reef'effect of turbine foundations causing aggregation of sharkprey

A.2.24 Other Uses (Marine Minerals, Military Use, Aviation, Scientific Research and Surveys)

Comment Number: BOEM-2023-0037-0122-0021

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We also request that the DEIS contain an analysis of proven mitigation measures for HF radar interference. The newly released Revolution Wind Final EIS only requires that the developer coordinate with HF radar operators to “assess” if the wind farm causes interference and that the lessee “engage” radar operators on mitigation efforts. [Footnote 31: See Appendix F. Environmental Protection Measures, Mitigation, and Monitoring (boem.gov), p. f-17.] This is unacceptable. Previous studies have already shown interference in the area, and previous analysis has already demonstrated that the size and scale of offshore wind development is outpacing solutions. As of 2019, “no operational solutions exist to mitigate the future interference”, per the High Frequency Radar Wind Turbine Interference Community Working Group. [Footnote 32: See https://darchive.mblwhoilibrary.org/bitstream/handle/1912/25127/HFRadar_2019_WindTurbineI

nterference_WorkingGroupReport_Final2.pdf?sequence=1&isAllowed=y.] If this situation has changed since 2019, and operational solutions do now exist to mitigate the cumulative impacts of MA WEA buildout, we request that those solutions be specifically identified in the DEIS. However, if no solutions exist, we request that BOEM delay any further approvals until one can be identified, proven, groundtruthed, and peer reviewed. Engaging is not mitigation. “Potential” and “future” efforts are not mitigation. True mitigation requires proven effectiveness, not unfounded promises. As HF radar is an integral part of USCG SAR effectiveness, [Footnote 33: See DOE webinar on HF Radar at Oceanographic High Frequency (HF) Radar Webinar - YouTube.] and therefore paramount for mariner safety, BOEM must require an effective solution, as the Secretary “shall ensure...safety” as an OSLA requirement. We request an analysis independent of BOEM and the developer into the impacts of HF radar interference on USCG SAR capabilities and success rates for including in the DEIS.

Comment Number: BOEM-2023-0037-0128-0095

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Identify US Military Training and Exercises.

Comment Number: BOEM-2023-0037-0151-0076

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: As noted for other wind development projects, the Beacon Wind project is anticipated to have major adverse impacts on NMFS Northeast Fisheries Science Center scientific surveys, which will, in turn, result in adverse impacts on fishery participants and communities, conservation and recovery of protected species, and on the American public. This project would have direct impacts on the fall and spring federal multi-species bottom trawl survey conducted on the FSV Henry Bigelow, the ocean quahog dredge survey conducted on chartered commercial fishing platforms, the integrated benthic/sea scallop habitat survey, ship and aerial-based marine mammal and sea turtle surveys, North Atlantic right whale survey, and the shelf-wide Ecosystem Monitoring Survey (Ecomon). Based on standard operating practices conducted by the NOAA Office of Marine and Aviation Operations, WTG arrays would preclude safe navigation and safe and effective deployment of mobile survey gear on NOAA ships. NOAA aerial surveys would also have to modify flight heights and survey methods to be able to survey in this area, while at times encountering reduced survey rates due to a lower cloud ceiling relative to the required flight height over wind turbines. The impacts to our scientific surveys from this project will be driven by four main mechanisms: 1) exclusion of NMFS sampling platforms from the wind development area, 2) impacts on the random-stratified statistical design that is the basis for data analysis and use in scientific assessments, advice, and analyses; 3) the alteration of benthic, pelagic, and airspace habitats in and around the wind energy development; and 4) potential reductions in sampling outside wind areas caused by potential increased transit time by NOAA vessels. Adverse effects on monitoring and assessment activities would directly impact the critical scientific information used for fisheries management and the recovery and conservation programs for protected species. These impacts would result in increased uncertainty in the surveys' measures of abundance, which could potentially lead to lower quotas for commercial and recreational fishermen and lower associated fishing revenue based on current fishery management council risk policies. These impacts will occur over the lifetime of wind energy operations at the project area and in the

region (to at least 2050).

Comment Number: BOEM-2023-0037-0151-0080

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: We would note that impacts to NOAA scientific surveys are not adequately described in the COP prepared for this action, and the information in the COP related to effects on NOAA scientific surveys should not be used in the EIS. The COP does not identify specific regional surveys that would be impacted by this project. Further, the COP indicates that impacts would be temporary and does not recognize that NOAA survey operations would be precluded from operating within the lease area based on the spacing and height of proposed turbines. This will result in permanent impacts to existing survey operations, not temporary disruptions only related to safety zones during construction activities, as suggested in the COP.

Comment Number: BOEM-2023-0037-0151-0081

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: The EIS should include a thorough discussion of impacts to scientific surveys of marine resources and reflect the analyses included in recent project EISs and described in Hare et al. (2022). The EIS should include a full description of scientific surveys to be impacted, the history of each time series, and relative importance of the impacted scientific surveys on management advice, decision-making, and other end-users. We encourage BOEM to work closely with us to ensure potential impacts to our scientific survey operations and consequent effects to fisheries stock assessments, fishery management measures, and protected species conservation efforts are evaluated in the EIS for this and other projects, including any efforts to mitigate such impacts.

Comment Number: BOEM-2023-0037-0151-0082

Commenter: Michael Pentony

Organization: National Marine Fisheries Service

Commenter Type: Federal Agency

Comment Except Text: In addition to impacts on fisheries independent survey data collections, analysis of impacts on fisheries dependent data collections, e.g., landings, biological samples, and observer data, due to potential changes in effort should also be required. This assessment should consider potential changes in mortality rates for target and non-target species and potential fisheries interactions with marine mammals and threatened and endangered species. This analysis should also consider the potential changes in fisheries dependent data collections on stocks expected to be impacted by offshore wind development impact producing effects and on the anticipated displacement of fishing operations. How these effects impact specific stock assessments should also be evaluated in addition to how these changes may impact the effectiveness of fishery management measures in meeting their objectives.

A.2.25 Recreation and Tourism

Comment Number: BOEM-2023-0037-0128-0057

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Tourism and Recreational Activities: o Evaluate impacts to recreational boating and fishing activities that are an economic driver for the region. o Evaluate impacts from temporary closures of recreational facilities including beaches.

- Existing and Future Sand Borrow Areas and Beach Nourishment Activities: avoid where feasible and closely coordinate with sponsoring agency(ies). Note: Planning and construction are underway for many federal Coastal Storm Risk Management and Flood Risk Reduction projects that may impede, or may be impeded by, initial construction or maintenance activities of this project.

Comment Number: BOEM-2023-0037-0128-0060

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Recreational Diving Sites. Note: New York State Department of State (DOS) developed two datasets for offshore diving areas important to NY that are available on the NYS Geographic Information Gateway: o Artificial reef diving: <http://opdgig.dos.ny.gov/geoportal/catalog/search/resource/detailsnoheader.page?uuid={A4A2BFE8-1198-4624-91B5-796F558E77B4}>. o Wreck diving: <http://opdgig.dos.ny.gov/geoportal/catalog/search/resource/detailsnoheader.page?uuid={4990846B-A419-486B-AA9F-A7D770382832}>

Comment Number: BOEM-2023-0037-0133-0022

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Commercial and Recreational Boating: As the Ocean State, Rhode Island takes enormous pride in its boating and recreational fishing eminence. Beacon Wind and the other OWFs slated for the coastal waters off Rhode Island will substantially negatively impact marine navigation, sailing, power boating, whale watching, and, most importantly, fishing (NOAA, McCann, 2013). By displacing these activities, Beacon Wind violates the Outer Continental Shelf Lands Act (43 U.S.C. §§ 1331 et seq.). The BOEM DEIS fails to adequately address the legal, financial, and cultural ramifications of these negative impacts.

A.2.26 Scenic and Visual Resources

Comment Number: BOEM-2023-0037-0035-0013

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: Moreover, will the reflection of the sun on the blades be distracting and detrimental to our ocean animals, birds and us?

Comment Number: BOEM-2023-0037-0128-0066

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Visual and Aesthetic Impacts• Consider temporary and permanent visual and aesthetic impacts from above ground structures (on land) and above water structures (in ocean).

Comment Number: BOEM-2023-0037-0130-0014

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: Nantucket's economy is seasonal in nature and tourism driven. Not only are visitors attracted to the Town's preservation of historic buildings, places, and districts, but also to its world-class, public beaches with pristine ocean views. The Town is therefore sensitive to any potential visual impacts to the ocean horizon and sunset views, especially from the Island's southern coastline: from Madaket Beach in the west to Cisco Beach and Nobadeer Beach, and to Sconset Beach in the east.

Comment Number: BOEM-2023-0037-0130-0015

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: The COP's Offshore Visual Impacts Assessment, however, is inadequate to show the actual impact of the wind turbines and associated infrastructure. Section 106 requires federal agencies not only to identify historic properties that will be affected by the project, but also to evaluate the effects on those properties. Nevertheless, the Visual Impacts Assessment and the corresponding visualizations do not adequately evaluate the impacts to all the historic resources on Nantucket. Likewise, the Visual Impacts Assessment do not meet the guidelines established by the New York State Energy Research and Development Authority (NYSERDA). Due to the potential for the Project to adversely impact cultural sites, historic properties, and the viewshed, BOEM should conduct additional visual assessments to assess accurately adverse impacts and to determine appropriate avoidance, minimization, or mitigation measures from additional vantage points. These vantage points should include all historic districts, sites, and landscapes identified by BOEM and the consulting parties.

Comment Number: BOEM-2023-0037-0130-0016

Organization: Town of Nantucket

Commenter Type: Local Government/Agency

Comment Except Text: Finally, we support Aircraft Detection Lighting Systems (ADLS) to minimize lighting effects and expect to see them incorporated in the Final EIS. ADLS lessens lighting impacts and we encourage BOEM to require ADLS on this Project and all other projects in the Lease Area. Nantucket's dark skies are important historically, culturally, and economically. However, ADLS has become standard and BOEM should not consider ADLS as a minimization measure, but rather consider and resolve adverse effects with ADLS in place. BOEM should also not consider current turbine array and non-reflective paint color as minimization measures insofar as they have become standard, too. Rather, BOEM should analyze Beacon Wind considering these project features as a baseline, which a review of

BOEM's other offshore wind farm projects demonstrates that they have become.

Comment Number: BOEM-2023-0037-0149-0003

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: Appendix X – Seascape, Landscape and Visual Impact Assessment addresses visual impacts. NPS appreciates the inclusion of locations on Nantucket Island and Martha's Vineyard, including Gay Head Lighthouse as Key Observation Points (KOPs) in the VIA. It is not clear if all of the KOP photos are contained in Appendix X-2 Offshore Simulation KOPS: KOPS 1-8 or if more will be made available. Please clarify. NPS also requests to see Appendix X-4 Offshore Photologs when it is available.

Comment Number: BOEM-2023-0037-0149-0004

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: If the KOP simulations available at the BOEM website contain the complete package of simulations, NPS recommends the VIA assess the turbines under different lighting, atmospheric, and seasonal conditions, as well as blade movement. Based on our initial review, it appears the visual simulations included in the VIA may not represent the full spectrum of visibility under certain lighting conditions, and therefore the wind turbine generators (WTGs) may be more visible at certain times of day or year than presented.

Comment Number: BOEM-2023-0037-0149-0005

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: The video simulations presented for Wasque and Madaket make it clear that there would be visual impacts at night. The NPS recommends that primary simulations should always represent the worst-case/highest visibility scenario. We advise that additional simulations are provided to show the range of visibility under a variety of conditions, including at night with nighttime lighting, including lighting required for offshore substations. It is recognized that atmospheric conditions over the ocean may reduce visibility under some conditions. However, since visual simulations underrepresent the actual visibility of proposed changes, artificially adding atmospheric haze further reduces the effectiveness of the simulations and should be avoided.

In particular, Gay Head Lighthouse is generally open for public visitation and many area visitors view the surrounding seascapes and landscapes from this high point on the Island with dramatic open views. As such, views from this area will be important to providing an accurate and complete VIA.

Comment Number: BOEM-2023-0037-0149-0007

Commenter: Jonathan Meade

Organization: National Park Service

Commenter Type: Federal Agency

Comment Except Text: NPS encourages BOEM to assess the potential effects of the undertaking on NHLs and resolve any adverse effects on the night skies and lightscapes through avoidance and mitigation measures. We note that there are two observatories on Nantucket Island, Loines Observatory & Vestal Street Observatory, whose views of the night sky may be impacted by night lighting. NPS encourages measures to protect the night sky.

A.2.27 Noise

Comment Number: BOEM-2023-0037-0035-0012

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: The Wind Turbine noise is detrimental to our ocean dwellers, as well as to us, the land dwellers!

Comment Number: BOEM-2023-0037-0127-0031

Organization: National Wildlife Federation, Conservation Law Foundation, National Audubon Society, Mass Audubon, et al.

Commenter Type: Organization

Comment Except Text: In determining the potential impact of noise from geophysical surveys and construction and operations activities, BOEM should request new guidelines on thresholds for marine mammal behavioral disturbance from NMFS that are sufficiently protective and consistent with the best available science. Multiple marine species have been observed to exhibit strong, and in some cases lethal, behavioral reactions to sound levels well below the 160 dB threshold defined by NMFS for Level B take, [Footnote 129: As defined pursuant to the Marine Mammal Protection Act “any act of pursuit, torment, or annoyance which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild.” 50 C.F.R. § 216.3.] leading to calls from the scientific community for the Agency to revise its guidelines. [Footnote 130: E.g., Evans, D.L. and England, G.R., “Joint interim report: Bahamas marine mammal stranding event of 15-16 March 2000” (2001); Nowacek, D.P., Johnson, M.P., and Tyack, P.L., “Right whales ignore ships but respond to alarm stimuli,” Proceedings of the Royal Society of London B: Biological Sciences, vol. 271, no. 1536 (2004): 227-231; Parsons, E.C.M., Dolman, S.J., Wright, A.J., Rose, N.A., and Burns, W.C.G., “Navy sonar and cetaceans: Just how much does the gun need to smoke before we act?” Marine Pollution Bulletin, vol. 56 (2008): 1248-1257; Tougaard, J., Wright, A.J., and Madsen, P.T., “Cetacean noise criteria revisited in the light of proposed exposure limits for harbour porpoises,” Marine Pollution Bulletin, vol. 90 (2015): 196-208; Wright, A.J., “Sound science: Maintaining numerical and statistical standards in the pursuit of noise exposure criteria for marine mammals,” Frontiers in Marine Science, vol. 2, art. 99 (2015).] Acceptance of the current NMFS’s acoustic threshold for Level B take will result in BOEM’s significant underestimation of the impacts to marine mammals and potentially the permitting, recommendation, or prescription of ineffective mitigation measures (e.g., under-protective

exclusion zones).

Comment Number: BOEM-2023-0037-0128-0009
Commenter: Sean, Kisha Mahar, Santiago
Organization: New York State
Commenter Type: State Agency

Comment Except Text: • Noiseo Provide ambient noise levels for the Proposed Action.

Comment Number: BOEM-2023-0037-0128-0035
Commenter: Sean, Kisha Mahar, Santiago
Organization: New York State
Commenter Type: State Agency

Comment Except Text: Noise Impacts• Evaluate the potential application of sound penalties for onshore tonal noise impacts and assess adequacy of proposed mitigation measures.

Comment Number: BOEM-2023-0037-0152-0009
Commenter: Alena Walters
Organization: Sea Life Conservation, Inc.
Commenter Type: Organization

Comment Except Text: For a representative of each taxon of marine life in which adverse effects are most likely to be found, determine the expected effects of operational turbines from effects elicited by low- frequency and infrasound

Comment Number: BOEM-2023-0037-0152-0035
Commenter: Alena Walters
Organization: Sea Life Conservation, Inc.
Commenter Type: Organization

Comment Except Text: Harm from noise is a phenomenon shared across a functionally-diverse and taxonomically- diverse range of invertebrates.The increase in mortality rate from turbine noise and vibration should be empirically studied via controlled experiments in those species most likely to experience higher mortality as a result of the anthropogenic sound.

Comment Number: BOEM-2023-0037-0152-0052
Commenter: Alena Walters
Organization: Sea Life Conservation, Inc.
Commenter Type: Organization

Comment Except Text: The Long Island Sound is also more vulnerable to noise disturbance because it is enclosed by land masses and because the sharper depth gradient reflects sounds far more effectively than flat featureless ocean bottom.

A.2.28 Electromagnetic Fields (EMF)

Comment Number: BOEM-2023-0037-0065-0002

Commenter: Anne Conway

Commenter Type: Individual

Comment Except Text: How will you protect the human population from the EMFs related to the cables?

Comment Number: BOEM-2023-0037-0115-0030

Commenter: Lane Johnson

Organization: Responsible Offshore Development Alliance

Commenter Type: Organization

Comment Except Text: Introduction of electromagnetic fields from numerous, and potentially gridded, OSW power cables may have impacts to not only benthic species, but migrating and other electric and magnetic field- sensitive species, including sea turtles, marine mammals, and elasmobranchs. Cables carrying electric current may disrupt migrations of fish and other marine animals reliant on magnetic cues for orientation and navigation, but research has only just begun on this topic.

Comment Number: BOEM-2023-0037-0128-0012

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Provide baseline electromagnetic field (EMF) levels.

Comment Number: BOEM-2023-0037-0128-0040

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: o Evaluate export cable burial depth to avoid EMF impacts and conflicts with fishing gear.

Comment Number: BOEM-2023-0037-0128-0047

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: o Evaluate behavior and physiological impacts from noise, foundation lighting, thermal discharges, and EMF.

Comment Number: BOEM-2023-0037-0128-0086

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: Electromagnetic Fields Reduction Measures

- Where target cable burial depths are not feasible, evaluate methods and mitigation
-

measures to minimize predicted EMF caused by the cable's operation at the sediment surface directly above the cable, and at the sediment surface at the limits of the cable ROW.

- Undertake an EMF study. Provide ambient electric and magnetic field (EMF) levels based on field measurements collected from at least one location sufficiently far from magnetic field sources to establish background levels. Baseline electric fields should be calculated from any observed magnetic fields if field measurement of electric fields are not feasible. Compare with post-energization levels based upon field measurements, where feasible, to assess potential impacts.

Comment Number: BOEM-2023-0037-0133-0016

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: More thorough consideration of the EMFs: The DEIS should consider the impact of EMFs on both the local environment and on long-range migratory species. EMF's could mask the ability for EMF-sensitive species to appreciate the earth's electromagnetic field. Sharks and other long-range migratory species use the earth's magnetic field to navigate. If local EMF's overwhelm the faint alterations in the earth's magnetic field that alert species to their location, then the project could devastate their ability to navigate, find food sources, and procreate. BOEM needs to consider the EMFs from a more global perspective.

A.2.29 Materials and Waste Management

Comment Number: BOEM-2023-0037-0035-0003

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: While various technologies exist to recycle the composite materials in blades, they are not yet mature enough, nor widely available at industrial scale and/or cost competitive. Blade recycling, therefore, is not just a wind industry challenge, but a cross industry challenge. (These blades will be 15-20 miles out in our ocean!)

Comment Number: BOEM-2023-0037-0035-0004

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: Decommissioned blades are also notoriously difficult and expensive to transport. They can be anywhere from 100 to 300 feet long and need to be cut up onsite before getting trucked away on specialized equipment — which costs money — to the landfill. (How will they transport from 15-20 miles out in the ocean?)

Comment Number: BOEM-2023-0037-0035-0009

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: A wind turbine's blades can be longer than a Boeing 747 wing, so at the end of their lifespan they can't just be hauled away. First, you need to saw through the lissome fiberglass using a diamond-encrusted industrial saw to create three pieces small enough to be strapped to a tractor-trailer. How will this be done in the middle of the ocean 15-20 miles out from land?

Comment Number: BOEM-2023-0037-0035-0016

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: After the 30 year contract, then what? If they fail and can not be fixed, the blades are not currently recyclable and it is extremely expensive to recycle any part of them, never mind that they are located in the middle of the ocean! Who will pay for all of these blades to be taken down, recycled, disposed of, whatever? They are each the size of a 747 jet plane wing. There are already multiple landfills out west with these toxic plastic blades leaching chemicals into the ground!

Comment Number: BOEM-2023-0037-0035-0018

Commenter: Virginia Matney

Commenter Type: Individual

Comment Except Text: They require the mining of precious metals! Companies are already mining our precious ocean floors! (See Newsday Article 'Deep Sea...' Page A26 4/17/23)

Comment Number: BOEM-2023-0037-0065-0004

Commenter: Anne Conway

Commenter Type: Individual

Comment Except Text: How will you prevent oils spills?

Comment Number: BOEM-2023-0037-0122-0023

Commenter: Meghan Lapp

Organization: Seafreeze Shoreside, Seafreeze Ltd.

Commenter Type: Organization

Comment Except Text: We also request that in the "Affected Environment and Environmental Consequences" section of the DEIS, including the "Environmental Justice" section, that BOEM describe in detail the quantity and impacts of rare earth minerals such as neodymium and dysprosium present in each project turbine/project total. As mining one ton of rare earth minerals may produce approximately one ton of radioactive waste, and as the associated environmental impact of such production of the project and cumulative impacts of coastwide offshore wind construction, would be substantial, we request that analysis be included in the DEIS. [Footnote 35: See Big Wind's Dirty Little Secret: Toxic Lakes and Radioactive Waste - IER (instituteeforenergyresearch.org).] Please identify sources of project rare earth minerals in the "Environmental Justice" section, neodymium and dysprosium and other wind turbine rare earths have been mined nearly exclusively in Asia and associated with human rights abuses. [Footnote 36: See Big Wind's Dirty Little Secret: Toxic Lakes and Radioactive Waste - IER (instituteeforenergyresearch.org) and Toxic rare earth mines fuel deforestation, rights abuses in Myanmar, report says (mongabay.com).] Prior to recent legislative and administrative offshore wind goals, MIT had estimated an increase of more than 700% and 2600% respectively of neodymium and dysprosium to meet future offshore wind needs; [Footnote 37: See Alonson et al, "Evaluating Rare Earth Element Availability: A Case with Revolutionary Demand from Clean Technologies", Environmental Science & Technology, Massachusetts Institute of Technology, 2012 at Evaluating Rare Earth Element Availability: A Case with Revolutionary Demand from Clean Technologies (rareearthassociation.org).] please include an updated estimate in the DEIS for the Cumulative Impacts scenario.

Comment Number: BOEM-2023-0037-0125-0012

Commenter: Jason Walsh

Organization: BlueGreen Alliance

Commenter Type: Organization

Comment Except Text: Additional information regarding material quality, standards, and certifications should also be included along with other information germane to securing a supplier contract with the offshore wind developer. This information is critical for U.S. companies to access opportunities, especially minority, women, and veteran owned businesses. Finally, the EIS should also contain information about the manufacture of offshore wind energy components that did not take place in the U.S., in order to understand the full breadth of employment benefits that could be expected as a domestic offshore wind supply chain matures.

Comment Number: BOEM-2023-0037-0128-0069

Commenter: Sean, Kisha Mahar, Santiago

Organization: New York State

Commenter Type: State Agency

Comment Except Text: • Assess impacts from inadvertent releases and spills.
• Evaluate methods for managing debris and waste.

Comment Number: BOEM-2023-0037-0133-0025

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Rare Earth Metals: Wind turbines require the use of rare earth metals (lanthanides, neodymium, praseodymium, dysprosium, terbium). Mining these metals contaminates water tables, generates radioactive waste, risks harmful human exposure, and generates CO₂ emissions (Ives, 2013). The push for offshore turbines has increased the demand for rare earth metals. The pressure for more supply may require ocean floor mining, which will incur another stress on the ocean and on global warming by resuspending carbon previously sequestered in marine sediments, further heavy metal contamination of marine food webs, and further biodiversity loss. Increasing demand for rare earth metals could have a profound effect on public health (Hamley, 2022). BOEM needs to consider the global environmental costs of mining rare earth metals in the overall assessment of the project's environmental impacts.

Comment Number: BOEM-2023-0037-0152-0004

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Quantitative statement of cubic meters of concrete required for the project. In the past, the Bureau has started the COP review process without this information or with only the square area (scour pad footprint area) per turbine.

Comment Number: BOEM-2023-0037-0152-0031

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Environmental Justice Considerations

- Acquiring resources in time
- Environmental Damage from mining operations overseas, especially in China and Africa
- Toxic Waste From Mining Operation
- Fugitive (inadvertent) methane releases from mines
- Habitat usurpation and degradation
- Polluting fresh water bodies (one of the globe's most important and most vulnerable natural resources) with impacts to freshwater species and drinking/agriculture water
- Environmental Justice, other
- The prospect of global conflict over mines and mining resources is very high.

A.2.30 Public Health and Safety

Comment Number: BOEM-2023-0037-0133-0029

Commenter: Lisa Quattrochi Knight

Organization: Green Oceans

Commenter Type: Organization

Comment Except Text: Human Well-being: Rhode Island and the nation as a whole suffer from a mental health crisis and increased drug abuse. Encounters with nature improve both mental and physical health by providing a sense of awe (Lopes, 2020; Chirico, 2021, Monroy, 2022). Compromising the ocean's natural state will potentially exacerbate the country's mental health problems by destroying a source of visual peace and open space. BOEM has failed to take this adverse impact into its analysis. All projects must formally assess their impact on human mental health.

Comment Number: BOEM-2023-0037-0152-0029

Commenter: Alena Walters

Organization: Sea Life Conservation, Inc.

Commenter Type: Organization

Comment Except Text: Determine anticipated elevations, if any, in death rate :• From suicide due to turbine operations (See Eric Zhou's work)• From worker deaths (relative to current mix of energy generation)

A.2.31 Non-Substantive: General Support or Opposition, or Multiple Topics Discussed Generally

Section 5.31 summarizes the primary themes expressed in comments deemed non-substantive but expressing general support or opposition to the Beacon Wind Project or discussing multiple topics at a general level. Table A-2 lists submissions containing one or more comments in this category. These submissions may include other comments coded as substantive.

Table A-2. List of Submissions Containing Statements of General Support or Opposition, or Multiple Topics Discussed Generally

| Submission ID | Name | Affiliation |
|---------------------|-------------|-------------|
| BOEM-2023-0037-0002 | Sara Gronim | |

| Submission ID | Name | Affiliation |
|----------------------|--------------------|-----------------------------------|
| BOEM-2023-0037-0003 | | Queens Borough President's Office |
| BOEM-2023-0037-0004 | Marc Schmied | |
| BOEM-2023-0037-0005 | Carolyn O'Keefe | |
| BOEM-2023-0037-0007 | jean publiee | |
| BOEM-2023-0037-0008 | Kathy Malone | |
| BOEM-2023-0037-0010 | Zoë Kaplan-Lewis | |
| BOEM-2023-0037-0012 | Mimi Bluestone | |
| BOEM-2023-0037-0013 | Diane Matza | |
| BOEM-2023-0037-0014 | Andrew Moss | |
| BOEM-2023-0037-0015 | Bill Nowak | |
| BOEM-2023-0037-0016 | Jay Blackman | |
| BOEM-2023-0037-0017 | Elizabeth Poreba | |
| BOEM-2023-0037-0018 | Christine Arroyo | |
| BOEM-2023-0037-0019 | Jiahua Huang | |
| BOEM-2023-0037-0020 | Kanwaldeep Sekhon | |
| BOEM-2023-0037-0021 | Bart Farell | |
| BOEM-2023-0037-0022 | Nivo Rovedo | |
| BOEM-2023-0037-0023 | John Rath | |
| BOEM-2023-0037-0024 | Don Porter | |
| BOEM-2023-0037-0025 | Patricia Henighan | |
| BOEM-2023-0037-0026 | Robert Heinemann | |
| BOEM-2023-0037-0028 | Stephanie Doba | |
| BOEM-2023-0037-0029 | Chris Efthimiou | |
| BOEM-2023-0037-0030 | Matthew Eager | |
| BOEM-2023-0037-0034 | Steven Dahlgren | |
| BOEM-2023-0037-0035 | Virginia Matney | |
| BOEM-2023-0037-0037 | Anonymous | |
| BOEM-2023-0037-0039 | Sandra Naidich | |
| BOEM-2023-0037-0040 | Tom Helling | |
| BOEM-2023-0037-0041 | Stephen Santangelo | |
| BOEM-2023-0037-0042 | Ryan Gellis | |
| BOEM-2023-0037-0043 | David Case | |
| BOEM-2023-0037-0044 | Bill Haddican | |
| BOEM-2023-0037-0045 | Deborah Kaplan | |
| BOEM-2023-0037-0047 | Laurie Aron | |
| BOEM-2023-0037-0048 | Johnathon Campbell | |
| BOEM-2023-0037-0049 | Erland Castillo | |
| BOEM-2023-0037-0052 | Michelle Nadboy | |

| Submission ID | Name | Affiliation |
|----------------------|---------------------|--------------------|
| BOEM-2023-0037-0053 | Steve McEvoy | |
| BOEM-2023-0037-0054 | roberta pyzel | |
| BOEM-2023-0037-0055 | William Roberson | |
| BOEM-2023-0037-0059 | Lillian Dalke | |
| BOEM-2023-0037-0060 | Carmen McLeod | |
| BOEM-2023-0037-0062 | Jason Dragseth | |
| BOEM-2023-0037-0064 | | Xodus Group |
| BOEM-2023-0037-0066 | Annabella Cockerell | Mothers Out Front |
| BOEM-2023-0037-0067 | Sally Courtright | |
| BOEM-2023-0037-0072 | Gracey Connelly | |
| BOEM-2023-0037-0073 | Toby Pannone | |
| BOEM-2023-0037-0074 | Peter Levinson | |
| BOEM-2023-0037-0075 | Richard Cherry | |
| BOEM-2023-0037-0076 | Bernice Gordon | |
| BOEM-2023-0037-0078 | Deborah Herdan | |
| BOEM-2023-0037-0079 | Sarah Gallagher | |
| BOEM-2023-0037-0080 | Neil Donnelly | |
| BOEM-2023-0037-0081 | Alexander Betser | |
| BOEM-2023-0037-0082 | Andrew Hunt | |
| BOEM-2023-0037-0083 | Arthur Massei | |
| BOEM-2023-0037-0085 | Jeff Schumann | |
| BOEM-2023-0037-0086 | Gib Brogan | Oceana |
| BOEM-2023-0037-0087 | Susan Boyle | |
| BOEM-2023-0037-0088 | Allison Romer | |
| BOEM-2023-0037-0089 | Kevin Costa | |
| BOEM-2023-0037-0091 | Ryan Shanley | |
| BOEM-2023-0037-0092 | Anonymous | |
| BOEM-2023-0037-0093 | Maria McGrath | |
| BOEM-2023-0037-0094 | Marina Ancona | |
| BOEM-2023-0037-0095 | Rachel Federman | |
| BOEM-2023-0037-0096 | Kathleen McCarthy | |
| BOEM-2023-0037-0097 | Jean-Sé Dorais | |
| BOEM-2023-0037-0098 | Andrew Shifren | |
| BOEM-2023-0037-0099 | Jennifer Handler | |
| BOEM-2023-0037-0100 | Elyce Semenec | |
| BOEM-2023-0037-0101 | Louisa Pregerson | |
| BOEM-2023-0037-0102 | Jemilla Mulvihill | |
| BOEM-2023-0037-0103 | McGinley Brown | |
| BOEM-2023-0037-0104 | James Boyle | |

| Submission ID | Name | Affiliation |
|---------------------|-------------------------------|--|
| BOEM-2023-0037-0106 | Andrew Rosenthal | |
| BOEM-2023-0037-0107 | Sarah Strauss | |
| BOEM-2023-0037-0108 | Katie Cubina | Mystic Aquarium |
| BOEM-2023-0037-0109 | Gina Caroddo | |
| BOEM-2023-0037-0110 | Sarah Gerstenzang | |
| BOEM-2023-0037-0112 | Ed Hill Jr | |
| BOEM-2023-0037-0114 | Daniel, Dylan Bettinger, Bust | TurbineHub |
| BOEM-2023-0037-0116 | Savannah Hatch | New England for Offshore Wind Coalition |
| BOEM-2023-0037-0119 | Nora Brown | |
| BOEM-2023-0037-0120 | Benton Brown | |
| BOEM-2023-0037-0121 | Delia Kulukundis | |
| BOEM-2023-0037-0123 | Ross Gould | Business Network for Offshore Wind |
| BOEM-2023-0037-0124 | Eli Smith | |
| BOEM-2023-0037-0125 | Jason Walsh | BlueGreen Alliance |
| BOEM-2023-0037-0126 | | AtherasAtheras, Stacey |
| BOEM-2023-0037-0128 | Sean, Kisha Mahar, Santiago | New York State |
| BOEM-2023-0037-0129 | Vicki Dunleavy | |
| BOEM-2023-0037-0132 | | Sierra Club Volunteer |
| BOEM-2023-0037-0133 | Lisa Quattrocki Knight | Green Oceans |
| BOEM-2023-0037-0137 | Carl Borchert | |
| BOEM-2023-0037-0139 | Kai Salem | 350 Brooklyn |
| BOEM-2023-0037-0140 | Zoey Kaplan Lewis | 350 Brooklyn |
| BOEM-2023-0037-0141 | Kate Will | |
| BOEM-2023-0037-0144 | Pushkar Bhatia | Business Network For Offshore Wind |
| BOEM-2023-0037-0145 | John Lavender | |
| BOEM-2023-0037-0147 | Michael Reid | |
| BOEM-2023-0037-0148 | Richard Khuzami | Old Astoria Neighborhood Association |
| BOEM-2023-0037-0152 | Alena Walters | Sea Life Conservation, Inc. |
| BOEM-2023-0037-0153 | Multiple Commenters | |
| BOEM-2023-0037-0154 | Laurie Aron | Sierra Club |
| BOEM-2023-0037-0155 | Bill Haddican | 350 Brooklyn |
| BOEM-2023-0037-0156 | Wendy Fried | 350 Brooklyn |
| BOEM-2023-0037-0157 | Daniel Chue | New York City Environmental Justice Alliance |
| BOEM-2023-0037-0158 | Nathan Cohen | New York League of Conservation Voters |
| BOEM-2023-0037-0159 | Johnathon Campbell | 350 Brooklyn |

| Submission ID | Name | Affiliation |
|----------------------|------------------|--|
| BOEM-2023-0037-0160 | Lisa Harrison | |
| BOEM-2023-0037-0161 | Katy Yang | Sierra Club |
| BOEM-2023-0037-0162 | Nicky Ordway | 350 Brooklyn |
| BOEM-2023-0037-0163 | Nivo Rovedo | Sierra Club |
| BOEM-2023-0037-0164 | Katie Cubina | Mystic Aquarium |
| BOEM-2023-0037-0165 | Jeffrey Roy | Joint Committee Telecommunications Utilities and Energy |
| BOEM-2023-0037-0166 | Sara Gronim | 350 Brooklyn |
| BOEM-2023-0037-0167 | Lily Dalke | |
| BOEM-2023-0037-0168 | Justin Green | |
| BOEM-2023-0037-0170 | Fred Zalcman | New York Offshore Wind Alliance |
| BOEM-2023-0037-0171 | Chris Sorensen | New York City District Council of Carpenters |
| BOEM-2023-0037-0172 | Zohran Mamdani | 36 District |
| BOEM-2023-0037-0173 | Delia Kulukundis | 350 Brooklyn |
| BOEM-2023-0037-0174 | Zahra Saiffee | New England for Offshore Wind Coalition |
| BOEM-2023-0037-0175 | David Case | Sierra Club |