

Atlantic Shores South Construction and Operations Plan Scoping Report

March 2022

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

Table of Contents

| | | |
|----------|---|----|
| 1 | Scoping Summary for the Atlantic Shores South Environmental Impact Statement..... | 1 |
| 1.1 | Introduction..... | 1 |
| 1.2 | Objective | 2 |
| 1.3 | Methodology | 2 |
| 1.3.1 | Terminology | 2 |
| 1.3.2 | Comment Submittal..... | 2 |
| 1.3.3 | Comment Processing | 3 |
| 1.3.3.1 | Compilation of Submissions..... | 3 |
| 1.3.3.2 | Identification of Comments | 3 |
| 2 | Scoping Submission and Comment Summary..... | 3 |
| 2.1 | Submissions | 3 |
| 2.2 | Comments | 4 |
| 2.3 | Definition of Resource Areas and Common NEPA Topics Raised | 5 |
| 2.3.1 | Air Quality | 5 |
| 2.3.2 | Alternatives | 6 |
| 2.3.2.1 | Wind Turbines | 6 |
| 2.3.2.2 | Cables and Landfalls | 6 |
| 2.3.2.3 | Project Relocation | 7 |
| 2.3.2.4 | Other Comments on Alternatives | 7 |
| 2.3.2.5 | Alternate Technology or Energy Source..... | 9 |
| 2.3.3 | Bats | 9 |
| 2.3.4 | Benthic Resources | 9 |
| 2.3.5 | Birds | 11 |
| 2.3.6 | Climate Change | 12 |
| 2.3.7 | Coastal Habitat and Fauna..... | 13 |
| 2.3.8 | Commercial Fisheries and For-Hire Recreational Fishing..... | 14 |
| 2.3.9 | Cultural, Historical, and Archaeological Resources | 15 |
| 2.3.10 | Demographics, Employment, and Economics..... | 16 |
| 2.3.10.1 | Recreation and Tourism | 16 |
| 2.3.10.2 | Employment and Job Creation..... | 16 |
| 2.3.10.3 | Other..... | 17 |
| 2.3.11 | Environmental Justice | 17 |
| 2.3.12 | Finfish, Invertebrates, and Essential Fish Habitat | 18 |
| 2.3.13 | Land Use and Coastal Infrastructure | 19 |
| 2.3.14 | Marine Mammals..... | 19 |
| 2.3.15 | Mitigation and Monitoring | 22 |
| 2.3.16 | Navigation and Vessel Traffic..... | 27 |
| 2.3.17 | NEPA/Public Involvement Process..... | 28 |
| 2.3.18 | Other Resources and Uses | 29 |
| 2.3.18.1 | Aviation | 29 |
| 2.3.18.2 | Marine Minerals..... | 29 |
| 2.3.18.3 | Military | 29 |
| 2.3.18.4 | Research Activities..... | 30 |
| 2.3.18.5 | Other..... | 30 |
| 2.3.19 | Other Topics Not Listed..... | 30 |
| 2.3.19.1 | Coastal Zone Consistency..... | 30 |
| 2.3.19.2 | Noise | 30 |
| 2.3.19.3 | Materials and Waste Management..... | 31 |
| 2.3.19.4 | General Wildlife..... | 31 |
| 2.3.19.5 | Electromagnetic Fields | 32 |
| 2.3.19.6 | Other..... | 32 |
| 2.3.20 | Planned Activities Scenario/Cumulative Impacts..... | 33 |

2.3.21 Proposed Action/Project Design Envelope..... 34
2.3.22 Purpose and Need 35
2.3.23 Sea Turtles 35
2.3.24 Scenic and Visual Resources 37
2.3.25 Water Quality 37
2.3.26 Wetlands and Waters of the U.S..... 37
2.3.27 General Support or Opposition 38

List of Appendices

Appendix A: List of Submissions and Individual Comments by Resource or NEPA Topic

List of Tables

Table 1-1 Public Scoping Meetings 2
Table 2-1 Distribution of Submissions by Method 3
Table 2-2 Distribution of Comments by Resource or NEPA Topic..... 4

List of Abbreviations and Acronyms

| | |
|-----------------|---|
| AIS | Automatic Identification System |
| Atlantic Shores | Atlantic Shores Offshore Wind, LLC |
| BMP | best management practices |
| BOEM | Bureau of Ocean Energy Management |
| CDS | conventional distance sampling |
| CFR | Code of Federal Regulations |
| COP | Construction and Operations Plan |
| DSM | density surface modeling |
| DMA | Dynamic Management Area |
| DPS | dynamic positioning systems |
| EFH | Essential Fish Habitat |
| EIS | Environmental Impact Statement |
| EMF | electromagnetic fields |
| EPA | U.S. Environmental Protection Agency |
| ESA | Endangered Species Act |
| GC | General Conformity |
| HAPC | habitat area of particular concern |
| HRG | High Resolution Geophysical |
| HVDC | high voltage direct current |
| ID | identification |
| LWCF | Land and Water Conservation Fund |
| MBTA | Migratory Bird Treaty Act |
| MMPA | Marine Mammal Protection Act |
| MW | megawatt |
| NARW | North Atlantic right whale |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NJDEP | New Jersey Department of Environmental Protection |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic Atmospheric Administration |
| NOI | Notice of Intent |
| NPS | National Park Service |
| OCS | outer continental shelf |
| OREC | offshore wind renewable energy certificate |
| OSW | offshore wind |
| PAM | Passive Acoustic Monitoring |
| PDE | Project Design Envelope |
| PDF | portable document format |
| PPA | power purchase agreement |
| PSO | Protected Species Observer |
| SAV | submerged aquatic vegetation |
| SMA | Seasonal Management Area |

USACE

U.S. Army Corps of Engineers

USC

U.S. Code

USFWS

U.S. Fish and Wildlife Service

WTG

wind turbine generator

1 Scoping Summary for the Atlantic Shores South Environmental Impact Statement

1.1 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 1501.7(a) require agencies such as the Bureau of Ocean Energy Management (BOEM) to perform certain actions as part of the scoping process, including:

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

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

On March 25, 2021, Atlantic Shores Offshore Wind, LLC (Atlantic Shores) submitted a Construction and Operations Plan (COP) to BOEM seeking approval to develop, construct, and operate two electrically distinct wind energy projects (Project 1 and Project 2) offshore New Jersey with transmission cables making landfall in Atlantic City, New Jersey, and/or in Sea Girt, New Jersey, in federal waters (herein collectively referred to as the Atlantic Shores South Project). The Atlantic Shores South Project would include up to 200 total wind turbine generators (WTGs) (between 105 and 136 WTGs for Project 1, and between 64 and 95 WTGs for Project 2). Project 1 would have a capacity to generate 1,150 megawatts (MW). For Project 2, Atlantic Shores is actively seeking additional offshore wind renewable energy certificate (OREC) awards or power purchase agreements (PPAs). On September 30, 2021, BOEM issued a Notice of Intent (NOI) to prepare an EIS consistent with NEPA regulations (42 United States Code [U.S.C.] 4321 et seq.) to assess the potential impacts of the Proposed Action and alternatives (83 *Federal Register* 13777).

The NOI commenced a public scoping process for identifying issues and potential alternatives for consideration in the EIS. The formal scoping period was from September 30 through November 1, 2021. During this timeframe, federal agencies, state and local governments, and the general public had the opportunity to help BOEM identify potential significant resources and issues, impact-producing factors, reasonable alternatives (e.g., size, geographic, seasonal, or other restrictions on construction and siting of facilities and activities), and potential mitigation measures to analyze in the EIS, as well as provide additional information. BOEM also used the NEPA scoping process to initiate the Section 106 consultation process under the National Historic Preservation Act (NHPA; 54 U.S.C. 300101 et seq.), as permitted by 36 CFR 800.2(d)(3), which requires federal agencies to assess the effects of projects on historic properties. Additionally, BOEM informed its Section 106 consultation by seeking public comment and input through the NOI regarding the identification of historic properties or potential effects on historic properties from activities associated with approval of the COP submitted by Atlantic Shores. The NOI requested comments from the public in written form, delivered by hand or by mail, or through the regulations.gov web portal. The public could also submit oral comments at the three virtual scoping meetings hosted by BOEM.

This scoping report outlines the objectives, methodology, and content of the information provided by interested parties during the scoping period.

1.2 Objective

This report provides a review and catalogue of the information and materials provided to BOEM during the scoping period for the proposed Atlantic Shores South Project. BOEM's objective was to identify substantive comments for consideration in the development of the EIS and categorize them based on the applicable resource areas or NEPA topics. Section 1.3, *Methodology*, describes how comments were identified and categorized. This categorization scheme allowed subject matter experts to review comments directly related to their areas of expertise and allowed BOEM to generate statistics based on the resource areas or NEPA topics addressed in each of the comments. In addition, the process demonstrates consideration of the materials received while simultaneously contributing to the development of the EIS.

1.3 Methodology

1.3.1 Terminology

The following terminology is used throughout this Scoping Report:

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

1.3.2 Comment Submittal

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

- Electronic submissions received via Regulations.gov on docket number BOEM-2021-0057;
- Electronic submissions received via email to a BOEM representative;
- Hard-copy submissions received by BOEM via mail; and
- Comments submitted verbally at the three public scoping meetings (Table 1-1).

While the NOI did not include email as a method for submitting a comment, any submissions received via email that were clearly identified as relating to the proposed Atlantic Shores South Project were considered valid comment submissions.

Three virtual public scoping meetings were held on the following dates as outlined in Table 1-1.

Table 1-1 Public Scoping Meetings

| Public Scoping Meetings Date | Time |
|------------------------------|--------------|
| October 19, 2021 | 5:00 p.m. ET |
| October 21, 2021 | 1:00 p.m. ET |
| October 25, 2021 | 5:00 p.m. ET |

1.3.3 Comment Processing

1.3.3.1 Compilation of Submissions

BOEM analyzed public comments using CommentWorks[®], a commercial web-based software product. Submissions were provided via Regulations.gov, email, mail, or verbally at the public meetings. 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, and submission method; as well as whether the submitter was an individual, representative of an organization, or from a government entity or agency.

As submissions were entered into CommentWorks, they were assigned a submission identification (ID). This ID begins with the Project Docket number, e.g., "BOEM-2021-0057," followed by a submission ID number. These submission IDs can be found in Appendix A, *List of Submissions and Individual Comments by Resource or NEPA Topic*.

1.3.3.2 Identification of Comments

All submissions and oral testimonies were read to identify individual comments (as defined in Section 1.3.1, *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 resource or NEPA topic. Each comment coded received a unique comment ID number. For example, the first comment identified in submission BOEM-2021-0057 -0115 was identified as comment BOEM-2021-0057- 0115-1. The resource categories are provided in Table 2-2.

Appendix A lists all submissions received as well as all the individual comments that were extracted from each submission, organized by resource or NEPA topic area. 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.

2 Scoping Submission and Comment Summary

2.1 Submissions

BOEM received a total of 246 submissions from the public, agencies, and other interested groups and stakeholders. Table 2-1 shows the number of submissions received via each submission method.

Table 2-1 Distribution of Submissions by Method

| Submission Type | Number of Submissions Received |
|---------------------------------------|---------------------------------------|
| Regulations.gov submissions | 125 |
| Email to BOEM representative | 5 |
| Mailed hard copy | 11 |
| Verbal submission at a public meeting | 105 |
| Total | 246 |

The totals above included the following submissions by federal, state, and local government entities:

- Six submissions from federal agencies: U.S. Army Corps of Engineers (USACE), U.S. Coast Guard, National Park Service (NPS), National Marine Fisheries Service (NMFS), U.S.

Environmental Protection Agency (EPA), and the Mid-Atlantic and New England Fishery Management Councils

- Two submissions from state agencies or representatives: New Jersey Department of Environmental Protection (NJDEP), and New York State Department of State
- Four submissions from local governments: one from Cape May County and three from Borough of Seaside Park

In addition to the federal, state, and local government entities identified above, 40 submissions came from non-governmental organizations, and the remainder were provided by individuals or private businesses or associations.

2.2 Comments

BOEM identified a total of 1,309 unique comments. Table 2-2 shows the distribution of comments by resource and NEPA topic. Section 2.3 defines the resource areas to which comments were assigned and summarizes the comments by each topic. The most commonly addressed resource or NEPA topics included NEPA/Public Involvement Process, Marine Mammals, and Planned Activities Scenario/Cumulative Impacts.

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

| Resource | Comments |
|--|----------|
| Air Quality | 7 |
| Alternatives | |
| - Wind Turbines | 6 |
| - Cables and Landfalls | 18 |
| - Project Relocation | 36 |
| - Other Comments on Alternatives | 53 |
| - Alternate Technology or Energy Source | 15 |
| Bats | 15 |
| Benthic Resources | 5 |
| Birds | 48 |
| Climate Change | 69 |
| Coastal Habitat and Fauna | 8 |
| Commercial Fisheries and For-Hire Recreational Fishing | 74 |
| Cultural, Historical, and Archaeological Resources | 9 |
| Demographics, Employment, and Economics | |
| - Recreation and Tourism | 21 |
| - Employment and job creation | 60 |
| - Other | 29 |
| Environmental Justice | 14 |
| Finfish, Invertebrates, and Essential Fish Habitat | 42 |
| Land Use and Coastal Infrastructure | 1 |
| Marine Mammals | 93 |
| Mitigation and Monitoring | 71 |
| Navigation and Vessel Traffic | 24 |

| Resource | Comments |
|--|----------|
| NEPA/Public Involvement Process | 116 |
| Other Resources and Uses | |
| - Aviation | 0 |
| - Marine Minerals | 1 |
| - Military | 1 |
| - Research Activities | 7 |
| - Other | 6 |
| Other Topics not Listed | |
| - Coastal Zone Consistency | 1 |
| - Noise | 34 |
| - Materials and Waste Management | 5 |
| - General Wildlife | 31 |
| - Electromagnetic Fields | 8 |
| - Other | 19 |
| Planned Activities Scenario/Cumulative Impacts | 82 |
| Proposed Action/Project Design Envelope | 38 |
| Purpose and Need | 9 |
| Sea Turtles | 14 |
| Scenic and Visual Resources | 60 |
| Water Quality | 6 |
| Wetlands and Waters of the U.S. | 3 |
| General Support or Opposition | 150 |

2.3 Definition of Resource Areas and Common NEPA Topics Raised

The following sections define each of the resource areas or NEPA topics under which the comments were categorized and summarizes the comments by each of the resource areas or topics listed. Comments have been summarized below, as appropriate, particularly for concerns that were raised by several commenters. Appendix A presents the individual comments that were extracted from each of the submissions, organized by resource area or NEPA 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 in Section 2.3.27, *General Support or Opposition*, below and in Section A.2.27 of Appendix A. In addition, all comments are located on regulations.gov.

2.3.1 Air Quality

Air quality comments included evaluating emissions from the proposed Atlantic Shores South Project's construction, operations, maintenance, and decommissioning. Comments specific to climate change are described in Section 2.3.6, *Climate Change*. Topics raised in this category included the following:

- The proposed Atlantic Shores South Project, and others like it, are essential to combat global warming, promote improved air quality, decrease reliance on fossil fuels, and decrease greenhouse gas emissions.
- The EIS should consider the air quality impacts anticipated during construction and the smaller and more infrequent impacts anticipated from decommissioning.

- Several commenters look forward to improved air quality and, in turn, the improved health of many people that would result from shifting from the burning of fossil fuels to renewable energy sources.
- BOEM should determine whether the General Conformity (GC) Rule (40 CFR Part 93) applies to the direct and indirect emissions of the Atlantic Shores South Project and ensure that the GC Rule requirements in nonattainment and maintenance areas are met, as applicable.

2.3.2 Alternatives

Alternative comments included suggesting, questioning, or providing opinions about alternatives to the proposed Atlantic Shores South Project. Additional comments related to alternatives and the Atlantic Shores South Project's design are included in Section 2.3.21, *Proposed Action/Project Design Envelope*. Topics raised in this category included the following.

2.3.2.1 Wind Turbines

- The EIS should analyze the largest turbine that is presently commercially available.
- The proposed Atlantic Shores South Project should consider alternative WTG locations within the southern portion of the Lease Area with turbines restricted to a 17.3- to 19.3-mile range. This would allow for three rows of 13 Vesta-236 13.6 MW turbines, or 530 MW of power.
- BOEM should apply the same turbine exclusion zone of 20 statute miles that was applied off the coast of New York.
- The EIS should consider reducing the size and number of turbines and substations.
- The proposed Atlantic Shores South Project should adjust the array of turbines to a minimum spacing of 2 nautical miles.
- Vertical turbine design in which the towers revolve without moving blades should be considered.

2.3.2.2 Cables and Landfalls

- The proposed Monmouth Export Cable is much longer than the Atlantic Export Cable and has the potential for much greater impact. A single cable corridor should be considered.
- The EIS should consider the shortest route to shore for the cables.
- The EIS should evaluate different alignments to the potential cable corridors to minimize the area that cables would occupy within existing vessel traffic routes and the U.S. Coast Guard's proposed New Jersey to New York Connector Fairway.
- Cable burial depths need to be as deep as possible; specific depth suggestions differ by commenter.
- A full range of reasonable alternatives to the proposed offshore and onshore export cable corridors and landing site options should also be considered and evaluated to avoid and minimize impacts on sensitive habitats in the Atlantic Shore South Project area.
- Options for avoiding and minimizing impacts related to the methods of construction and routes that allow for full cable burial to lessen permanent habitat impacts and potential interactions with fishing gear should be considered.
- Offshore export cable routing alternatives that use common corridors with adjacent projects (e.g., Ocean Wind and future projects in the Ocean Wind and Atlantic Shores lease areas) should be evaluated and discussed. Commenters also mentioned an interconnect between the Atlantic Shores South and Ocean Wind projects.
- The EIS should include options for cooling high voltage direct current (HVDC) transformer platforms. The project should not use open loop cooling.

2.3.2.3 Project Relocation

- The proposed Atlantic Shores South Project should be relocated to the Hudson South Lease Area 30 to 57 miles offshore to minimize visual impacts, reduce impacts North Atlantic right whales (NARWs), reduce fishing and navigation conflicts, and maximize wind capacity.
- The proposed Atlantic Shores South Project should be further offshore, with a range of distances suggested from 20 miles or more.
- The current lease area could be used as the hub to transmit all the power from Hudson South.
- The Atlantic Shores South Project should be located deep in the Bay or off Long Island.
- Commenters noted that the COP lists the Garden State North Reef and the Atlantic City Reef Site as fishing hotspots “in proximity to” the wind turbine area and export cable corridor. These areas should be avoided.

2.3.2.4 Other Comments on Alternatives

- The EIS should consider and evaluate the full range of reasonable alternatives to the proposed Atlantic Shores South Project, including those that would cause less damage to the environment.
- The EIS should provide an alternative analysis across all three lease areas to meet New Jersey’s program requirement. A commenter noted that development of the Ocean Wind and Hudson South areas would meet the state’s generation goal, without any WTGs in the Atlantic Shores South Project.
- The EIS should analyze the Atlantic Shores South Project’s components separately (wind farm area, offshore cables, and onshore cables/landfalls), and each element of the proposed Atlantic Shores South Project should have multiple alternatives that allow the Project to meet the purpose and need.
- The EIS should consider alternatives specific to each phase of the Atlantic Shores South Project (siting, construction, operation, and decommissioning).
- The EIS should include alternatives associated with segmentation of the lease area, which restricts the potential development and extent of the wind turbine area.
- The maximum design scenario is described in the COP; however, the realistic minimum design scenario should be considered.
- The EIS should evaluate the most appropriate locations for each Project component within the Lease Area and consider reducing the number of turbines within the Lease Area to reduce the associated impacts.
- The EIS should evaluate an alternative combining the Project components that are the least harmful to natural habitats and associated flora and fauna – a Habitat Minimization Alternative.
- The EIS should include one or more Fisheries Habitat Minimization Alternatives.
- The EIS should include an alternative combining the most disruptive components for each aspect of the proposed Atlantic Shores South Project.
- The proposed Atlantic Shores South Project should consider newer technologies, including technologies that might allow for avoidance of, or significant minimization of, environmental impacts ordinarily associated with offshore wind construction and operation.
- BOEM should reconsider the sole reliance on the Project Design Envelope (PDE) approach for reviewing COPs. Commenters noted that the PDE is too broad because it allows a developer to make decisions after the NEPA process has concluded between alternatives with different levels of impact.
- The No Action Alternative must be considered and analyzed in the EIS. The No Action Alternative should include onshore renewable energy, efficiencies in combined cycle natural gas

generation, and carbon capture. Others requested that the No Action Alternative include a realistic scenario to meet the state's generation goal – including WTG placement in other areas.

- BOEM should review the “No Action” alternative in the following additional ways: (1) Project 1 only (105–136 WTGs); (2) Project 2 only (64–95 WTGs); and (3) reduce both Projects 1 and 2 to the minimum number of WTGs, 105 and 64, respectively. In this way, the EIS can assess the alternatives of 0, 64, 105, and 169 WTGs versus the maximum of 231 WTGs, in addition to the related infrastructure.
- A commenter suggested a transit corridor of no less than 2 nautical miles between the two leases would need to be included in the Atlantic Shores South Project's designs to safely preserve traditional transit paths based on the distance and use patterns of the area; 4 nautical miles would be better.
- The EIS should consider alternatives to using monopiles and consider construction alternatives to avoid the use of pile driving. Gravity-based foundations and suction bucket foundations should be included for the proposed Atlantic Shores South Project. Floating foundations were also mentioned.
- The EIS should include quiet foundation technology.
- BOEM should individually evaluate each foundation technology identified as viable by the Atlantic Shores as a reasonable alternative in the EIS, and the best alternative should be selected as the preferred alternative.
- Consider alternatives in turbine specifications that could influence bird collision risk, including air gap, total rotor swept zone, and turbine height.
- Consider an alternative that limits or avoids development within areas of the lease that may contain vulnerable and difficult to replace resources and may adversely affect complex bottom habitat, important benthic features (including ridge and swale complexes), and marine resources. EPA noted that the lease area and cable routes intersect regions of relatively high seabed mobility, high seabed habitat vulnerability, and regions designated as sand borrow areas.
- The EIS should include alternatives that require clearance zones for NARWs that extend at least 1,000 meters with requirements for survey vessels to use Protected Species Observers (PSO) and Passive Acoustic Monitoring (PAM) to establish and monitor these zones and to cease surveys if a NARW enters the clearance zone.
- Commenters expressed concern that the reliability of offshore wind power has not been demonstrated in the U.S. for the proposed Atlantic Shores Project's size. Commenters urge BOEM to move more slowly. Others suggested building a test facility to confirm benefits and impacts before building out the complete proposed Atlantic Shores South Project. Various options and sizes of test facility were suggested.
- USACE commented that the EIS should address potential impacts on congressionally authorized federal projects and meet requirements specified by 40 CFR 230 when considering alternatives.
- NMFS suggested that all costs and benefits of available alternatives, including the No Action Alternative, should be considered in a cost-benefit analysis.
- The alternatives should ensure decommissioning that makes developers explicitly responsible for removing equipment when the Atlantic Shores South Project ends.
- EPA suggested alternatives to reduce and minimize the potential impacts on air quality: (i) employ vessels that are able to run their engines on non-fossil fuel, fuels with very low emissions, and/or vessels with air pollution control technologies; and (ii) use only electrical switchgear equipment that is sulfur hexafluoride (SF₆) free, as there are SF₆-free electrical switchgears commercially available (and already in use) for both offshore wind energy projects and onshore substations.

2.3.2.5 Alternate Technology or Energy Source

- Commenters suggested a range of alternative onshore energy production: nuclear, geothermal, and hydrogen as a fuel for power plants and for transportation; carbonless synthetic fuels; biomass; upgrading existing natural gas power plants to more efficient, combined cycle natural gas power plants; and carbon capture from gas, coal and oil plants and use of carbon captured for product manufacture. Others included onshore wind farms, solar, and battery storage.
- Energy efficiency was recommended as a way of reducing demand.
- Commenters suggested that alternative onshore generation sources be part of the No Action Alternative.

2.3.3 Bats

Bat comments included several references noting which species are found to forage or rest in the Lease Area and stressed the need to evaluate and consider turbine risks to bats. Topics raised in this category included the following:

- The EIS should consider the range of potential bat species that forage and rest in or near the Lease Area, including those species protected under the Migratory Bird Treaty Act (MBTA) and the Endangered Species Act (ESA). Some bat species can be found up to 70 nautical miles away from the seashore.
- Atlantic Shores should adopt a precautionary approach for bats in all steps of offshore wind energy development due to limited understanding of the risk for bats to collide with turbines in the Atlantic Shores South Project area, as this project is nearer to shore than most other proposed offshore wind projects.
- Atlantic Shores should take care during tree-clearing activities associated with the onshore Atlantic Shores South Project components, as northern long-eared bat summer activity and a maternity roost were documented near the onshore transmission cables.
- The EIS should note the scientific uncertainty surrounding the degree to which bat mortality may increase with tower height and turbine size, and should adjust the language accordingly regarding bat impacts.
- Commenters expressed concern that wind turbines will injure or kill bats, including threatened and endangered species moving through the Atlantic Shores South Project area.

2.3.4 Benthic Resources

Benthic resource comments included the need to address biological, structural, or habitat impacts on benthic species and their habitat. Benthic habitat refers to habitat on the sea floor, including natural structures and vegetation. Topics raised in this category included the following:

- The National Oceanic and Atmospheric Administration (NOAA) noted that the EIS should fully describe the distinct habitat features of the entire Atlantic Shores South Project area and the importance of different habitat types for providing structure and refuge, as well as habitats important for eggs, larvae, and juveniles.
- The EIS should evaluate the Atlantic Shores South Project impacts of the Project's construction and operation on the distinct habitat types found in the lease area, along the export cable route, and on inshore landfall/inland locations. The document should analyze the effects on the physical and biological habitat features and the biological consequences of those effects. It will be important to consider impacts of the Atlantic Shores South Project on all life stages (adults, juveniles, larvae, eggs), and the commenter recommends focusing on species and life stages that may be more vulnerable to impacts.

- NOAA stated that the *Affected Environment* section of the EIS should cover a sufficient geographic area to fully examine the impacts of the proposed Atlantic Shores South 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. Atlantic Shores should ensure that findings for each effect/species are supported by references where possible, and in context of the proposed Atlantic Shores South Project, to allow for a well-reasoned and defensible document.
- 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.
- The analysis should include discussion of the potential effects of habitat alteration from construction and operation of the Atlantic Shores South Project using the best available scientific information. The analysis should address the potential impact of converting unconsolidated soft bottom and smaller-grained hard habitats that support distinct assemblages of fish and shellfish to artificial structures (WTGs and scour protection) that may attract larger predatory species and lead to shifts in the invertebrate communities.
- The EIS should fully evaluate all of the direct, indirect, individual, cumulative, and synergistic estimated impacts on fish and invertebrates due to the potential conversion of existing natural substrates with artificial materials. The document should evaluate the extent to which the introduction of artificial hard structures (WTGs and scour protection) will have both direct and indirect impacts on marine resources and community structure that could lead to changes in the distribution and abundance of federally managed species and their prey.
- The evaluation of impacts from the Atlantic Shores South Project’s construction and operation should include the potential for recovery and the anticipated recovery times based on the habitat type and components that would be impacted. Benthic features (e.g., sand ridges and banks, ridge and swale complexes) and complex habitats are more vulnerable to permanent impacts or may take years to decades to recover from certain impacts. The variability in recovery times by habitat type and components should be fully discussed and analyzed in the document.
- The EIS should fully describe and analyze impacts of the Atlantic Shores South Project on sensitive habitats and unique benthic features as well as vulnerable life stages of any NOAA trust resource, and evaluate ways to avoid and minimize those impacts. If it is not feasible to avoid or minimize negative impacts, mitigation measures must be proposed and analyzed.
- The EIS should take into account impacts in sensitive life stages of species and any area with submerged aquatic vegetation (SAV) should be designated as a habitat area of particular concern (HAPC), and should be identified and mapped. The Project’s activities that adversely affect SAV should be avoided or minimized to the extent practicable.
- The EIS 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 onsite surveys, site-specific habitat information, and characterization of benthic and pelagic communities. Additional details should be provided related to all habitat types located in the area that may be directly or indirectly impacted by the Atlantic Shores South Project’s construction and operation activities, including complex habitats and prominent benthic features, as described above.

- 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 the Atlantic Shores South Project, including species that live within, or seasonally use, the immediate area and adjacent locations.
- NOAA expressed concerns over lack of benthic habitat data, which they request in order to specify any habitat minimization alternatives.
- The EIS should consider all activities that may affect the seafloor and biota (e.g., impacts of drag-lining).
- The EIS should include an assessment of species status and habitat requirements for benthic, demersal, benthic-pelagic, and pelagic species and infaunal, emergent fauna, and epifaunal species living on and within surrounding substrates.
- The EIS should analyze the ecological and economic impacts from the loss of seabed and the associated loss of benthic communities, including impacts on the forage base for other marine species due to construction, operation, maintenance, and decommissioning activities. The analysis should discuss impacts due to habitat conversion from facility installation using site-specific data and an evaluation of impacts on higher trophic levels.
- The EIS should include information on the proposed frequency of cable replacement (or maintenance/repair) that may result in additional need for seafloor disturbance to the benthic habitat.

2.3.5 Birds

Bird comments included addressing biological, structural, or habitat impacts on the species or their habitat. Topics raised in this category included the following:

- The EIS should include information about avian distribution and occurrence for a minimum of 20 kilometers surrounding the Atlantic Shores South Project's area in order to completely understand which species may be impacted by developing Atlantic Shores South.
- The EIS should consider the full range of potential impacts on all bird species known to migrate, forage, and rest in or near the Lease Area, including those species protected under the MBTA and the ESA. A monitoring scope of work that would assess risk to various migratory bird species at the Atlantic Shores South Project should be developed and data coordinated with similar ongoing efforts in Rhode Island, Massachusetts, and Virginia.
- The EIS should consider birds' avoidance of previously used habitats and extension of migration routes to avoid wind farms. The Draft EIS must consider the impacts of building out the Atlantic Shores South Project on these species, even when the activities associated with development fall outside the offshore Project area.
- BOEM should require a plan for documenting, minimizing, and compensating for loss of birds from collision with turbines, including losses that are identified after the Atlantic Shores South Project is constructed or are unknown at the time of developing the plan, which may include but is not limited to temporary curtailment strategies and collision detection technology. BOEM should survey for carcasses around a radius from the turbines, under an *a priori* protocol, to determine avian mortality rates. Additionally, mortality calculations should include the rates of mortality driven by barrier effects and habitat loss.
- The EIS assessment of cumulative impacts on birds should consider: accurate estimates of avian populations, thorough evaluation of local population-level cumulative impacts in addition to Flyway-wide impacts on a broad range of bird species with a presence in the Atlantic Shores South area; population viability analyses from offshore wind build out in the Atlantic outer continental shelf (OCS) to mitigate large-scale migratory collision events or displacement events

as the total offshore wind footprint increases; and an examination of a detailed adaptive ecosystem-wide management plan describing all conservation obligations afforded to impacted avian species by multiple statutes, conservation policies, agreements, and treaties.

- BOEM should collect and evaluate data on bird species' vulnerability before, during, and after wind turbine construction to inform decision-making, improve mitigation, and advise future offshore wind efforts.
- The EIS should consider the impacts of weather on bird behavior and collision risk, including flight altitude. In addition, density of flocks during different types of behaviors (e.g., migration, feeding) could influence collision risk. BOEM should adequately assess collision risk to seabirds using science-based analysis of flight heights (averages and ranges), avoidance rates, and other relevant avian flight behavior.
- The Draft EIS should use Collision Risk Modeling and be transparent about the limitations and uncertainty in the underlying data and analysis. A range of turbine specifications should be included like air gap, total rotor swept zone, turbine spacing, turbine height, and number of turbines in the array.
- A comprehensive regional avian monitoring plan could help BOEM determine the offshore wind impacts on the vast number of resident and diurnal/nocturnal migratory birds using the coastal, near shore, and offshore pelagic environments of the Atlantic Shores South Project area. This could include: acoustic and visual monitoring methods and technologies; manual or digital aerial transect surveys coupled with vessel surveys; satellite tracking, radio telemetry, and satellite telemetry technology supplemented with pressure sensors to obtain fine scale movement data and flight altitude; marine radar methods to monitor nocturnal migrants; aerial surveys over the southern New England/mid-Atlantic offshore wind planning areas to capture annual and seasonal variations. New solar-powered ultra-high frequency transmitters, which include on-board battery support for transmitting at night, should be the future focus for incorporating this technology.
- The EIS should discuss the biases and limitations of data from the monitoring and survey methods used. The EIS should use impact analysis models that account for limitations in the raw data and standardize across data sources. Reporting of results should include high and low estimates to communicate uncertainty and include seasonal risks (instead of just annual). It was requested that, with respect to the Piping Plover, BOEM should consult with the United States Fish and Wildlife Service (USFWS) Regional Office 5, which is preparing a cumulative analysis.
- In its preparation of the EIS, BOEM must consider impacts from the proposed Atlantic Shores South Project's construction, operation, maintenance, repowering, and decommissioning on all species of concern, which include the following: piping plover, rufa red knot, roseate tern, black-capped petrel, American bittern, Sedge wren, Upland sandpiper, Golden-winged warbler, Least bittern, King rail, Short-eared owl, Northern harrier, Peregrine falcon, Vesper sparrow, Northern parula, Grasshopper sparrow, Common Loon, Common tern, Least tern, Common moorhen, Blackpoll warbler, Mourning warbler, Long-eared owl, and Eastern whip-poor-will.
- The EIS should consider time of year and other conditions for the construction of the wind energy facilities. There should be practices in place during onshore, beach, and intertidal construction to avoid harm to chicks, nests, and foraging birds.

2.3.6 Climate Change

Comments related to climate change focused on the urgency to develop renewable energy options to offset the use of fossil fuels and slow climate change. Topics raised in this category included the following:

- Several commenters expressed the belief that climate change is the real threat to our oceans, our beaches, tourism, and property values and that projects such as the proposed Atlantic Shores South Project are critical in combating climate change.
- The EIS should include information on the ongoing and long-term risks posed by climate change, as well as address considerations to increase the resiliency of infrastructure given potential elevated risk of damages due to climate change.
- There are economic impacts on homeowners, businesses, and the government associated with climate change. BOEM must account for these economic impacts as they weigh the overall social and economic benefits of offshore wind development, including the proposed Atlantic Shores South Project.
- Support for the proposed Atlantic Shores South Project was expressed by many commenters, stating that absent a substantial shift from carbon-intensive sources of energy to solutions like offshore wind, we face ever great impacts from climate change. Addressing climate change is important for oceans, wildlife, and our future. By shifting from fossil fuel energy to clean, renewable energy sources, the U.S. can help address this crisis.
- Several commenters expressed the opinion that offshore wind is a top clean energy solution, helping New Jersey meet the state's major emissions reduction and successfully fulfill its Energy Master Plan and achieve 100% clean energy by 2050.
- Several commenters expressed the belief that there is no greater threat to our environment than the climate emergency we are in now, including for birds, marine mammals and reptiles, fish, and the air we breathe.
- A couple of commenters expressed the belief that offshore wind creates environmental and economic disaster and is not a true energy solution to the climate crisis.
- A commenter stated that as a fisherman, he and many others see the effects of climate change on the water every single day and that offshore wind energy is a big part of protecting our planet from those impacts.

2.3.7 Coastal Habitat and Fauna

Coastal habitat includes those areas closer to the shoreline than offshore waters. Topics raised in this category included the following:

- Commenter expressed that due to the Atlantic Shores South Project's proposed proximity to shore, commenters are concerned they could impact coastal habitat and conditions.
- Commenter expressed concern over monopiles causing benthic stratification mixing.
- Commenter expressed concern over how the wind turbines will impact local the micro-climate, and wave currents and patterns, leading to disruption of beaches, natural habitats, and flooding.
- The EIS should assess potential behavioral and physiological impacts on marine life from habitat loss, alteration, and/ or fundamental changes to habitat resulting from various influences (e.g., noise, altered water quality, foundation lighting, scour protection of human-made structures, altered currents, electromagnetic fields, new permanent offshore structures) that may affect the composition and/or areal distribution of marine communities and fragment important habitat or migratory corridors.
- BOEM should further coordinate with USACE regarding shore protection projects and sand borrow areas. It is necessary to ensure that ongoing and planned USACE projects are not adversely impacted and should include the NJDEP's Division of Coastal Engineering as well as representatives.

2.3.8 Commercial Fisheries and For-Hire Recreational Fishing

Comments discussed economic and social aspects or impacts on commercial fisheries, commercial fishing operations, and for-hire recreational fishing operators. Topics raised in this category included the following:

- BOEM should comply with requirements of the Magnuson-Stevens Fishery Conservation and Management Act.
- BOEM should coordinate and consult with the NOAA's Northeast Fishery Science Center, including identifying the most appropriate data on fisheries and socioeconomic impacts. Additional information may be found from Mid-Atlantic or New England Fishery Management Council-managed fisheries (e.g., www.mafmc.org and www.nefmc.org) and the American Sportfishing Association. The EIS should gather additional information where data are sparse, such as for recreational fisheries. Commenters requested additional coordination with fisheries councils and organizations in the design and development of the proposed Atlantic Shores South Project.
- The EIS should consider the decrease in fishing opportunities due to areas leased by BOEM when assessing impacts on fisheries. The EIS should consider and discuss any mitigation measures contemplated to reduce any adverse impacts on fishing operations, particularly those due to loss of area access or gear damage/loss.
- The EIS should describe how all impacts may vary by target species, gear type, fishing location (e.g., from shore, mid-water, on different bottom types, near structures such as shipwrecks, other artificial reefs, or boulders), and commercial or recreational fishing (including recreational fishing from shore, private vessels, party/charter vessels, and tournaments).
- Commercial fishing in the Atlantic Shores South Project area is a significant economic driver for multiple states in New England and the Mid-Atlantic. The EIS should consider all economic, cultural, and historical impacts on the region from impacted fisheries. Commentors noted that the EIS should acknowledge that ex-vessel value does not account for all economic factors.
- The EIS should consider how the timing of installation will impact particular species and life stages as well as the continued impacts from noise and vibrations on species over the life of the Atlantic Shores South Project and therefore commercial fisheries.
- Commenters expressed concerns regarding the array spacing and its impacts on access, yields, and safety of fishing vessels and requested that the EIS consider greater array spacing with commercial fisheries in mind. Commenters note that the lack of access for large vessels within the Atlantic Shores South Project area are creating a *de facto* Marine Protected Area.
- The EIS should acknowledge the limitations of current scientific knowledge as it relates to the use of Automatic Identification System (AIS) data and the impacts of electromagnetic fields (EMF), noise, and suspended sediment from turbines on fisheries. Additional data gaps include impacts to the Cold Pool, clam fisheries, and changes in species composition with the addition of new structured habitat.
- The proposed relocation and/or removal of boulders and sand bedforms described in the COP could cause disruptions in fishing activity and should be considered in the EIS.
- Commenters noted that detailed electronic charts will have to be provided to commercial fishing vessels to avoid contact between fishing gear, turbine cables, and surface mats. Additional information will be needed on the amount of scour protection and external cable armoring when ideal burial depth cannot be achieved.
- It is requested that all decommissioned turbine structures be removed from the sea floor to the extent possible, including cables, as they could pose a safety risk for fisheries that use bottom-tending gear.

- The COP and future EIS should include the most recent information available and reflect the past 10 years of fishing, not the 5-year period assessed in the COP.
- The EIS should include analysis of 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.
- Commenters expressed their desires for a “rigs to reefs” approach of leaving turbine foundations after decommissioning for additional habitat.
- The EIS should separate the discussion of for-hire recreational fishing, recreational fishing, and commercial fishing based on differences in anticipated impacts, different use areas, and lack of clarity to readers.
- Commenters suggested that fishing communities be compensated for potential losses as a result of the Atlantic Shores South Project. Commenters requested the development of mitigation funds for impacts such as fishing gear loss.
- Commenters request the EIS consider the impacts of the Atlantic Shores South Project on food supply.
- Commenters expressed appreciation for the Scoping Meeting posters, which provided concise information, and requested an additional poster on recreational fishing and important recreational fishing areas.

2.3.9 Cultural, Historical, and Archaeological Resources

Comments related to cultural resources include those related to archaeological, historic architectural, or tribal resources or concerns. Topics raised in this category included the following:

- BOEM should ensure compliance with Section 106 of the NHPA including adequate consultation with State Historic Preservation Offices and other stakeholders throughout the EIS process.
- USACE commented that collective federal responsibilities under Section 106 of the NHPA and related statutes should accommodate requirements specified at 33 CFR 325 Appendix C.
- EPA recommends that tribes be invited to participate in the development of an unanticipated discovery plan for offshore and onshore construction activities
- Commenters requested that BOEM ensure compliance with NEPA by assessing all potential effects from the proposed Atlantic Shores South Project on historic properties in the EIS, including visual effects, physical and experiential effects on a landscape or seascape scale, and night sky effects on the historic setting of a historic property.
- Commenters also requested that the effects analysis for cultural resources in the EIS include an analysis of intangible cultural resources such as maritime heritage and occupational traditions.
- Commenters provided cultural sites they recommended BOEM consider in its effects analysis, including National Historic Landmarks and historic lighthouses.
- A commenter related that they felt the visual impact analysis in the COP is too limited in scope and does not provide adequate information to assess potential impacts on historic properties, including visual and lighting impacts.

2.3.10 Demographics, Employment, and Economics

2.3.10.1 Recreation and Tourism

Comments related to onshore or offshore recreation as well as tourism activity associated with these resources, such as whale watching, boat rentals (except for fishing), onshore sports leagues, or revenue-generating tourist facilities, are captured in this section. Topics raised in this category included the following:

- Many commenters felt that the turbines would be too close to the shore and expressed concern that the turbines being visible from beaches and tourist facilities could dissuade tourists from visiting and recreating in these areas, ultimately negatively affecting the local economy and property values. Commenters cited studies showing the estimated loss of tourism revenue and property values and rentals based on the visible impacts of offshore turbines.
- The hospitality and tourism industry could suffer as a result of the turbines being visible from the shoreline. Local wildlife, vegetation, and beach vistas that draw tourists to the area would be adversely affected by the proposed Atlantic Shores South Project and result in decreased tourism.
- Other commenters felt that the turbines being visible from shore would either not affect tourism or could encourage tourism and cited examples of places where tourism has increased due to offshore wind farms being built where tourists had requested rooms with views of the turbines.
- Commenters felt that the Atlantic Shores South Project would have negative impacts on real estate and the sales market, and would decrease property values. Commenters noted that the WTGs would be clearly visible from the shoreline, leading to property value depreciation, impacts on the tourism industry, rental property vacancies, and increased sight pollution.

2.3.10.2 Employment and Job Creation

Comments related to employment and job creation as a result of the construction, operation, and maintenance of the proposed wind farm are captured in this section. Topics raised in this category included the following:

- The offshore wind farm would diversify and strengthen the economies of coastal communities as well as provide new job opportunities, resulting in a beneficial economic impact. Commenters provided estimated numbers of dollars the proposed wind farm is expected to generate as well as potential job projections for construction, operations, and maintenance of the proposed turbines.
- Commenters stated that the jobs that would be created by the Atlantic Shores South Project are a great opportunity for people in our areas who have lost jobs due to other impacts to have a new source of financial advantages.
- A commenter suggested that as there is little peer-reviewed information regarding the economic costs and benefits of offshore wind, BOEM must fully corroborate statements by developers regarding the Atlantic Shores South Project's economics.
- A commenter was concerned about the increase in cost for electricity and the amount that will be required in tax subsidies.
- Several commenters stated that it is imperative that we all do our part in building back better from the effects caused by the COVID-19 pandemic.
- Commenters commended commitments to hiring locally; union neutrality agreements; collective bargaining agreements; diversity, equality, and inclusion; and prevailing wages.
- Other commenters were concerned that manufacture of the turbines is performed overseas, and the main job growth opportunity for local communities will be short term during construction of the turbines. These commenters were concerned that long-term operation and maintenance of the

turbines will be automated and therefore would limit the number of long-term job opportunities for local communities.

2.3.10.3 Other

This category captures other demographics, employment, and economics topics that were not captured in the subcategories above. Topics raised in this category included the following:

- Commenters asked that BOEM perform an economic analysis of the Atlantic Shores South Project on a regional or national scale rather than focusing on the immediate Project's vicinity.
- Concern was raised that the main economic benefits would be external to the U.S.
- Commenters stated that the EIS should address the concern that using offshore wind energy would not be cost-effective for consumers and taxpayers, including residents and businesses. Commenters feared that electricity rates and prices would rise from using offshore wind and not be offset by any subsidies.
- Numerous comments were submitted regarding concerns that the Atlantic Shores South Project's costs will be passed on to taxpayers and that wind energy is more expensive than other forms of energy, including nuclear.
- Commenters expressed concerns regarding the socioeconomic impacts on inland coastal communities as well as fishing communities, and asked that a robust socioeconomic analysis be performed, including a cost-benefit analysis of potential economic factors such as the capital and operational costs, the revenues generated, and the return on investment to the companies.
- Some commenters noted general support for the Atlantic Shores South Project and stated that the Project would not increase energy prices and would create a more diverse energy market in New Jersey based on clean energy.
- Commenters asked that the EIS clearly explain how the state's OREC system works, and present the levelized cost of electricity from the Atlantic Shores South Project (with and without subsidies), expected annual revenues, and what proportion of that will be returned to ratepayers.
- Commenters felt that the proposed Atlantic Shores South Project would bring numerous economic benefits to New Jersey's economy, including investments in the long-term support of energy infrastructure.
- Commenters asked that BOEM perform an economic analysis of the Atlantic Shores South Project independent of the lessee to verify economic data.
- Commenters asked for additional research and guidance on how local business can collaborate and take advantage of wind tourism. They suggested that New Jersey continue to consult with community members and keep investing in research and regional collaboration.

2.3.11 Environmental Justice

Comments pertaining to environmental justice included suggestions to assess adverse impacts on and benefits to these communities. Topics raised in this category included the following:

- Commenters noted that fossil fuel power plants are sited disproportionately close to environmental justice communities and that these communities are likely the first to experience the negative effects from climate change. They noted that the EIS should consider the benefits the proposed Atlantic Shores South Project could bring to these communities.
- Commenters asked what plans are in place to ensure the safety of local native communities.
- Commenters noted various federal agencies' commitment to promote the principles of environmental justice outlined in Executive Order 12898, and asked that BOEM and the lessee

provide the Atlantic Shores South Project's materials in other languages to more effectively engage populations with limited English proficiency.

- Commenters commended Atlantic Shores' outreach programs and initiatives focused on driving workforce development and training programs in minority and underserved communities. Commenters asked that workforce training continue in these communities to ensure that the jobs, businesses, and economic investment opportunities brought by this new industry are available to these communities.
- Commenters expressed that a robust environmental justice analysis be included in the EIS and the criteria BOEM used to perform the analysis be provided.
- Commenters stated that coastal and fishing communities often have large minority and low-income populations. The EIS should account for impacts on these communities and consider Executive Orders 12898, 13985, and 13175.

2.3.12 Finfish, Invertebrates, and Essential Fish Habitat

Finfish, invertebrates, and Essential Fish Habitat (EFH) comments address fish, crustaceans, and other sea animals (other than sea turtles or marine mammals). Topics raised in this category included the following:

- Commenters noted concern that the Atlantic Shores South Project could disrupt the Mid-Atlantic Cold Pool and discussed the need for the EIS to thoroughly analyze impacts on the Cold Pool and resulting effects on oceanographic processes, ecosystems, marine species life cycles, EFH, and the fishing industry. Commenters stressed that strong scientific understanding and supporting research of how the Project would alter abiotic factors such as changes to primary productivity, ocean stratification, distribution and availability of prey species, ocean currents, and temperature stratification should be developed prior to moving forward with approval of the Project.
- The EIS should include a robust analysis of the effects of construction, operation, and decommissioning activities on managed and protected finfish and invertebrate species, and EFH, with particular attention given to the effects of the Atlantic Shores South Project on areas that have been designated as HAPC under the Magnuson-Stevens Fishery Conservation and Management Act, and to critically endangered species. Alternatives should be developed to minimize the frequency, intensity, and duration of effects.
- Commenters expressed concern that the current layout of the Atlantic Shores South Project would not allow for NMFS to survey the windfarm and therefore would be unable to collect data on finfish and invertebrate populations.
- An EFH Assessment should be completed for the Atlantic Shores South Project that includes analyses of all potential impacts, including temporary and permanent and direct and indirect individual, cumulative, and synergistic impacts of the proposed Project. The most up-to-date EFH and HAPC designations should be used in the evaluation of impacts.
- The EIS should include an analysis of impacts on habitat displacement and conversion of marine habitats resulting from the introduction of new hard surfaces to the ocean floor and large homogenous changes to the sea floor.
- The EIS should include detailed information on the effects of the Atlantic Shores South Project's construction and operations on highly migratory species and listed threatened and endangered species. Information from existing and ongoing studies should be evaluated as part of the EIS. Additionally, monitoring and minimization requirements should be implemented for these species.
- The EIS should disclose potential impacts on benthic invertebrates such as the American lobster and the Horseshoe and Jonah crabs and habitats such as submerged aquatic vegetation, natural hard bottom substrates, dense faunal beds, reefs, marshes, and others.

- Commentors noted that EFH assessments and consultation fail to adequately assess the impacts of geological and geophysical surveys to finfish and invertebrates.
- The EIS should fully describe the distinct habitat features of the entire Atlantic Shores South Project area and the importance of different habitat types for providing structure and refuge, as well as habitats important for eggs, larvae, and juveniles. The evaluation of the Project's impacts should not only consider impacts of the Project against the cumulative geographic scope (e.g., the outer continental shelf), but also clearly evaluate anticipated impacts of the Project's construction and operation to the distinct habitat types found in the lease area, along the export cable route, and on inshore landfall/inland locations.
- The EIS should include a comprehensive regional fisheries and benthic resources monitoring plan as well as a Fisheries Habitat Minimization alternative developed in collaboration with state fishery managers and scientists.
- The EIS should clearly and repeatedly acknowledge the limitations of each data set, should include recent data, and should analyze multiple years of data (e.g., 10 years) to capture variations in fisheries and environmental conditions. Important data limitations, including but not limited to the location of private recreational fishing effort, should be supplemented with stakeholder input.

2.3.13 Land Use and Coastal Infrastructure

Topics raised in this category include the following:

- More information on the proposed Atlantic Shores South Project is needed as to whether the NPS' Federal Land to Parks Program would be impacted by the proposed Project.

2.3.14 Marine Mammals

Comments about marine mammals addressed biological, structural, or habitat impacts on the species or their habitat, including species listed under the ESA and Marine Mammal Protection Act (MMPA).

Topics raised in this category included the following:

- Commenters expressed general concern over the impact the Atlantic Shores South Project will have on migratory patterns of marine mammals, specifically the NARW. If migratory patterns are altered, whales may be more susceptible to beaching.
- BOEM should consider the location and width of the Atlantic Shores South Project area to allow for turbine exclusion zones for the purpose of whale migration.
- The EIS should adhere to the ESA and the MMPA and should require an Incidental Take Rulemaking.
- BOEM should consider the noise impacts on migration, specifically potentially exceeding hearing threshold shift criteria, cause loss of communication between and separation of females from calves, stranding, and loss of echolocation and other navigational abilities.
- Commenters note that mitigating measures involving detection and turbine shut down are not viable for the large noise influence zones and multi-year operational time frames, and that BOEM should suggest turbine exclusion zones to avoid disruption.
- The EIS should consider noise-related impacts due to pile driving and wind turbine operations, disruption or conversion of habitat types, and displacement of species (i.e., shipping lanes).
- BOEM should enforce that the proposed Atlantic Shores South Project does not occur in marine monuments or sanctuaries, HAPCs, 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. The EIS should analyze NARW abundance patterns to confirm that there is no overlap with SMAs or persistent DMAs.

- The EIS should consider the use of bubble curtains to mitigate harm to marine mammals.
- BOEM should refer to NMFS' *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing* for the noise impacts analysis.
- Commenters express general concern over underwater noise from the turbines that would block the entire adjacent 12-mile-wide migration corridor of the critically endangered NARW.
- The EIS should analyze alternatives that minimize impacts on NARW, and describe avoidance, minimization, and mitigation measures to ensure protection of the species, such as ESA requirements for all vessels to maintain a separation distance of at least 500 meters from NARW at all times.
- The EIS should also consider increased spacing between offshore wind turbines and high-traffic areas through either increased spacing or based on consultation with the NMFS and the U.S. Coast Guard.
- The EIS must account for competing uses and navigation impacts of offshore wind facilities. With increased or altered traffic patterns, the risk of collisions and spills of gas, oil, and chemicals may increase, with negative effects on water quality and marine life. Exposure to oil and other hydrocarbons from oil spills can drastically affect marine mammals and ecosystems.
- The EIS should incorporate the most recent and up-to-date scientific studies conducted for large whale species, including fin whale, NARW (*Eubalaena glacialis*), blue whale (*Balaenoptera musculus*), sei whale (*Balaenoptera borealis*), and sperm whale (*Physeter macrocephalus*).
- The EIS should include a range of alternatives that protect sensitive or endangered species known to be present in the Atlantic Shores South Project area.
- The EIS should include the most current, best available science and scientific studies into the environmental review, and must consider a variety of local and regional data sources for conducting an analysis of the immediate and cumulative effects of the Atlantic Shores South Project on marine mammals, particularly on species listed under the ESA and MMPA. As such, NMFS should not rely on the NARW migratory corridor Biologically Important Area as the sole indicator of habitat importance for the species.
- The EIS should also include analysis of behavior avoidance as a result of high noise sources. New assumptions, equations, and models are needed to accurately assess the harm. In particular, the use of mean numbers also does not adequately capture the uncertainties involved in avoidance and other assessments.
- A commenter noted that the best population estimates included in the COP reference the 2019 Stock Assessment Reports and are therefore based on outdated information. Best population estimates for 2020 were released by NMFS in July 2021.
- BOEM must ensure that any potential stressors posed by site assessment activities on affected species and stocks are avoided, minimized, mitigated, and monitored to the fullest extent possible. This includes consideration of seasonal operations to avoid peak migration.
- EPA recommended conducting surveys to determine site-specific conditions that can better inform the impacts analysis in the EIS.
- The EIS should analyze the impacts of climate change on migratory marine mammal species.
- The EIS should analyze impacts from noise pollution and the risk of increased vessel strikes from construction and operations activities.
- The Affected Environment analysis in the EIS 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 habitats, as well as the prey these species depend, on throughout the area that may be directly or indirectly affected by the Atlantic Shores South Project.

- Commenters expressed concern that the Atlantic Shores South Project would affect dolphin, whales, and porpoise populations, and cause harm to other marine wildlife.
- The EIS should fully analyze vessel collision risk to large whales. BOEM should acknowledge the significant risk vessel strikes pose to NARW and other large whales and require the industry to reduce vessel speeds to 10 knots or less and take further measures to mitigate vessel collision risk.
- BOEM should consider the level and potential impacts of vessel-related noise during construction, particularly noise emitted by dynamic positioning systems (DPS). Reported source levels of noise from DPS vary. BOEM should undertake an analysis of DPS and vessel-related noise associated with the construction of Atlantic Shores South.
- The EIS should include documentation of best practices and methods that will be implemented to reduce the incidental take of marine mammals and turtles associated with construction and operations.
- Commenters noted that digital aerial survey methods are likely to underestimate the occurrence of large whales and are not able to provide information on whale behavior, including foraging. These surveys therefore do not negate the need for additional multi-year shipboard and/or manned aerial surveys, as well as PAM, within the Atlantic Shores South Project area and broader Project region prior to construction.
- BOEM should consider a variety of local and regional data sources. Data sources that should be assessed include New York Department of Environmental Conservation aerial surveys, and Northeast Large Pelagic Survey collaborative aerial and passive acoustic studies.
- The EIS should place special consideration on assessing impacts for Harbor porpoises as they are extremely sensitive to noise and are more susceptible to temporary threshold shift caused by pile driving operations.
- 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. Although not noted in the Atlantic Shores South COP, the New Jersey Ecological Baseline Study generated density and abundance estimates based on conventional distance sampling (CDS), a more robust methodology than density surface modeling (DSM) used in the Roberts et al. model.
- BOEM must also require strong protections for other endangered and threatened marine mammal species. 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) for large whales to be as close to zero as possible.
- BOEM should include clearance and exclusion zone distances for NARWs and other large whale species, which 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. Installation of gravity-based and suction bucket foundations should not be initiated when a NARW or other large whale species is detected within the relevant clearance zone. These operations should be halted, unless continued installation activities are necessary for reasons of human safety or installation feasibility. Installation may resume when the lead PSO confirms no NARWs or other large species have been detected within the relevant clearance zones.

- BOEM should require that the Atlantic Shores South Project’s personnel report all visual observations and acoustic detections of NARWs to NMFS or the U.S. Coast Guard as soon as possible and no later than the end of the PSO shift. Project personnel must immediately report an entangled or dead NARW or other large whale species to NMFS, the Marine Animal Response Team, or the U.S. Coast Guard. Quarterly reports of PSO sightings data should be made publicly available to inform marine mammal science and protection.
- BOEM should require that pile driving not be initiated within 1.5 hours of civil sunset or in times of low visibility when the visual “clearance zone” and “exclusion zone” cannot be visually monitored, as determined by the lead PSO.
- A commenter suggested that pile driving may continue after dark only if the activity commenced during daylight hours and must proceed for human safety or installation feasibility reasons.
- A commenter recommended that a visual clearance zone and exclusion zone shall extend at minimum 5,000 meters in all directions from the location of the driven pile, an acoustic clearance zone shall extend at minimum 5,000 meters in all directions from the location of the driven pile, and an acoustic exclusion zone shall extend at minimum 2,000 meters in all directions from the location of the driven pile.
- A commenter noted that it takes 6 miles (W2) (W3) for the single turbine source noise level of 180 decibels (dB) to fall below the 120 dB NMFS Level B criterion for disrupting marine mammal behavior from continuous noise.

2.3.15 Mitigation and Monitoring

Comments relate to mitigation measures to address potential impacts and monitoring of biotic and abiotic conditions. This includes comments on already proposed mitigation and monitoring measures, as well as suggestions for additional mitigation and monitoring strategies for the proposed Project. Topics raised in this category included the following:

- The EIS should include a comprehensive regional fisheries and benthic resources monitoring plan developed and implemented in collaboration and consultation with state fishery managers and scientists.
- BOEM should require training of all personnel working offshore on observing and identifying NARW and other large marine mammals and should require all service operating vessels to carry automated thermal detection systems.
- BOEM should require Atlantic Shores and all offshore wind (OSW) developers, as part of the permitting process, to reduce speed of all project-associated vessels of all sizes to 10 knots at all times and locations (i.e., transiting to/from a project area) except in those circumstances where the best available scientific information demonstrates that NARW and other marine mammals do not use the area.
- The EIS should include vessel speed restrictions, focusing on actual risk rather than “relative risk,” as well as other emission reduction best practices for ports, including Tier 4 Final EPA certified equipment, or the use of marine shore power systems.
- The Brigantine Wilderness Area is a federally-designated Class I area, and as such, the EPA recommends coordination with USFWS for air permits and the identification of mitigation strategies to alleviate potential adverse air quality impacts in this area.
- To protect ESA-listed sea turtles as well as other impacted marine species, avoidance and mitigation measures must include vessel speed restriction and noise reduction in the Atlantic Shores South Project area.

- BOEM should commit to conducting comprehensive long-term science-based monitoring before, during, and after construction to document impacts on benthic habitat and EFH and recovery, compared to preconstruction survey baseline.
- EPA supports the development of a long-term monitoring plan to measure recovery of the benthic habitat from construction-related disturbances and to monitor for potential migration of invasive species. An action plan to address incomplete recovery or areas affected by invasive species should be considered.
- BOEM should require field measurements throughout the construction process to ensure compliance with noise reduction requirements.
- Commenters recommended using dampeners on the structures and the construction equipment to reduce noise and vibrations from increased vessel traffic. Scour protections should also be installed.
- The EIS should use models produced from standardized monitoring/survey data collection methods to monitor birds, such as population estimates and migratory pathways.
- BOEM should examine a detailed adaptive ecosystem-wide management plan, describing how all conservation obligations afforded to impacted avian species by multiple statutes, conservation policies, agreements, and treaties will be met. This comprehensive plan could include methods and standards for monitoring, avoidance, and mitigation, informed by current science and best available technologies, in ecosystem-wide approaches. The best management practices (BMPs) defined by this plan could be extended to other OSW projects within the region and all along the Atlantic coast that encompass important habitats for birds migrating along the Atlantic Flyway.
- The EIS must consider measures to minimize construction and operational lighting throughout the footprint of OSW projects following BOEM guidelines to minimize collision risk.
- To avoid, minimize, and mitigate adverse impacts on wildlife, the EIS must establish baseline data, using best available science, on current ecological conditions, accurately identifying resident and migratory species, and determining their population sizes within the offshore, coastal, and onshore ecosystems of the Atlantic Shores South lease area.
- BOEM's assessment of the impacts on bats should be conservative, and employ the best available scientific methods, such as autodetection, acoustic monitoring at nacelle height, targeted tagging of bats, and thermal imaging technology.
- The EIS should identify all potential species-specific and ecosystem-wide impacts from the Atlantic Shores South Project and evaluate operational noise and consider deployment of attenuation technologies to minimize impacts on marine wildlife.
- With respect to HVDC export, the EIS should consider using air-cooling systems, sustainable closed-loop sea water cooling systems, or emergent pumpless technologies, instead of an open-loop raw seawater cooling system to reduce adverse environmental impacts from HVDC transformer platforms.
- The EIS should include acoustic, visual clearance, and exclusion zones extending at a minimum of 5,000 meters in all directions from the location of the driven pile, an acoustic clearance zone extending at a minimum of 5,000 meters in all directions from the location of the driven pile, and an acoustic exclusion zone extending at a minimum of 2,000 meters in all directions from the location of the driven pile.
- BOEM should require monitoring of acoustic clearance and exclusion zones using near real-time PAM, assuming a detection range of at least 10,000 meters, 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.

- BOEM should require the presence of at least four vessel-based NOAA-certified PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon per pile driving location. Additional vessels must survey the clearance and exclusion zones at speeds of 10 knots. Consider deployment of additional observers and monitoring technologies (e.g., infrared, drones, hydrophones) to ensure comprehensive monitoring of clearance zones.
- BOEM should develop, report, and evaluate robust science-based avoidance, minimization, and mitigation measures employing emerging and established technologies, in continued early consultations with scientists, technology experts, federal agencies (NMFS, USFWS, Department of Defense, and Department of Energy), tribal leaders, and all stakeholders to protect the natural and cultural resources in the Atlantic Shores South Project area.
- BOEM should develop and implement a continued monitoring program to ensure that there is no significant deterioration of the environmental conditions or the existing natural resources from construction through the decommissioning phases.
- The EIS should consider use of deterrent technologies to reduce collision risks to bats and birds and adaptive management strategies to reduce adverse impacts on all species, with particular emphasis on those already at risk of extinction.
- The EIS should analyze strategies to minimize potential entanglement of marine mammals and other megafauna on export cables, weather buoys, and ghost fishing gear.
- BOEM should require Atlantic Shores to report all visual observations and acoustic detections of NARW to NMFS or the U.S. Coast Guard as soon as possible and no later than the end of the PSO shift.
- BOEM should partner with acoustic data scientists (from New York State Department of Energy Conservation, New York State Energy Research and Development Authority, Wildlife Conservation Society, Northeast Fisheries Science Center, Woods Hole Oceanographic Institution, etc.) and acoustic modeling scientists (e.g., from JASCO Applied Sciences) to obtain and collate best available current scientific data to inform a comprehensive acoustic impacts and cumulative impacts analysis.
- The EIS should assess deployment of a combination of noise abatement technologies, seasonal and diel restrictions of construction activities to minimize impacts, curtailment of site assessment, and characterization activities during times of highest risk.
- BOEM should consider a regional avian monitoring plan that includes baseline data collection protocols, acoustic and visual monitoring methods, and technologies (e.g., marine radar surveys, vessel surveys, personned or digital aerial transect surveys, acoustic monitoring, radio telemetry, satellite telemetry, etc.) to fill knowledge gaps and to inform future OSW installation processes.
- The EIS must use best commercially available technology and methods to include a monitoring and research plan conducted transparently by NOAA or an independent party to assess and report the effects of the Atlantic Shores South Project on the ocean ecosystem including marine habitats, wildlife, fishery resources and protected species, and changes compared to the baseline study. 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 marine wildlife presence and abundance.
- Commenters recommended that acoustic monitoring should be undertaken using near real-time PAM, assuming a detection range of at least 10,000 meters, 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 High Resolution Geophysical (HRG) surveys. 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.

- BOEM should work with OSW developers, fisheries, and scientists, and invest in scientific research and development of monitoring technologies to inform proactive adaptive management of impacted species of all taxa and their habitats.
- BOEM should develop programmatic, ecosystem-wide BMPs as part of the OSW industry permitting requirements, based on current science and state-of-the-art/emergent technologies to protect natural resources in all OSW projects.
- BOEM should create a publicly available centralized data portal to serve as a clearinghouse of real-time data collection and dissemination for all OSW-related scientific and technological data. All decision-making data should be transparent and available for public review.
- BOEM should require monitoring the magnitude and extent of sound propagation during foundation construction via pile driving.
- The EIS should articulate specific monitoring and mitigation requirements for the protection of Atlantic sturgeon during the construction, operation, and decommissioning phases of the proposed Atlantic Shores South Project. The EIS should pay special attention to the temporal effects of seabed disturbance on foraging habitat and prey availability relative to the migratory patterns of Atlantic sturgeon and seasonal prevalence during construction activities. The preferred alternative in the EIS should include a requirement for additional acoustic tagging of Atlantic sturgeon to further enhance the ongoing BOEM Atlantic sturgeon telemetry study.
- The EIS must include alternatives to schedule 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.
- The EIS should include a monitoring scope of work that would assess risk to various migratory bird species at the Atlantic Shores South Project, and data should be coordinated with similar ongoing efforts in Rhode Island, Massachusetts, and Virginia.
- Mitigation funds must be available to all affected vessels and ocean users who rely on the Atlantic Shore South Project area for revenue. The availability of such funds and their influence on impact determinations should be explained in detail in the EIS.
- To comply with state and federal policies and achieve all necessary permits, Atlantic Shores must be developed in an environmentally responsible manner that avoids, minimizes, and mitigates impacts on ocean wildlife and habitat and traditional ocean uses, meaningfully engages stakeholders from the start, and uses the best available science and data to ensure science-based and stakeholder-informed decision making.
- The EIS should consider turbine spacing less than 2 nautical miles for compensatory mitigation to protect Atlantic surf clam and ocean quahog from gear that is deployed and hauled back, chain lengths, vessel maneuverability, and other conditions.
- BOEM should note that compensatory mitigation alone is not sufficient to meet NEPA requirements of avoiding, minimizing, and mitigating impacts on fisheries, nor does its implementation assure that an OSW project has been designed in a way that does not unreasonably interfere with fishing operations.
- BOEM should work with developers to ensure the NMFS survey is fully funded to mitigate impacting fish stocks and allocations to the State.
- The EIS should account for monitoring for adverse effects that requires multiple modes of evaluation in a coordinated framework pre- and post-construction. Radar, vessel and aerial surveys, acoustic monitoring, and telemetry are all complementary tools that provide data

necessary for evaluating impacts, though none of these tools provides the full picture when used alone.

- BOEM should refer to post-construction fatality monitoring onshore under Tier 4 of the USFWS Land-Based Wind Energy Guidelines.
- BOEM should require standardized methodology for using these new technologies across all projects in the Atlantic OCS to incorporate mortality data, and possibly displacement data, into ongoing cumulative effects analyses and adaptive management strategies, to validate collision risk models, and to measure impacts on ESA-listed species and other species of conservation obligation by augmenting tracking data with data from onsite detection technology. The Draft EIS should specifically require the adoption of collision detection technologies when they are verified and commercially available, and BOEM should support their development and testing.
- BOEM must require that lease applicants report mortality events promptly and publicly.
- BOEM must require the following: acoustic monitoring for birds and bats; installation of Motus receivers on WTGs in the wind development area and support with upgrades or maintenance of two onshore Motus receivers; deployment of Motus tags to track roseate terns, common terns, and/or nocturnal passerine migrants; pre- and post-construction bat surveys; avian behavior point count surveys at individual WTGs; and annual monitoring.
- The EIS should report and monitor using the best available data.
- A commenter noted that recommendations by USFWS Northeast Migratory Bird Office should be followed when deploying receivers and tags, using the specifications best able to capture migratory routes in the offshore environment.
- A commenter suggested that transect surveys be accompanied by telemetry and radar studies.
- The Draft EIS should provide more certainty that the developer will use adaptive management for birds and collect “sufficiently robust” data to inform mitigation strategies to avoid, minimize, and mitigate impacts on birds.
- The EIS should consider painting the turbine blades black to reduce motion smear.
- BOEM should support supplemental field surveys for bats on the OCS, using similar methodology, requiring acoustic detectors to be placed at nacelle height on a subset of turbines constructed along the Atlantic OCS, and requiring that the data collected be made publicly available.
- BOEM should support research to determine whether it is possible to improve acoustic monitoring to enable better species identifications, such as being able to differentiate calls between the ESA-listed northern long-eared bat and other *Myotis* species.
- BOEM should support continued advances in radio telemetry equipment, nanotag transmitters, and GPS tags so that more bats can be tracked offshore (e.g., support the development of smaller GPS tags with longer battery lives).
- BOEM should support deploying Motus towers and/or other nanotag receiving towers in the coastal and offshore environment, including on structures in Wind Energy Areas.
- BOEM should support efforts to tag additional individual bats with nanotag transmitters and GPS tags and support the development of bat monitoring technology for offshore WTGs, such as strike detection technology and thermal video.
- BOEM should support research on and testing of bat deterrent devices for offshore WTGs, such as ultraviolet lighting or ultrasonic noise emitters.
- BOEM should require offshore wind projects to support testing and deployment of best available monitoring and deterrent technologies, once developed, and require offshore wind projects to promptly report and make publicly available all monitoring and testing data.

- BOEM should consider deterrent technologies to prevent bats from approaching the wind turbines such as turbine coatings, ultrasonic noise emitters, and NRG Systems.
- The EIS should include specific mitigation of impacts on wetlands, seagrass beds, and other habitats. Seasonality of seagrass beds, turbidity, and spatiotemporal variability in the distribution of the beds should all be analyzed.
- NOAA recommended that the EIS must clearly identify what mitigation measures are included as part of the proposed Atlantic Shores South 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. The document should provide information on how mitigation measures are considered in the context of the definition of effects levels (e.g., negligible, minor, moderate, major), and how mitigation would offset those levels of effect. An analysis of the effectiveness of any proposed mitigation should also be included in the NEPA document.
- The EIS should analyze temporary effects and anticipated recovery times for marine resources within the impacts analysis.
- The EIS should discuss the potential for bycatch measures resulting from protected species interactions due to shifts in fishing activity and increased uncertainty in protected species assessments.
- The EIS should include details of compensation plans describing qualifying factors, time constraints, allowed claim frequency, etc. if used as mitigation measures to reduce economic impacts from access loss/restriction, effort displacement, or gear damage/loss.
- BOEM should consider real-time and archival PAM as a secondary detection/monitoring system during construction, to increase situational awareness in vessel corridors and around the Atlantic Shores South Project area, and to monitor the distribution of marine mammals in the lease area during construction and operation.
- BOEM should implement a regional federal scientific survey mitigation program that evaluates scientific survey designs; development of new survey approaches; development of interim provisional survey indices; integration of monitoring plans that address regional survey needs; and development of new data collection, analysis, management, and dissemination systems.
- BOEM should achieve no less than 10 dB (Sound Exposure Level) in combined noise reduction and attenuation, taking as baseline projections from prior noise measurements of unmitigated piles from Europe and North America.
- The EIS should evaluate all established and emergent technologies to minimize continuous operational noise both from the gearboxes (e.g., by acoustic decoupling of the turbine from the mast or platform, by installing direct drive turbines, or other technologies) as well as from propeller blades.

2.3.16 Navigation and Vessel Traffic

Comments relate to impacts 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:

- Commenters indicated that the currently proposed navigation lanes between turbines are not large or numerous enough. Suggested navigation lanes were between 2 and 4 nautical miles. Additional commenters suggest designating transit lanes and corridors between leasing areas and other frequently utilized areas.
- Commenters indicated that submarine cables that are not properly sited, not buried deep enough, or not sufficiently maintained present a hazard to navigation.

- The EIS should address turbine blade interference with radar transmitters, which may inhibit safe navigation of the site.
- The EIS should account for competing uses and navigation impacts of offshore wind facilities based on the potential increased or altered traffic patterns, and the increased risk of collisions and spills of gas, oil, and chemicals.
- BOEM should require all vessels be equipped with a Class A AIS system, at all times, if associated with the offshore wind siting, development, and operation of the Atlantic Shores South Project for evaluation of potential impacts.
- Commenters noted the increased risk and danger of collision with turbines for both commercial and recreational vessels, especially during inclement weather. The EIS should evaluate the Atlantic Shores South Project's impact on transportation safety in regards to commercial shipping and safety of navigation, search and rescue operations, and offshore and land-based radar.
- The EIS should address the turbines' impact on access to existing fishing locations and potential impacts on meeting fishing quotas as more time is spent navigating through the Atlantic Shores South Project site.
- The EIS should address how aerial and tugboat search and rescue operations will be affected by the proposed Atlantic Shores South Project.

2.3.17 NEPA/Public Involvement Process

Comments related to the preparation of the EIS and the NEPA process, including how public stakeholders, state and federal agencies, and tribes will be engaged. Topics raised in this category included the following:

- The environmental review process should continue coordination with local stakeholders, including the recreational and commercial fishing communities, state and federal agencies, and tribes.
- Commenters expressed a lack of trust in the public involvement process, citing a lack of advertisement for and awareness of public involvement opportunities and that the public's concerns were not being incorporated into the Atlantic Shores South Project design. Commenters also cited dissatisfaction in the timing of public involvement, stating that involvement should have begun earlier in the process.
- BOEM should extend the public comment period on the COP based on the updated and delayed COP Supplemental Filing Schedule to allow adequate time for review. Future projects' timelines should be maintained in order to accommodate scoping, consultation, and review timelines.
- BOEM should ensure that decisions are being made with the best available science and in alignment with applicable state and federal laws and plans. Commenters indicated that information and data used to make decisions should be made publicly available.
- The EIS should describe how BOEM's process for the proposed Atlantic Shores South Project may differ from the standard process utilized on other offshore wind projects given its unique approach with two electrically distinct projects.
- BOEM should develop a plan for the consideration of cumulative impacts and define the proper scale for those considerations during the scoping phase for the Atlantic Shores South Project or other offshore wind projects. This information will aid in the evaluation of impacts and the development of mitigation measures.
- Commenters requested a clear, concise approach to the EIS with supporting evidence for agency decisions. Additional plans, such as a mariner communication plan, adaptive management plan,

and collision risk model analysis are requested to provide transparency and reduce potential impacts.

- BOEM should reconsider its approach for reviewing the PDE and COPs in order to determine opportunities for technologies that may reduce impacts and costs. Commenters requested that BOEM publicly announce when a COP has been revised and include changes made to better aid in the review process.
- Programmatic consultation is needed throughout the NEPA process with local, state, and federal agencies and tribes as well as experts for the resources being evaluated. Coordination and consultation should begin in the early stages and continue throughout the duration of the Atlantic Shores South Project.
- BOEM should take a more uniform and consistent approach to the NEPA process for offshore wind projects. Commenters also suggested a programmatic EIS by region with tiered analyses for individual projects to provide a more comprehensive approach to offshore wind development.
- Where it is possible to develop a reasonable estimate of the net change in emissions due to the Atlantic Shores South Project, the EPA recommends that the EIS include benefit-cost analyses incorporating the societal value of changes in greenhouse gas emissions based on Social Cost of Greenhouse Gases estimates.
- 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 of impacts (beneficial or adverse) and, where applicable, the duration. Criteria to determine the magnitude and direction of impacts should be clearly defined. This section should consider all of the individual, direct, and indirect effects, including those impacts that may occur off site as a result of the proposed activities, such as construction of landside facilities necessary to construct and support operations of the Atlantic Shores South Project.

2.3.18 Other Resources and Uses

Comments related to aviation, marine minerals, military, research activities, and other resources.

2.3.18.1 Aviation

- No comments were related to aviation.

2.3.18.2 Marine Minerals

Topics raised in this category include the following:

- Concern was raised that the Atlantic Shores South Project could interact with or impact mineral extraction.

2.3.18.3 Military

Topics raised in this category include the following:

- Concern was raised that the Atlantic Shores South Project could interact with or impact military use.

2.3.18.4 Research Activities

Topics raised in this category include the following:

- The immediate, local warming effects of offshore wind farms should be studied and monitored.
- Natural wave actions, reduced winds, and produced eddies of the Gulf Stream are areas of research that need to be studied.
- Expedited research and analysis are needed to draft comprehensive data-based avoidance and mitigation strategies, and to adopt a least-impact precautionary approach. Some recommendations are: invest in scientific research and development of monitoring technologies to inform proactive adaptive management of impacted species of all taxa and their habitats, create a publicly available centralized data portal to serve as a clearinghouse of real-time data collection and dissemination for all OSW-related scientific and technological data, and address the issue of proposed/confirmed offtake/PPAs prior to permitting decisions on the proposed OSW projects.
- There are concerns that the Atlantic Shores South Project are being rushed as there is not enough science to determine the impacts of the wind industry on the ocean off the New York/New Jersey coast.

2.3.18.5 Other

Topics raised in this category included the following:

- Some commenters are concerned about leasing federal ocean resources to large foreign companies, and requested that a summary of the U.S. and European companies be included in the Draft EIS, confirming a fair and transparent notification/competitive bid/request for proposal process open to all companies, including the U.S.
- It is recommended that the Atlantic Shores South Draft EIS remain objective in language used in its impact analysis (e.g., by using terminology such as “increase,” “decrease,” and “change”).

2.3.19 Other Topics Not Listed

This generalized comment category was used to collect other substantive comments. Specific topics could include (but are not limited to) coastal zone consistency, noise, materials and waste management, general wildlife, and EMF.

2.3.19.1 Coastal Zone Consistency

Comments addressed compliance with state Coastal Management Program(s). Topics raised in this category included the following:

- Seeking certification of the federal consistency for purposes of the Coastal Zone Management Act precludes the public and the State of New Jersey from ensuring that their comments reflect the most recent and accurate representations of Atlantic Shores’ operations and their potential impacts.

2.3.19.2 Noise

Comments addressed noise associated with construction and operations, including low-frequency noise. Topics raised in this category included the following:

- The EIS should provide a sound source verification study from a similar project or clearly explain how source levels were calculated.
- Many commenters expressed concern over the noise generated by pile driving and the effects thereof.
- The EIS should prohibit installation of gravity-based foundations when protected species are present or migrating in the Atlantic Shores South Project area.
- The EIS and EFH assessments need to fully analyze the operational sound levels generated by the turbine gearboxes and the potential effects on wildlife.
- The EIS must evaluate all established and emergent technologies to minimize operational noise.
- Concern was expressed that the underwater noise would drive away native marine species, that it could impede the migration corridor of whales, or it could hamper the Navy's sonar use.
- Several commenters were concerned with the number of similar projects along the east coast, all along similar timelines, the number of turbines in total, and the cumulative noise impacts.
- Concern was expressed about noise from the turbines and from the propellers, how far that noise may travel, and what effects it may have on humans and wildlife.
- It was suggested that the investment be made into research to better understand the potential cumulative effects of OSW-related acoustic and barometric disturbances, and the behavioral responses, on economically and ecologically important fisheries and benthic resources, and that this study should focus on broad, representative group of species with the widest range of hearing capabilities and mechanisms of the fish present in the OSW areas.

2.3.19.3 Materials and Waste Management

Comments addressed the fate of materials and potential risks of materials/waste spills. Topics raised in this category included the following:

- The EIS should require that 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. This is due to the non-regulated disposal of materials such as dredged spoils from inshore, nearshore, or harbor maintenance and disposal of onshore materials, including waste with unacceptable levels of heavy metals and persistent organic pollutants for many years.
- The EIS should require that turbine components be recycled after decommissioning.
- A commenter expressed concern that there is a need to develop comprehensive waste management plans and ensure all of the Atlantic Shores South Project's personnel are trained to prevent spills and to control water pollution.

2.3.19.4 General Wildlife

Comments addressed harm or death to multiple types of species due to construction and operation. Topics raised in this category included the following:

- The EIS should include strong protections for already stressed coastal and marine habitats and wildlife, using science-based measures to avoid, minimize, mitigate, and monitor impacts on valuable and vulnerable wildlife and ecosystems.
- The EIS should include NOAA as a cooperating agency and conduct appropriate consultations, including cumulative effects analysis and Project-specific monitoring efforts.
- The EIS should consider impacts on species' migration patterns and food webs.

- The EIS should address potential minimization and mitigation measures to reduce impacts on wildlife.
- The EIS should consider long-term impacts on wildlife species.
- The EIS must abide by the ESA and the MBTA.
- The EIS must include the cumulative impacts of offshore wind development on the OCS of representative species of every taxon and their habitats.
- A commenter expressed the view that rising sea temperatures will have a far greater impact on the wildlife and fisheries than these offshore wind projects and that the choice is between moving to wind or continuing to rely on fossil fuels, continuing to pollute the air, and continuing to alter the ocean's temperature and acidity by releasing more carbon into the air.
- Several commenters expressed the view that there is not enough known about the cumulative impacts of the development of offshore wind energy and its associated infrastructure on marine resources and the entire ecosystem.
- Several commenters expressed the view that the EIS is going to be robust enough to mitigate any wildlife and environmental impacts of the Atlantic Shores South Project, and that Atlantic Shores has confirmed that the EIS will demonstrate the use of best available innovation and science that the U.S. offshore wind industry advances responsibly.
- Several commenters expressed concern over the effects of the Atlantic Shores South Project on whales; from sound and from vessel strikes.

2.3.19.5 Electromagnetic Fields

Comments addressed the potential impacts of EMF on wildlife and humans. Topics raised in this category included the following:

- The EIS should consider published research on the effect of EMF on wildlife, including effects on migration/orientation and other behaviors, and the distance those effects may reach from the Atlantic Shores South Project's site.
- The EIS should consider ways to minimize the impacts of EMF on wildlife, including listed species and their prey.
- The EIS should identify and address uncertainty in the potential for EMF impacts on wildlife and should provide justification, including supporting scientific studies, for all conclusions regarding EMF.
- A commenter hopes that technical experts determine the depth to bury the electrical cables to minimize the effects of EMF.

2.3.19.6 Other

Topics raised on other themes included the following:

- Several commenters express concerns about altered microclimates caused by the Atlantic Shores South Project.
- A commenter stated that the U.S. is lagging behind Europe in the deployment of offshore wind.
- A commenter expressed concern that the available data from biological and ecological surveys is outdated.
- A commenter expressed concern about the possibility of adverse impacts of the Atlantic Shores South Project on other industries and uses, such as mineral extraction, military use, air traffic, land-based radar, cables and pipelines, and scientific surveys.

- A commenter stated that there should be a uniform gear loss compensation program like those of oil and gas be developed for OSW.
- The draft EIS should consider how Project-caused changes in wave action might affect ocean users.
- A commenter expressed concern about whether any part of the Atlantic Shores South Project area was property acquired or developed with NPS Land and Water Conservation Fund (LWCF) monies and, therefore, in conflict with Section 6(F)(3) of the LWCF act.
- A commenter expressed concern about the vulnerability of the offshore wind farms to severe storms and hurricanes.
- A commenter expressed concern about changes to administrations over the 20-year life of the Atlantic Shores South Project and how those changes might affect plans being made for the proposed Project and any other renewable energy source projects.

2.3.20 Planned Activities Scenario/Cumulative Impacts

Comments on cumulative impacts suggested that the EIS include the full range of reasonably foreseeable projects, especially all potential offshore wind projects. Comments suggested that cumulative impacts could be severe for many different resources. Topics raised in this category included the following:

- The EIS should analyze and report the cumulative effects on all affected resources including marine mammals, bats, birds, sea turtles, endangered species, EFH, benthic resources, commercial and recreational fisheries, wetlands, air quality, water quality, recreation and tourism, socioeconomics, cultural resources, navigation and vessel traffic, visual resources, noise, vessel strike risk, habitat displacement, cold pools, and oceanographic conditions, with regards to the construction, operation, maintenance, and dismantling or decommissioning of the proposed Atlantic Shores South Project.
- The EIS should take a full annual and lifecycle approach to address cumulative impacts on population levels of impacted species.
- The cumulative impacts assessment in the EIS should incorporate long-term projections of various climate-change scenarios.
- The cumulative impacts assessment should include the combined impacts from the proposed Atlantic Shores South Project and all other past, current, and foreseeable activities, including all offshore wind lease areas and all projects currently proposed off the Atlantic coast, as well as sand mining, aquaculture, vessel activity, fisheries management actions, and disposal sites.
- The EIS should acknowledge and address the limited existing scientific data, pilot project studies, and other research regarding potential cumulative impacts of large-scale offshore wind projects.
- The EIS should include in its scope and cumulative assessment, not just Projects 1 and 2, but the potential Project 3 to be sited within the remainder of the lease area.
- The cumulative impacts assessment should consider the U.S. Coast Guard proposal impacting the NARW migratory corridor.
- BOEM should adopt a programmatic ecosystem-wide approach in the development of the cumulative impacts analysis incorporating all offshore wind projects, as well as non-offshore wind project activities offshore, nearshore, and onshore of the proposed Atlantic Shores South Project area.
- The analysis should consider cumulative impacts of all wind projects in the context of existing fisheries management measures.
- The geographic scale selected for the cumulative impact assessment should be aligned with the scale of the ecosystem impacted by the Atlantic Shores South Project and the scale of the systems

necessary to support the biodiversity of the regional ecosystem, and encompass all Project-related activities, including the lease area, cable corridors, landing sites, and the use of ports outside of the immediate Project area.

- BOEM should work closely with other federal, state, and local agencies to ensure that the most appropriate data is used in the impact analyses.
- The EIS should consider possible mitigation measures to address cumulative impacts and coordinate closely with other agencies. Integrated monitoring approaches should be implemented to coordinate among the various offshore wind projects.

2.3.21 Proposed Action/Project Design Envelope

Comments that addressed the Proposed Action and the Atlantic Shores South Project's design envelope included suggestions to consider alternate technologies, account for impacts from all of the Project's components, collaborate with adjacent wind farms, and undergo comprehensive surveys. Topics raised in this category included the following:

- A commenter expressed concern over the use of alternating current or direct current cables that may be used for the export cables. They have concerns about the environmental impacts of cooling systems at conversion stations.
- BOEM should address the issue of proposed/confirmed offtake/PPAs prior to permitting decisions on the proposed Atlantic Shores South Project as such agreements could result in inflexibility on the part of the developer in the consideration of least-impactful alternatives, and other requirements, and could also influence the permitting agencies into accepting the proposed Project as-is or no projects as the only two alternatives available.
- Commenter suggests using anchors and jack-up features, while slowly increasing sound to give mobile species a chance to vacate the area prior to pile-driving activities.
- The EIS should provide additional information on the technologies to be used and how the wind farm will generate the expected amount of energy; who will be purchasing the generated electricity; what it will be used for; and how the manufacturer will work with current electricity suppliers, distributors, regulators, and communities.
- Commenters request that BOEM require more details in regards to the staging and specifications for both Project 1 and Project 2 before the EIS process continues further to allow a comprehensive analysis of potential impacts.
- BOEM should consider and conduct a thorough analysis of all available technologies and Project locations that may reduce environmental impacts.
- Commenters expressed concern regarding the accelerated timeline of the Atlantic Shores South Project and the limited flexibility in schedule. Additionally, the pace and number of offshore wind projects in development in the region pose challenges for thorough analysis of potential impacts, informed public input, and adopting lessons learned from each project.
- The NOI and the purpose and need should tie to both state and national goals to the proposed Atlantic Shores South Project in order to develop alternatives and provide justification for the Project.
- Under NEPA, the PDE requires that the parameter having the maximum impact for a given resource be used in the analysis. The vagueness presented to the public prevents meaningful comment and additional details necessary for analysis and comment.
- Reasonably foreseeable impacts, as required by NEPA, should be included in the EIS and encompass potential impacts from the decommissioning of the Atlantic Shores South Project site. The EIS should present the plan for decommissioning and its impact in specific terms.

- By evaluating only the maximum impacts that could occur within the PDE, an opportunity is missed to identify preferred available technologies that may be less impactful and perhaps even more cost-effective (assuming cost of mitigation and related permit conditions are calculated and factored into the Atlantic Shores South Project's costs).
- The EIS should include specific and clear descriptions of the potential onshore facilities and account for all potential port activities at the various proposed locations. The EIS should also include additional information related to the operation and maintenance of the Project's infrastructure.
- Commenters encouraged BOEM and the developers to fully disclose the extent to which additional onshore connections and associated infrastructure may be possible or likely in the future
- Given the wide range of the PDE and uncertainty of the impacts, commenters request a narrow range be considered and for BOEM to publicly announce whenever a COP has been revised and what changes were made.
- Commenters noted that in order to meet the State's Plan energy goal, Ocean Wind, Hudson South, and Atlantic Shores South areas will need to be developed and therefore are connected actions. As a result, all three areas should be included in the scope of this EIS.
- It is recommended to have common turbine spacing and layout with adjoining wind projects. If this cannot be done, it is recommended that setbacks from the shared border be utilized to create a gap between projects. This will aid in vessel traffic, navigation, fishing, and search and rescue.
- In an effort to avoid impacts with adjacent offshore wind projects, the EIS should evaluate the opportunities for common cable corridors.

2.3.22 Purpose and Need

Comments related to meeting state and federal goals, turning to other energy options, and shifting focus from the applicant's interests. Topics raised in this category included the following:

- The EIS should revise the purpose and need statement to prioritize the Outer Continental Shelf Lands Act and NEPA's focus on environmental safeguards and eliminating damage to the environment.
- The purpose and need should recognize the urgent need to address climate change.
- Some commenters expressed support for the proposed Atlantic Shores South Project as a way to contribute to New Jersey's energy goals, align with Governor Murphy's offshore wind goals, and meet the White House's call for renewable energy, associated job creation, and stronger domestic supply.
- The primary purpose and need revolves around reducing our reliance on fossil fuels.
- BOEM must not rush the process to meet the current national goal of generating 30 gigawatts of OSW by 2030 because offshore windfarms will result in permanent alterations to the marine environment with significant consequences to the survival of wildlife. They should use thoughtful science-based consideration and accounting of all OSW impacts, long-term projections of various climate crisis scenarios, and reasonably foreseeable coastal and maritime changes from anthropogenic activities. This deliberate approach is essential to develop avoidance and mitigation strategies to prevent the extinction of impacted marine wildlife.

2.3.23 Sea Turtles

Comments about sea turtles that address biological, structural, or habitat impacts on the species, or their habitat included the following:

- BOEM expects impacts on sea turtles from underwater noise caused by construction and from collisions with vessel traffic associated with the Atlantic Shores South Project.
- Five sea turtle species are listed under New Jersey law and are known to occur within or in the vicinity of the Atlantic Shores South Project area. BOEM must adopt a conservative precautionary approach in its EIS so as not to further endanger the sea turtles. Inter-agency collaboration and coordination is essential to sea turtle protection and recovery. Data on sea turtle movements, distributions, and habitat use patterns, and interactions with OSW facilities need more research. Multiple corroborating approaches are needed to acquire spatiotemporal profiles of different sea turtle species in the Atlantic Shores South Project area because the ability to detect sea turtles through visual sightings and aerial surveys is highly variable.
- Development of avoidance and mitigation strategies must be based on accurate estimates of sea turtle populations, their precise seasonal location, and a comprehensive assessment of cumulative impacts of all human activities in the region, including climate change.
- The presence in/relative use of nearshore areas by sea turtle species must be accounted for in models of species density to inform impact analysis because some of Atlantic Shores South Project activities would take place in coastal waters. The EIS must include cumulative analysis of impacts on sea turtles for all impact-producing factors from Atlantic Shores South, other OSW and non-OSW activities offshore, nearshore, and onshore.
- Avoidance and mitigation measures must include vessel speed restriction. Vessel speed should be reduced to 10 knots for all vessels within the Atlantic Shores South Project's footprint, regardless of whether vessels are transiting or on site. Slowing to 4 knots from June 1 through November 30 while transiting through areas of visible jellyfish aggregations or floating vegetation lines or mats will improve protection for sea turtles. Slowing down to well below 10 knots improves the ability of vessels to maneuver and adjust speeds.
- Require a minimum of four NOAA-certified PSOs solely focused on monitoring for protected species to monitor all exclusion zones for sea turtles during impact pile-driving, HRG and geotechnical surveys, and during vibratory driving. Monitoring reports must be made publicly available in real time. Prior to the commencement of construction activities, PSOs must scan and monitor the area for the presence of sea turtles. If turtles are detected prior to or during construction activities, activities must be paused and recommence only after the observers confirm that the turtles have cleared the area.
- Real-time monitoring studies should complement aerial survey data and provide a precise and accurate spatiotemporal estimate of sea turtle populations, their movements, dive patterns, surface times, and habitat use in the North Atlantic. These baseline data are essential in accurately estimating sea turtle takes in Atlantic Shores South Project activities and in developing avoidance, minimization, and mitigation strategies.
- A combination of satellite tags and acoustic telemetry will improve understanding of sea turtle habitat.
- Research is needed to determine the temporary and permanent acoustic threshold shifts in sea turtles so that accurate limits for cumulative anthropogenic sound sources can be identified. Experiments should examine acoustic pressure and intensity separately to determine which of these sound components sea turtles detect and whether hearing sensitivity changes under pressure. Additionally, Atlantic Shores should conduct underwater audiograms of sea turtle species of various age classes because hearing sensitivity is known to change with age.
- To generate density/abundance estimates for sea turtles, models should use detection functions, on-effort sightings, etc. These models are run using either the CDS method and/or the DSM method (e.g., Roberts models). "Density" or "abundance" estimates derived from any other

methods are not statistically sound for these animal groups and cannot be directly compared to CDS/DSM estimates.

- Satellite telemetry data are available from rehabilitated and released Kemp's Ridley and Green turtles that suggest rehabilitated turtles are a good proxy for wild-caught turtles. Considering the costs and probably limited success rate of in-water tagging work for these species, acoustic telemetry of rehabilitated turtles may also be an effective means of gathering useful data.
- BOEM should update their injury and behavioral radii for acoustic impacts on sea turtles from pile driving activities.

2.3.24 Scenic and Visual Resources

Comments on scenic and visual resources focus on the detrimental impact the wind farm would have on the landscape and viewing experience. Topics raised in this category included the following:

- Commenters expressed concern over the visual impact of the proposed turbines from the shoreline and felt that the proposed Atlantic Shores South Project would be very visible from shore and could dramatically alter the landscape, character, and night sky of the area. In particular, these commenters expressed concern regarding the size of the proposed turbines and worried the visual impact would negatively affect tourism and property values.
- Some commenters expressed concern over the visual renderings and simulations of the proposed turbines in the COP and on Atlantic Shores' website saying they could be misleading and requested visual renderings and analysis of impacts be prepared by an independent party and under various lighting conditions and locations.
- A few commenters asked why the visual impact was not assessed 10 years ago when the lease area was established.
- Some commenters suggested ways to reduce the visual impacts from the proposed Atlantic Shores South Project, including establishing exclusion zones requiring the turbines to be a minimum of around 20 statute miles offshore or follow New York's exclusion zone of 17.3 miles.
- A commenter also suggested methods to reduce impacts on the night sky, including directing lighting downward, shielding lights, adding motion sensors to some lights, using warm color lights, and others.
- Other commenters felt that the proposed turbines were far enough offshore that they would not detract from the viewshed and postulated that the turbines may increase property values and tourism as well as help combat climate change.

2.3.25 Water Quality

Common topics raised in this category included the following:

- The EIS should contain information to specifically determine whether the Atlantic Shores South Project will result in discharges of pollutants to waters of the U.S. requiring authorization.
- The EIS should describe how the Atlantic Shores South Project will be consistent with state requirements related to vessel discharges.
- A concern was raised about impacts on water quality through sediment disturbance and pollutant discharge.

2.3.26 Wetlands and Waters of the U.S.

Comments on wetlands and waters of the U.S. suggest close coordination and compliance with laws and regulations. Topics raised in this category included the following:

- USACE will coordinate with the NJDEP regarding the limits of jurisdictional wetlands.
- The EIS should include a range of design and construction measures to avoid and minimize impacts on wetlands, streams, and other waters of the U.S. and explain how the proposed Atlantic Shores South Project would comply with EPA's Clean Water Act regulations.
- The EIS should include an evaluation of ways in which each alternative can be designed to avoid or, where unavoidable, minimize direct and indirect impacts on wetlands and other waters. The evaluation of direct and indirect impacts should fully consider both temporary and permanent impacts as well as future impacts from necessary upgrades or maintenance.
- The EIS should include evaluation of indirect impacts, which should include any clearing impacts for the proposed terrestrial construction activities resulting in a change (either permanent or temporary) of cover type within a wetland (e.g., converting a forested wetland to an emergent or scrub/shrub wetland). Furthermore, construction-related indirect impacts, including water quality impacts (though unlikely) and erosion or sedimentation impacts on wetlands or waterbodies should be analyzed.
- EPA recommended that close coordination with USACE, NMFS, EPA, and state coastal zone management offices is essential during this process.
- The EIS should address Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408).

2.3.27 General Support or Opposition

Many comments expressed general support or opposition for the Atlantic Shores South Project. Some commenters provided comments of support or opposition without providing a justification. Other commenters referred to resource topics as a justification for their support or opposition. Commenters are generally supportive of the proposed Atlantic Shores South Project because it may reduce fossil fuel dependence, reduce climate change impacts, increase job opportunities and improve the local economy, increase resiliency in the electric grid, improve air quality, and/or or add habitat for marine fisheries. Commenters are generally opposed to the proposed Atlantic Shores South Project because it may adversely affect the aesthetics of the ocean view, marine wildlife and habitat, bats, birds, water quality, recreation and tourism, property values, commercial fisheries, navigation, and the local economy. Commenters proposed moving the Atlantic Shores South Project farther from shore, conducting long-term studies to assess potential ecosystem impacts, adjusting the number and placement of turbines to reduce long-term impacts, or relocating the Atlantic Shores South Project to another lease area.

**Appendix A. List of Submissions and Individual Comments by
Resource or NEPA Topic**

Table of Contents

| | | |
|--------|---|-------|
| A.1. | Introduction..... | A-1 |
| A.2. | Index of Comment Submissions Sorted by Submission Number..... | A-1 |
| A.3. | Individual Comments by Resource or NEPA Topic..... | A-8 |
| A.3.1 | Air Quality..... | A-9 |
| A.3.2 | Alternatives..... | A-12 |
| A.3.3 | Bats..... | A-64 |
| A.3.4 | Benthic Resources..... | A-77 |
| A.3.5 | Birds..... | A-80 |
| A.3.6 | Climate Change..... | A-114 |
| A.3.7 | Coastal Habitat and Fauna..... | A-147 |
| A.3.8 | Commercial Fisheries and For-Hire Recreational Fishing..... | A-149 |
| A.3.9 | Cultural, Historical, and Archaeological Resources..... | A-180 |
| A.3.10 | Demographics, Employment, and Economics..... | A-183 |
| A.3.11 | Environmental Justice..... | A-220 |
| A.3.12 | Finfish, Invertebrates, and Essential Fish Habitat..... | A-226 |
| A.3.13 | Land Use and Coastal Infrastructure..... | A-251 |
| A.3.14 | Marine Mammals..... | A-251 |
| A.3.15 | Mitigation and Monitoring..... | A-291 |
| A.3.16 | Navigation and Vessel Traffic..... | A-330 |
| A.3.17 | NEPA/Public Involvement Process..... | A-340 |
| A.3.18 | Other Resources and Uses..... | A-397 |
| A.3.19 | Other Topics Not Listed..... | A-402 |
| A.3.20 | Planned Activities Scenario/Cumulative Impacts..... | A-439 |
| A.3.21 | Proposed Action/Project Design Envelope..... | A-474 |
| A.3.22 | Purpose and Need..... | A-488 |
| A.3.23 | Sea Turtles..... | A-491 |
| A.3.24 | Scenic and Visual Resources..... | A-498 |
| A.3.25 | Water Quality..... | A-517 |
| A.3.26 | Wetlands and Waters of the U.S..... | A-519 |
| A.3.27 | General Support or Opposition..... | A-521 |
| A.3.28 | Submissions from Anonymous Commenters..... | A-525 |

List of Tables

| | | |
|-----------|---|-------|
| Table A-1 | List of Submission Identifications, Names, and Affiliations..... | A-1 |
| Table A-2 | List of Submissions Containing Statements of General Support or Opposition..... | A-521 |
| Table A-3 | List of Submissions from Anonymous Commenters..... | A-525 |

A.1. Introduction

ICF’s process for analyzing public comments builds upon our commercial web-based CommentWorks® software product. As a first step, we downloaded and processed electronic copies of the comments from the www.regulations.gov site, so that we could then import these data into CommentWorks. A hierarchical outline was developed to include key issues provided by BOEM staff, issues addressed by the commenters, as well as categories identified in the Notice. ICF staff reviewed the comment letters, identifying the substantive excerpts within each submission (“bracketing”), and used the issue outline to associate each excerpt to the issue(s) to which it applies (“coding”). The end product of the bracketing and coding analysis is this “comment excerpt-by-issue report” – a report generated in CommentWorks that includes the *verbatim text* of substantive comment excerpts sorted by issue.

A.2. 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 IDs referenced in Section A-2.

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

| Submission ID | Individual Name | Agency/Organization Name |
|---------------------|----------------------|------------------------------------|
| BOEM-2021-0057-0002 | jean publieee | |
| BOEM-2021-0057-0003 | Kathy Flynn | |
| BOEM-2021-0057-0004 | jason irrera | |
| BOEM-2021-0057-0005 | Robert Joseph Glaser | |
| BOEM-2021-0057-0006 | Jo-Ann Sangataldo | |
| BOEM-2021-0057-0007 | Andrew Sangataldo | |
| BOEM-2021-0057-0008 | Charles Calitri | |
| BOEM-2021-0057-0009 | James Binder | |
| BOEM-2021-0057-0010 | David Hayes | |
| BOEM-2021-0057-0011 | Anonymous | |
| BOEM-2021-0057-0012 | Hector Rivera | |
| BOEM-2021-0057-0013 | Matthew M. | |
| BOEM-2021-0057-0014 | Sabrina Wilder | |
| BOEM-2021-0057-0015 | Kaitlyn Haymire | |
| BOEM-2021-0057-0016 | Anthony David | |
| BOEM-2021-0057-0017 | Nicholas Palmisano | |
| BOEM-2021-0057-0018 | | DJH Marketing Communications, Inc. |
| BOEM-2021-0057-0019 | Brian Frank | |
| BOEM-2021-0057-0020 | Tamar Kieval Brill | |
| BOEM-2021-0057-0021 | jim wolf | |
| BOEM-2021-0057-0022 | Thomas Cole | |
| BOEM-2021-0057-0023 | Ken Dolsky | |

| Submission ID | Individual Name | Agency/Organization Name |
|----------------------|------------------------|---|
| BOEM-2021-0057-0024 | | GE Renewable Energy |
| BOEM-2021-0057-0025 | Emma Giebel | |
| BOEM-2021-0057-0026 | Robert Van Norman | |
| BOEM-2021-0057-0027 | Kevin Kernan | |
| BOEM-2021-0057-0028 | Walter Korfmacher | |
| BOEM-2021-0057-0029 | Marian Doherty | |
| BOEM-2021-0057-0030 | Liza Wolf | |
| BOEM-2021-0057-0031 | David Ackerman | |
| BOEM-2021-0057-0032 | Ryan R | |
| BOEM-2021-0057-0033 | Brenna Fallows | |
| BOEM-2021-0057-0034 | Jennifer Nielsen | |
| BOEM-2021-0057-0035 | Anthony Hagen | |
| BOEM-2021-0057-0036 | David Korfhage | |
| BOEM-2021-0057-0037 | Megan Duren | |
| BOEM-2021-0057-0038 | Frank Koch | |
| BOEM-2021-0057-0039 | John A. Peterson Jr. | Borough of Seaside Park |
| BOEM-2021-0057-0040 | Lauren Morse | |
| BOEM-2021-0057-0041 | | Long Beach Island Coalition for Wind Without Impact |
| BOEM-2021-0057-0042 | Charles Dubusky | |
| BOEM-2021-0057-0043 | Charles Dubusky | |
| BOEM-2021-0057-0044 | Chuck Edwards | |
| BOEM-2021-0057-0045 | Lynn Petrulio | |
| BOEM-2021-0057-0046 | Christopher Knell | |
| BOEM-2021-0057-0047 | John Hailperin | Beach Haven Taxpayers Association |
| BOEM-2021-0057-0048 | James Binder | |
| BOEM-2021-0057-0049 | John (Jack) DiEnna | Geothermal National International Initiative |
| BOEM-2021-0057-0050 | Robert Stern | Long Beach Island Coalition for Wind Without Impact |
| BOEM-2021-0057-0051 | | EPA |
| BOEM-2021-0057-0052 | Beth Lowell | Oceana |
| BOEM-2021-0057-0053 | Cyndie Williams | Carpenter Contractor Trust |
| BOEM-2021-0057-0054 | Ann Adams | |
| BOEM-2021-0057-0055 | Galli Melissa | |
| BOEM-2021-0057-0056 | J Clark | |
| BOEM-2021-0057-0057 | Jennifer Green | |

| Submission ID | Individual Name | Agency/Organization Name |
|----------------------|------------------------------|--|
| BOEM-2021-0057-0058 | Angelisa DiPalma | |
| BOEM-2021-0057-0059 | Krista Baum | |
| BOEM-2021-0057-0060 | Maggie Shatt | |
| BOEM-2021-0057-0061 | Anonymous | |
| BOEM-2021-0057-0062 | Anonymous | |
| BOEM-2021-0057-0063 | Carol Thomas | |
| BOEM-2021-0057-0064 | Brendan Kelly | |
| BOEM-2021-0057-0065 | John Sauer | |
| BOEM-2021-0057-0066 | Peter Hartney | |
| BOEM-2021-0057-0067 | Mark Hale | |
| BOEM-2021-0057-0068 | Nancy Pino | |
| BOEM-2021-0057-0069 | Matthew Kelly | |
| BOEM-2021-0057-0070 | Timothy Feeney | |
| BOEM-2021-0057-0071 | Duane Watlington | Vacation Rentals Jersey Shore, LLC |
| BOEM-2021-0057-0072 | Duane Watlington | |
| BOEM-2021-0057-0073 | Allyson Sullivan | |
| BOEM-2021-0057-0074 | Christine Leichte | Save Long Beach Island, Inc |
| BOEM-2021-0057-0075 | Jillian Lawrence Lawrence | |
| BOEM-2021-0057-0076 | Joseph Ralph | |
| BOEM-2021-0057-0077 | Steve Dayney | Siemens Gamesa Renewable Energy |
| BOEM-2021-0057-0078 | Mary LaStella | |
| BOEM-2021-0057-0079 | Donald Miller | |
| BOEM-2021-0057-0080 | Stephanie Clemson | |
| BOEM-2021-0057-0081 | Stephanie Clemson | |
| BOEM-2021-0057-0082 | Stephanie Clemson | |
| BOEM-2021-0057-0083 | Hubert Streep | |
| BOEM-2021-0057-0084 | Nancy Duchnowski | |
| BOEM-2021-0057-0085 | L Stevens | |
| BOEM-2021-0057-0086 | Anonymous | |
| BOEM-2021-0057-0087 | Anonymous | |
| BOEM-2021-0057-0088 | Sonntag Harry | |
| BOEM-2021-0057-0089 | Gina Cobiانchi | |
| BOEM-2021-0057-0090 | Jane M. Asselta | South NJ Development Council |
| BOEM-2021-0057-0091 | Jon Chase | Vestas-American Wind Technology Inc |

| Submission ID | Individual Name | Agency/Organization Name |
|---------------------|---------------------------|--|
| BOEM-2021-0057-0092 | Karen Chmiel | |
| BOEM-2021-0057-0093 | Lisa Fadini | |
| BOEM-2021-0057-0094 | Michael Welsh | International Brotherhood of Electrical Workers (IBEW) |
| BOEM-2021-0057-0095 | Michael Welsh | IBEW |
| BOEM-2021-0057-0096 | Philip Diaz | |
| BOEM-2021-0057-0097 | Andrew Bulakowski | |
| BOEM-2021-0057-0098 | John Robinson | Local Union 255 |
| BOEM-2021-0057-0099 | | National Wildlife Federation, NJ Audubon, et al. |
| BOEM-2021-0057-0100 | David Wallace | |
| BOEM-2021-0057-0101 | David Wallace | |
| BOEM-2021-0057-0102 | | Engineers Labor-Employer Cooperative |
| BOEM-2021-0057-0103 | Richard Isaac | Sierra Club |
| BOEM-2021-0057-0104 | | Defenders of Wildlife |
| BOEM-2021-0057-0105 | | The Nature Conservancy |
| BOEM-2021-0057-0106 | Donald Weigl | |
| BOEM-2021-0057-0107 | | Mid-Atlantic Fishery Management Council and New England Fishery Management Council |
| BOEM-2021-0057-0108 | | Jersey Renews et al. |
| BOEM-2021-0057-0109 | Jason Walsh | BlueGreen Alliance |
| BOEM-2021-0057-0110 | Brian Vahey | American Waterways Operators |
| BOEM-2021-0057-0111 | Kathleen Keating | |
| BOEM-2021-0057-0112 | Kisah Santiago-Martinez | New York State Department of State |
| BOEM-2021-0057-0113 | Rachel Dawn Davis Davis | Waterspirit |
| BOEM-2021-0057-0114 | | Responsible Offshore Development Alliance |
| BOEM-2021-0057-0115 | Dorothy (Dottie) Reynolds | |
| BOEM-2021-0057-0116 | | NextEra Energy MidAtlantic Holdings, LLC |
| BOEM-2021-0057-0117 | Maureen Keating | |
| BOEM-2021-0057-0118 | Brandon Burke | Business Network for Offshore Wind |
| BOEM-2021-0057-0119 | | National Wildlife Federation, |

| Submission ID | Individual Name | Agency/Organization Name |
|---------------------|-----------------------|---|
| | | Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al. |
| BOEM-2021-0057-0120 | Lynn Schambach | |
| BOEM-2021-0057-0121 | Horatio (Ray) Nichols | |
| BOEM-2021-0057-0122 | | Clean Ocean Action |
| BOEM-2021-0057-0123 | Karen Conover | |
| BOEM-2021-0057-0124 | Natalie Thibault | |
| BOEM-2021-0057-0125 | Scott Mackey | Garden State Seafood Association |
| BOEM-2021-0057-0126 | David Pringle | |
| BOEM-2021-0057-0127 | Nancy Solomon | |
| BOEM-2021-0057-0128 | Margaret Collins | |
| BOEM-2021-0057-0129 | Ken Dolsky | |
| BOEM-2021-0057-0130 | Denise Brush | |
| BOEM-2021-0057-0131 | Paul Tashima | |
| BOEM-2021-0057-0132 | Zoe Leach | |
| BOEM-2021-0057-0133 | Henry Gajda | |
| BOEM-2021-0057-0134 | Agnes Marsala | |
| BOEM-2021-0057-0135 | Sean Mohen | TriCounty Sustainability |
| BOEM-2021-0057-0136 | Walter Clarke | |
| BOEM-2021-0057-0137 | Amy Williams | New Jersey Organizing Project |
| BOEM-2021-0057-0138 | David Wallace | |
| BOEM-2021-0057-0139 | Alison Arne | New Jersey Organizing Project, |
| BOEM-2021-0057-0140 | Holly Cox | |
| BOEM-2021-0057-0141 | Jamie Klenetsky Faye | |
| BOEM-2021-0057-0142 | Wendy Kouba | Save Long Beach Island, Inc. |
| BOEM-2021-0057-0143 | Brian Williams | |
| BOEM-2021-0057-0144 | Paul Eidman | Anglers for Offshore Wind Power |
| BOEM-2021-0057-0145 | Bob Stern | Save LBI |
| BOEM-2021-0057-0146 | Jim Binder | |
| BOEM-2021-0057-0147 | Kari Martin | Clean Ocean Action |
| BOEM-2021-0057-0148 | Anne Carroll | |
| BOEM-2021-0057-0149 | Enis Bengul | |
| BOEM-2021-0057-0150 | Walter Korfmacher | |
| BOEM-2021-0057-0151 | Tina Weishaus | |
| BOEM-2021-0057-0152 | Kirk Frost | |
| BOEM-2021-0057-0153 | Dennis Yi | |

| Submission ID | Individual Name | Agency/Organization Name |
|----------------------|------------------------|---|
| BOEM-2021-0057-0154 | Don Krevetski | |
| BOEM-2021-0057-0155 | Kent Fairfield | |
| BOEM-2021-0057-0156 | Sharon Quilter | |
| BOEM-2021-0057-0157 | Rick Bushnell | |
| BOEM-2021-0057-0158 | Edward Kelly | Maritime Association of the Port of NY and NJ |
| BOEM-2021-0057-0159 | Brian Scanlon | |
| BOEM-2021-0057-0160 | Pat Miller | |
| BOEM-2021-0057-0161 | Ed Cohen | |
| BOEM-2021-0057-0162 | Ken Jones | |
| BOEM-2021-0057-0163 | Sam Tirone | Business Network for Offshore Wind |
| BOEM-2021-0057-0164 | Sharon Mahoney | Save LBI |
| BOEM-2021-0057-0165 | Jim Wolf | |
| BOEM-2021-0057-0166 | Robin McConekey | |
| BOEM-2021-0057-0167 | Eric Benson | Clean Water Action |
| BOEM-2021-0057-0168 | Ken Hammond | |
| BOEM-2021-0057-0169 | Richard Isaac | Sierra Club, NJ Chapter |
| BOEM-2021-0057-0170 | Erika Malinoski | |
| BOEM-2021-0057-0171 | Daniel LaVecchia | |
| BOEM-2021-0057-0172 | Amanda Burden | |
| BOEM-2021-0057-0173 | Mary Lee Gaffney | |
| BOEM-2021-0057-0174 | Owen Bement | |
| BOEM-2021-0057-0175 | David Wallace | |
| BOEM-2021-0057-0176 | John Peterson Jr | Borough of Seaside Park |
| BOEM-2021-0057-0177 | Jody Stewart | |
| BOEM-2021-0057-0178 | Drew Tompkins | New Jersey Audubon |
| BOEM-2021-0057-0179 | Jon Young | |
| BOEM-2021-0057-0180 | Kurt Pechmann | |
| BOEM-2021-0057-0181 | Olaf Olsen | |
| BOEM-2021-0057-0182 | Ron Meischker | |
| BOEM-2021-0057-0183 | Andrew Bulakowski | |
| BOEM-2021-0057-0184 | Richard Rivera | |
| BOEM-2021-0057-0185 | Anthony Capelli | |
| BOEM-2021-0057-0186 | Amanda Burden | |
| BOEM-2021-0057-0187 | Bruce Garganio | |
| BOEM-2021-0057-0188 | Brendan Kelly | |

| Submission ID | Individual Name | Agency/Organization Name |
|----------------------|------------------------|---|
| BOEM-2021-0057-0189 | Chris Fraga | |
| BOEM-2021-0057-0190 | Gino Zilocchi | |
| BOEM-2021-0057-0191 | Doug OMalley | Environment New Jersey |
| BOEM-2021-0057-0192 | Tricia Jedele | Nature Conservancy |
| BOEM-2021-0057-0193 | B Fallows | |
| BOEM-2021-0057-0194 | Kari Martin | Clean Ocean Action |
| BOEM-2021-0057-0195 | Debra Coyle | New Jersey Work Environment Council |
| BOEM-2021-0057-0196 | Deborah Schmitt | |
| BOEM-2021-0057-0197 | Daniel Ortega | |
| BOEM-2021-0057-0198 | David Wallace | |
| BOEM-2021-0057-0199 | Daniel LaVecchia | |
| BOEM-2021-0057-0200 | Greg Cudnik | |
| BOEM-2021-0057-0201 | Gabriel Franco | New Jersey Organizing Project |
| BOEM-2021-0057-0202 | Frank Mahoney | |
| BOEM-2021-0057-0203 | Jeffrey Johnson | |
| BOEM-2021-0057-0204 | Janet Tauro | Clean Water Action |
| BOEM-2021-0057-0205 | Jason Friedman | |
| BOEM-2021-0057-0206 | Jamie Serritella | |
| BOEM-2021-0057-0207 | John Hagaman | |
| BOEM-2021-0057-0208 | Joy Hudecz | |
| BOEM-2021-0057-0209 | Kathleen Keating | |
| BOEM-2021-0057-0210 | Joanne Leichte | Save LBI |
| BOEM-2021-0057-0211 | Michael Mulroe | |
| BOEM-2021-0057-0212 | | Unitarian Universal Faith Action New Jersey |
| BOEM-2021-0057-0213 | Norah Langweiler | |
| BOEM-2021-0057-0214 | Peggy Middaugh | |
| BOEM-2021-0057-0215 | Patricia Sodolak | |
| BOEM-2021-0057-0216 | Paul Eidman | |
| BOEM-2021-0057-0217 | Paolo Belardo | |
| BOEM-2021-0057-0218 | Rachel Dawn Davis | Waterspirit |
| BOEM-2021-0057-0219 | Rebecca Hilbert | New Jersey League of Conservation Voters |
| BOEM-2021-0057-0220 | Richard Lawton | New Jersey Sustainable Business Council |
| BOEM-2021-0057-0221 | Suzanne Fairlie | |
| BOEM-2021-0057-0222 | Richard Brodman | |

| Submission ID | Individual Name | Agency/Organization Name |
|---------------------|------------------------|---|
| BOEM-2021-0057-0223 | Elizabeth Silleck | |
| BOEM-2021-0057-0224 | Steve Stokes | |
| BOEM-2021-0057-0225 | Shane Tait | |
| BOEM-2021-0057-0226 | Barbara Stomber | Franciscan Response to Fossil Fuels |
| BOEM-2021-0057-0227 | William O'Hearn | Offshore Power LLC, |
| BOEM-2021-0057-0228 | Rocco Lepore | |
| BOEM-2021-0057-0229 | Jeff Rapaport | |
| BOEM-2021-0057-0230 | | Cape May County, New Jersey |
| BOEM-2021-0057-0231 | Peter Himchak | |
| BOEM-2021-0057-0232 | Johnathan Meade | National Park Service, Dept of Interior |
| BOEM-2021-0057-0233 | Todd Hoernemann | Department of the Army |
| BOEM-2021-0057-0234 | Michael Pentony | United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service |
| BOEM-2021-0057-0235 | Michael Emerson | U.S. Dept of Homeland Security, U.S. Coast Guard |
| BOEM-2021-0057-0236 | Megan Brunatti | State of New Jersey Office of Permitting and Project Navigation |
| BOEM-2021-0057-0237 | Patricia Croisier | |
| BOEM-2021-0057-0238 | Ralph and Dorothy Keen | |
| BOEM-2021-0057-0239 | Daniel LaVecchia | LaMonica Fine Foods |
| BOEM-2021-0057-0240 | Gregory Roberts | |
| BOEM-2021-0057-0241 | George Thayer | |
| BOEM-2021-0057-0242 | Ralph Thayer Jr. | |
| BOEM-2021-0057-0243 | Robert Stern | Long Beach Island Coalition for Wind Without Impact |
| BOEM-2021-0057-0244 | John Graziano | |
| BOEM-2021-0057-0245 | John Graziano | |

A.3. Individual Comments by Resource or NEPA Topic

The following are 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.

A.3.1 Air Quality

Comment Number: BOEM-2021-0057-0040-6

Commenter: Lauren Morse

Commenter Type: Individual

Comment Excerpt Text:

I also look forward to improved air quality that would result from shifting our energy production to renewable sources. Cleaning up the particulate pollution would not only help the view, it will provide tangible benefits to our health.

Comment Number: BOEM-2021-0057-0051-15

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

EPA Region 2's Office of Air has provided the following comments:

Comments on BOEM Notice of Intent ("NOI") to Prepare an EIS for the Atlantic Shores Project 1 and Project 2 - Potential Effects on Air Quality

The following are EPA's comments, views, suggestions, or alternatives on "Potential effects that the Proposed Action could have on air quality" topic of the NOI section titled "Request for Identification of Potential Alternatives, Information, and Analyses Relevant to the Proposed Action":

- a. BOEM regulations require that a Construction and Operation Plan ("COP") includes air quality modeling and submits to BOEM the modeling report and modeling files to demonstrate that the activities proposed in the COP, or the proposed action (which is the construction and operation of the Atlantic Shores wind energy Project 1 and Project 2 or, collectively, the "Projects"), are in compliance with the Clean Air Act (42 U.S.C. 7409) and its implementing regulations [Footnote 3: *See* 40 CFR §585.659 "Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf /What Requirements must I include in my SA, COP, or GAP regarding air quality."]. However, the Atlantic Shores' COP does not include any plans for submitting the air quality modeling report and files. EPA recommends that the Atlantic Shores COP is updated to include the air quality modeling report and modeling files, prior to the release of the draft Environmental Impact Statement ("EIS") for public comment.
- b. EPA recommends that BOEM, in the context of preparing an EIS to fulfill its National Environmental Policy Act obligations for the proposed action, determines whether the General Conformity ("GC") Rule (40 CFR Part 93) applies to the direct and indirect emissions of the Projects (which will not otherwise be addressed by the OCS air permit) and ensure that the GC rule requirements that apply in nonattainment and maintenance areas are met.
- c. As revealed by the Atlantic Shores COP, the Projects will generate significant amounts of air pollution during both construction and operations. For instance, during the estimated 3 years of construction, the Projects will emit 8,355 tons of NO_x, 160 tons of VOC, 270 tons of PM_{2.5}, 2,011 tons of CO, 31 tons of SO₂, and 565, 322 tons of CO_{2e}. During the estimated 30 years of operation, the Projects will emit [Footnote 4: The estimated amounts of other air pollutants are significantly lower.] 519 tons per year (tpy) of NO_x, and 34,000 tpy of CO_{2e}. These emissions will result mainly from engines on vessels (engines that directly serve the vessels as well as engines of construction equipment

located onboard vessels) used to construct and maintain the Projects. A portion of the Projects' CO₂e emissions will comprise of sulfur hexafluoride ("SF₆") emissions. Electrical switchgear equipment that uses SF₆ as an electrical insulator will be installed in each wind turbine and each offshore and onshore substation of the Projects. The SF₆ emissions will be in the form of fugitive emissions from switchgear leaks. As described on the EPA web site [Footnote 5: *See additional information at <https://www.epa.gov/eps-partnership/sulfur-hexafluoride-sf6-basics>], SF₆ is "the most potent greenhouse gas known to date. Over a 100-year period, SF₆ is 22,800 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." Given the level of emissions from the Atlantic Shores Projects, EPA suggests the following reasonable alternatives to reduce and minimize the Projects' potential impacts on air quality:*

- i. Employ vessels that are able to run their engines on non-fossil fuel, fuels with very low emissions, and/or vessels with air pollution control technologies.
- ii. Use only electrical switchgear equipment that is SF₆ free, as there are SF₆-free electrical switchgear commercially available (and already in use) for both offshore wind energy projects and onshore substations.

In addition to those concerns outlined above, we provide several further comments pertaining to air quality considerations.

- In discussing general conformity, the EIS should evaluate project emissions associated with the OCS lease area in addition to emissions that occur at staging areas, port facilities, O&M facilities, etc.
- Emissions associated with vessels should also be incorporated into the EIS. In addition to the commitment to use low sulfur fuel, EPA recommends other mitigation measures such as anti-idling practices and the retrofitting of older equipment and vessels with the cleanest, most efficient technologies to further ensure air quality impacts will be minimal.
- As many of the proposed port locations are located in regions with air quality concerns and EJ communities, EPA recommends the implementation of emission reduction best practices for ports, including vessel speed reduction requirements, Tier 4 Final EPA certified equipment, or the use of marine shore power systems. More information regarding air emissions reduction methods at ports can be accessed at <https://www.epa.gov/ports-initiative>
- The EIS should also explicitly disclose emissions associated with operation of WTGs (for example, to start up WTGs power is extracted from the existing electrical grid) and other project components or facilities that rely on generator engines as emergency backup power.
- As there are Class I areas in proximity to the project area (the Brigantine Wilderness Area), the EIS should incorporate a discussion of consultation with US Fish and Wildlife Service for air permits and should additionally identify mitigation strategies to alleviate potential adverse impacts to air quality in these vulnerable regions.

Comment Number: BOEM-2021-0057-0119-123

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Air emissions present a similar story to climate emissions, but with the additional dimension of locational benefits to pollution impacts. Based on previous analyses of offshore wind projects, air quality impacts should be anticipated during construction with smaller and more infrequent impacts anticipated during decommissioning [Footnote 404: Id. at A-45]. Previous analyses have shown a “minor beneficial” improvement in air quality is expected from offshore wind development coming online and displacing fossil fuels [Footnote 405: See e.g., VW1 FEIS, at ES-14.]. These impacts, including the beneficial impacts, need to be considered in the Draft EIS.

Comment Number: BOEM-2021-0057-0119-124

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Other Sections: 11

Comment Excerpt Text:

In considering the environmental justice impacts, BOEM must look at how power plants are frequently located in or close to population centers and disproportionately located in or near communities of color, lower income communities, and Indigenous communities. The ability of offshore wind to displace fossil fuel generation thus has a potentially important environmental justice benefit. This displacement could be particularly pronounced, as offshore wind facilities’ generation often coincides with afternoon peak demand [Footnote 406: Dep’t of Energy, Office of Energy Efficiency & Renewable Energy, Top 10 Things You Didn’t Know About Offshore Wind Energy, <https://www.energy.gov/eere/wind/articles/top-10-things-you-didnt-know-about-offshore-wind-energy> (last visited Apr. 28, 2021).]. Offshore wind may be especially helpful in displacing the dirtiest peaking units, providing especially large air quality benefits and benefits to environmental justice communities.

Comment Number: BOEM-2021-0057-0130-2

Commenter: Denise Brush

Commenter Type: Individual

Comment Excerpt Text:

Offshore wind could and should be a significant component of our renewable energy portfolio that would make it possible to close all the dirty fossil fuel plants that are adversely affecting our health.

Comment Number: BOEM-2021-0057-0136-1

Commenter: Walter Clarke

Commenter Type: Individual

Other Sections: 6

Comment Excerpt Text:

I also have an asthmatic child and asthmatic wife and I'd like not to have their health exacerbated by the cars we drive and the gas that heats our house, et cetera, but we can't electrify everything in terms of our transportation, heating, and cooling unless that is done with renewable sources like wind.

And so, for me this is pretty much a no brainer of something that must be done, and we may as well do it and capitalize on it. Climate change, whether you think it's natural or man-made doesn't change the fact that we need to do everything we can to preserve a planet that human beings can live on, and I think this is a big step.

Comment Number: BOEM-2021-0057-0237-2

Commenter: Patricia Croisier

Commenter Type: Individual

Other Sections: 6

Comment Excerpt Text:

Americans need time to assimilate what the problems really are. We don't need wind turbines in the ocean to stop the CO2 in the atmosphere problem. Mostly, we just need to stop burning fossil fuels to create the energy we need. This was a mistake to build such energy dependence around coal, oil, and natural gas. It would seem that a place to start, would be to learn how to reduce our carbon footprint. Like money management, it would be a good idea if we learned to manage our energy consumption too. This to be done while inventors of creative ideas indeed all of us, come up with a variety of earth friendly options for renewable energy.

A.3.2 Alternatives

Comments associated with this issue appear in the sub-issues below.

A.3.2.1. Wind Turbines

Comment Number: BOEM-2021-0057-0100-3

Commenter: David Wallace

Commenter Type: Individual

Other Sections: 8

Comment Excerpt Text:

The large vessels, offshore seafood harvesters, have pushed to have the turbines spaced at, 2 X 2 natural miles (NM) apart in straight lines in both direction and set with the tide running straight through the arrays and following the bottom contours where possible. This is in line with the White House and most of the state houses stating that the wind developers and the fishing industry must coexist. The fishing industry attempted to propose solutions to this situation and in the case of Atlantic Shores and the other developers in the New York Bight, all of the developers have placed their turbines 1 X .6 NM apart making it dangers to fish within the wind farm. Which means the fishing industry will lose very productive fishing grounds. When talking to the developers they all say sorry but we do not want you fishing within the farms using large powerful fishing vessels. But these American owned and crewed fishing vessels have been fishing for generations in these waters. They are America waters, not European waters.

Comment Number: BOEM-2021-0057-0104-42

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

- consider gravity foundations and suction bucket foundations as alternatives to monopiles for the installation of wind turbine generators and offshore substations

Comment Number: BOEM-2021-0057-0115-8

Commenter: Dorothy (Dottie) Reynolds

Commenter Type: Individual

Comment Excerpt Text:

Recent innovative research has come up with a vertical turbine design in which the towers revolve without moving blades. Might we pause and see if there is not a better and less intrusive wind turbine?

Comment Number: BOEM-2021-0057-0119-15

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

South Fork Wind Farm and South Fork Export Cable Project, Draft Environmental Impact Statement (Jan. 4, 2021). (SFWF DEIS)], in assessing how future wind sites may be constructed, operated, and sited, it is reasonable to assume that future projects will employ higher output turbines that can generate more power by using fewer physical turbines of larger size. This could change impacts related to hub height, rotor diameter, and total height of turbines for future projects, as well as, [*inter alia*], the number of turbines and the length of inter-array cables [Footnote 36: See SFWF DEIS at E4].

Projects, particularly projects further on the time horizon, may have increasingly larger turbines that could impact the design and layout of the operation. As BOEM has already noted, for future projects, BOEM should assume that “the largest turbine that is presently commercially available” be used to evaluate potential impacts [Footnote 37: SFWF DEIS at E4-10]. Changes in turbine size could reduce the geographic footprint per project but may have negative impacts (larger rotation zones that could impact certain species like higher flying birds). We urge BOEM to ensure that future cumulative impact models continue to keep pace with technology.

Comment Number: BOEM-2021-0057-0125-12

Organization: Garden State Seafood Association

Commenter: Scott Mackey

Commenter Type: Other

Comment Excerpt Text:

Also, worth noting is the majority of fishing gear types will be unable to work in these arrays. Specifically gill net, bottom trawls, midwater trawls and clam and scallop dredges need at least a 2nm spacing between each array. This has been shared countless time and to date never been included in a design proposal. The Atlantic Shores COP only considered the clam directional tow analysis for array orientation. It did not consider further spacing of the turbines in a 2nm grid as requested by the clam industry. This alternative should be considered

Comment Number: BOEM-2021-0057-0239-8

Organization: LaMonica Fine Foods

Commenter: Daniel LaVecchia

Commenter Type: Other

Comment Excerpt Text:

To say that fishing can move, well, so can the windmills. We have asked them to adjust their COPs, to expand the spaces between turbines from what is currently proposed to a minimum of 2 nautical miles

apart, so we can fish and feed people. The wind energy companies have not responded favorable to the commercial fishing industry. This is serious business.

A.3.2.2. Cables and Landfalls

Comment Number: BOEM-2021-0057-0051-6

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

EPA is concerned with potential impacts to complex bottom habitat and valuable marine resources resulting from seafloor preparation and cable installation. We recommend that the EIS describe mapping efforts to determine optimal cable routes that minimize these impacts. The quantity of the benthic habitat impacted should be evaluated and effects of installation methods such as boulder dragging, cable trenching or jet plow should be compared. We also recommend the EIS include information on the proposed frequency of cable replacement (or maintenance/repair) that may result in additional need for seafloor disturbance to the benthic habitat.

Comment Number: BOEM-2021-0057-0052-42

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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-2021-0057-0104-27

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 19.5

Comment Excerpt Text:

bury electrical cables (to a depth determined by technical experts) to minimize seabed habitat loss and reduce the effects of EMF

Comment Number: BOEM-2021-0057-0104-7

Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

High Voltage Direct Current Export

The Atlantic Shores PDE includes export of electricity generated offshore as high voltage alternating current (HVAC) and/or as direct current (HVDC) to onshore transmission grids. The HVDC requires the electrical energy to be converted from the generated alternating current (AC) to direct current (DC). HVDC is generally chosen for multiple reasons including minimization of the energy losses during transmission over the long distances. Use of converters, transformers, and associated devices (e.g. thyristors) required to produce HVDC leads to high heat generation which must be dissipated to avoid the ageing of these devices. If HVDC export is chosen for Atlantic Shores projects, we recommend three options to cool the offshore wind HVDC transformer platforms:

1. use air-cooling instead of sea water cooling
2. use sustainable closed-loop sea water cooling systems to reduce environmental impact
3. evaluate emergent technologies such as the “EU-funded COOLWIND project that does not require seawater pumps, filters, heat exchangers or expensive salt water piping, nor chlorination of seawater. Instead of pumping cold seawater to the transformer platform, heated water from the converters is circulated and chilled in a subsea mounted cooler” with less environmental pollution, less power consumption, and fewer emissions. [Footnote 18: FUTURE TECHNOLOGY AS, Norway. (2019, Oct 1 - 2023, Sep 30). Subsea Cooler for Offshore Wind HVDC transformer platforms. European Commission (EC) Grant number: 873403]

These options mitigate the potential adverse impacts on marine wildlife from open raw seawater cooling. For example,

- intake of millions of gallons of raw seawater and its filtration process will destroy benthic organisms and small fish at different life stages (eggs, larvae, adults) besides causing seabed disturbance and turbidity,
- discharge of used water will increase the local water temperature at heat sink site,
- discharge of millions of gallons of used water will cause seabed disturbance, turbidity of water above, and turbulence over a large area.

Ocean currents will dissipate the heat of discharged water before it poses harm to wildlife. But the continued seabed disturbance from intake and discharge will have adverse impacts on habitats and wildlife if open systems are used.

Comment Number: BOEM-2021-0057-0107-15
Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council
Commenter:
Commenter Type: Federal Agency
Other Sections: 8

Comment Excerpt Text:

As much of the cables as possible should be buried to avoid the concerns listed above regarding external cable armoring materials where they are unburied. The COP suggests a target burial depth of 5 to 6.6 feet

for all cables (e.g., pages 4-38 and 4-41). We are concerned about potential for the cables to become unburied given the dynamic seafloor and the amount of dredge activity in the area. Burying the cables as deep as possible will help to minimize these risks. It should also be considered that natural snags are already well known to fishermen, and in many cases are charted, but that it will take time for fishermen to learn the locations of the cable protection materials. The EIS should provide maps of benthic features so that readers can use these maps to evaluate conclusions reached regarding both habitat and fisheries effects of development.

Comment Number: BOEM-2021-0057-0112-1
Organization: New York State Department of State
Commenter: Kisah Santiago-Martinez
Commenter Type: State Agency

Comment Excerpt Text:

Detailed export cable alternatives analyses, including:

- a. Analyses of offshore export cable corridor rights-of-way;
- b. Evaluation of different alignments to the potential cable corridors to minimize the area that cables would occupy within existing vessel traffic routes and the Coast Guard's proposed New Jersey to New York Connector Fairway [Footnote 2: See 86 FR 53089 [September 24, 2021]. Connector Fairway recommendation from Draft Port Access Route Study: Seacoast of New Jersey Including Offshore Approaches to the Delaware Bay, Delaware.] and other industry best practices, including crossing perpendicular to prevailing vessel traffic;
- c. Evaluation of deeper cable burial depths when crossing existing vessel traffic routes to minimize risks to the cable from a dropped anchor or other economic losses from interactions with export cables;
- d. Potential for fewer impacts associated with high voltage direct current (HVDC) versus alternating current (HVAC) cable technology (as the two technologies are included in the Project Design Envelope);
- e. A visual representation (e.g., map, figure) of the alternatives considered to facilitate understanding and comparison; and
- f. Potential for anchor strikes from vessels, fishing gear snags, and a range of possible cable protection approaches (e.g., natural materials vs. artificial materials).

Comment Number: BOEM-2021-0057-0114-24
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

Furthermore, as clam dredges are substrate penetrating gear and the substrate in this area consists of high-energy sand, it is extremely important that interarray and export cables are buried to sufficient depths to reduce the risk of fishing gear interactions. The fishing industry requests this to be a minimum of 8-10 feet to avoid interactions; if a shallower depth is permitted, it must be paired with remote monitoring to ensure the cable remains adequately 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-2021-0057-0116-1
Organization: NextEra Energy MidAtlantic Holdings, LLC

Commenter:
Commenter Type: Other

Comment Excerpt Text:

During the scoping process for the approval of Atlantic Shores COP, BOEM should consider the fact that there is an ongoing competitive transmission process that could materially impact the design of the proposed ASOW transmission generation tie[Footnote 1: ASOW is proposing to construct a new transmission facility from the BOEM lease area to the existing Cardiff 230 kV substation]. The New Jersey Board of Public Utilities (“BPU”) has requested, and received, proposals for alternative transmission facilities that will have fewer environmental impacts and be more cost effective for New Jersey customers.

Comment Number: BOEM-2021-0057-0116-2
Organization: NextEra Energy MidAtlantic Holdings, LLC
Commenter:
Commenter Type: Other
Other Sections: 17

Comment Excerpt Text:

however, BPU also stated in the June 2021 Order that they would consider alternative transmission solutions to interconnect the ASOW and Ocean Wind 2 projects, and on August 31, 2021, PJM updated its competitive transmission window to accept transmission proposals that would offer an alternative way to interconnect the ASOW and Ocean Wind 2 projects. [Footnote 6: See PJM RTEP – 2021 NJ Offshore Wind SAA Transmission Proposal Window Overview (8/31/21 update)] PJM officially closed the window on September 17, 2021. As outlined in the filing with FERC, PJM expects to make a final recommendation on the selected project between February 2022 and September 2022. [Footnote 7: See Order Accepting Study Agreement, FERC Docket No. ER21-689-000 at 3 (issued on 2/16/21)]

Considerations for ASOW COP

NEETMA agrees with BPU that a more effective transmission solution can be attained when trying to achieve New Jersey’s 7,500 MW offshore wind goal. In response to BPU and PJM’s request for alternative transmission solutions to connect offshore wind to New Jersey, thirteen entities submitted a total of 79 bids in response to the SAA, including NEETMA. For example, the estimated gen-tie lengths for both the ASOW and Ocean Wind 2 projects are estimated to be a total of 147 miles of new routes. [Footnote 8: NEETMA estimates approximately 110 miles for the Ocean Wind 2 connection to Smithburg, and 37 miles for ASOW Project 1 according to the ASOW COP.] Alternatively, NEETMA has proposed an option that will reduce the required miles of right-of-way needed to interconnect the ASOW and Ocean Wind 2 projects by almost 70%. This means fewer environmental impacts, and a more cost-effective project. Considering this, NEETMA respectfully suggests that BOEM confer with BPU prior to any definitive action on ASOW’s COP.

Further, if BPU decides to select an alternative transmission project to move forward, BOEM should consider how the ASOW EIS would incorporate the transmission alternatives so that the National Environmental Policy Act (“NEPA”) process for both ASOW’s COP and the alternative transmission projects’ general activities plan (“GAP”) would be coordinated and not be delayed. At this time, it is not clear how the coordination/interaction of a GAP and an offshore wind COP would interact with each other; therefore, BOEM should provide guidance on how this could be achieved. Addressing this interaction will be key in efficient siting of infrastructure and in helping to ensure minimization of

environmental and natural resources are protected as states move forward with both transmission and offshore wind development.

Comment Number: BOEM-2021-0057-0119-32

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Atlantic Shores' COP includes both AC and DC cables in the project design envelope [Footnote 84: ASOW COP Volume I at E-6, Table E-1]. DC cables require an offshore AC to DC conversion station and the recent Sunrise Wind Farm COP [Footnote 85: Sunrise Wind Construction and Operations Plan at 1-22, 3-62, available at <https://www.boem.gov/renewable-energy/state-activities/sunrise-wind-construction-and-operation-plan>]. proposed using an open loop cooling system for their offshore conversion station. Open loop cooling systems 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 86: Final Environmental Impact Statement for the Port Delfin LNG Project Deepwater Port Application, Appendix I Delfin LNG Ichthyoplankton Report (2016). https://www.energy.gov/sites/default/files/2018/11/f57/final-eis-0531-port-delfin-lng-app-i-2016-11_0.pdf]. Because of entrainment and impingement, as well as thermal pollution, existing industrial open loop cooling systems have been phased out and restrictions on construction of new ones have been enacted. New cooling systems should be required to be closed loop, which is considered the best technology available [Footnote 87: New York State Department of Environmental Conservation (2011). CP-#52 / Best Technology Available (BTA) for Cooling Water Intake Structures. https://www.dec.ny.gov/docs/fish_marine_pdf/btapolicyfinal.pdf]. We recommend that BOEM coordinate with the EPA to ensure that, should Atlantic Shores need an offshore conversion station for DC cables, their project does not use open loop cooling.

Comment Number: BOEM-2021-0057-0119-7

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 12

Comment Excerpt Text:

Cooling for DC cables (Section IV.D.2): If Atlantic Shores uses a DC cable, the Project should not use open loop cooling systems in order to avoid impacts to marine life, including eggs, larvae, juvenile fish, and invertebrates.

Comment Number: BOEM-2021-0057-0125-15

Organization: Garden State Seafood Association

Commenter: Scott Mackey

Commenter Type: Other

Comment Excerpt Text:

The Atlantic Shores COP is proposing a possible transmission system running all the way to Monmouth County or more than 60 miles as sea. This is unnecessary, will result in up to 15 existing cable crossing and an extreme expense to NJ ratepayers. All transmission lines should run as quickly to shore as reasonable from proposed Lease areas. These additional at sea cables place an unnecessary burden on the marine ecosystem and fishermen. Nothing is preventing upgrades to existing land-based transmission systems, and these existing land-based routes would benefit from improvements in the shore communities.

Comment Number: BOEM-2021-0057-0125-17
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

The COP proposes connecting the project to shore via three cables along two distinct cable routes to reduce impacts to the onshore power grid. The EIS should explain why the use of multiple cables is necessary, and acknowledge that the use of two cable routes greatly increases offshore impacts, including habitat disturbance and modification, as well as safety concerns for fisheries that use bottom tending mobile gear and cost to consumers.

Comment Number: BOEM-2021-0057-0232-11
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

It is our understanding that potential landfall locations will be in the vicinity of Sea Girt, New Jersey and / or Atlantic City, New Jersey. We recommend that BOEM and the developer provide more specific information on potential landfall locations and the proposed routing and any upgrades of the transmission line and related infrastructure. This information is necessary to ascertain whether any NPS program lands, such as those acquired and protected under the Land and Water Conservation Fund (LWCF) State and Local Assistance Program or the Federal Lands to Parks (FLP) Program, may be impacted by the proposed projects and require additional action.

Comment Number: BOEM-2021-0057-0232-13
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

As noted above, the NPS recommends BOEM and the developer provide more detailed information regarding proposed landfall locations so it is possible to ascertain whether LWCF sites would be impacted. NPS will provide technical assistance locating LWCF properties and facilitating discussion with the New Jersey State Liaison. If LWCF sites are identified, additional review may be necessary to determine the potential for conversion. Moreover, we ask that NPS be contacted as soon as possible

should there be a change to the proposed onshore locations, or should new locations be proposed so that we may review the new locations for any potential conflicts with any NPS programs or resources.

Comment Number: BOEM-2021-0057-0234-11

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

Offshore export cable routing alternatives that use common corridors with adjacent projects should be evaluated and discussed. For lease areas that are adjacent to one another, BOEM should develop common cable corridors to both increase efficiency and predictability and reduce resource impacts. Specifically, common cable corridors would lead to efficiencies in planning, project development, and benthic habitat mapping, and would result in more predictability and time savings for applicants and resource agencies. In addition, establishing common cable corridors would facilitate comprehensive avoidance and minimization of impacts to marine resources by reducing the number of corridors and allowing for programmatic-level review and comment.

Comment Number: BOEM-2021-0057-0236-3

Organization: State of New Jersey Office of Permitting and Project Navigation

Commenter: Megan Brunatti

Commenter Type: State Agency

Comment Excerpt Text:

Also, the New Jersey Department of Transportation (NJDOT) Office of Maritime Resources should be consulted regarding potential impacts of cable installation to navigation projects, state channels, and other NJDOT managed infrastructure and projects.

Comment Number: BOEM-2021-0057-0240-14

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

Undersea cabling running perpendicular {N-S) to important fish migratory paths (EW) recklessly jeopardizes the fisheries, most importantly summer flounder which contribute hundreds of millions of dollars annually to the state of NJ.

A.3.2.3. Project Relocation

Comment Number: BOEM-2021-0057-0021-4

Organization:

Commenter: jim wolf

Commenter Type: Individual

Comment Excerpt Text:

i have read several reports regarding an option of moving the turbines further out into the "Hudson Canyon" which seems to be a very viable option
By no means should this project be allowed to move forward under current proposal

Comment Number: BOEM-2021-0057-0027-3
Commenter: Kevin Kernan
Commenter Type: Individual

Comment Excerpt Text:

Makes sense that it be moved out of site to the Hudson South Call Area approximately 30 to 57 miles from the coastline.

Comment Number: BOEM-2021-0057-0033-1
Commenter: Brenna Fallows
Commenter Type: Individual

Comment Excerpt Text:

BOEM needs to consider Hudson South as a reasonable, and in fact superior, alternative location for its wind turbine project.

Comment Number: BOEM-2021-0057-0033-5
Commenter: Brenna Fallows
Commenter Type: Individual

Comment Excerpt Text:

Again, please consider the Hudson South location instead to mitigate economic devastation.

Comment Number: BOEM-2021-0057-0046-3
Commenter: Christopher Knell
Commenter Type: Individual

Comment Excerpt Text:

My understanding is that there is another area farther from shore (Hudson South Call Area) that has been identified as viable for a windfarm project. Locating the large turbines in this alternative location will likely not be visually objectionable (however, it would be valuable to see renderings for this location).

Comment Number: BOEM-2021-0057-0055-1
Commenter: Galli Melissa
Commenter Type: Individual

Comment Excerpt Text:

I am building a house in north brigantine and would request you reconsider the location of these wind

turbines. The rendering is disturbing that they are so close to the shoreline and inhibiting the natural beauty of the ocean and horizon.

Comment Number: BOEM-2021-0057-0059-1
Commenter: Krista Baum
Commenter Type: Individual

Comment Excerpt Text:

I do not support the location of these windmills.

Comment Number: BOEM-2021-0057-0061-1
Commenter: Anonymous
Commenter Type: Individual

Comment Excerpt Text:

This project needs to be moved to a different location. While I agree wind power is necessary, putting it in direct site of tens of thousands of New Jerseyans is wrong. Move it to a location not in direct view from habitable islands, put it deep in the Bay, put it off Long Island for AOC to stare at, anywhere but the South Jersey coast.

Comment Number: BOEM-2021-0057-0068-2
Commenter: Nancy Pino
Commenter Type: Individual

Comment Excerpt Text:

At the very least if this is forced upon us they should be 20 miles out.

Comment Number: BOEM-2021-0057-0071-2
Organization: Vacation Rentals Jersey Shore, LLC
Commenter: Duane Watlington
Commenter Type: Other

Comment Excerpt Text:

It has come to our attention that there IS a BOEM screened and approved lease area, 30 - 57 miles off shore that is bigger, and has more wind capacity. I am referencing the "Hudson South" call area. Locating the wind farm in this area, a minimum of 30 miles off shore, and even with the bigger 12MW turbines, will solve the visual pollution that the current lease area emits, thus saving our Tourism economy which is so important to the state. We strongly urge you to slow this project down and consider relocation of both the Atlantic Shores AND the Ocean Wind projects to the Hudson South area.

Comment Number: BOEM-2021-0057-0071-4
Organization: Vacation Rentals Jersey Shore, LLC

Commenter: Duane Watlington
Commenter Type: Other

Comment Excerpt Text:

Please evaluate moving them further out, so they can't be seen from shore, to the Hudson South Call area.

Comment Number: BOEM-2021-0057-0072-1
Commenter: Duane Watlington
Commenter Type: Individual

Comment Excerpt Text:

So, why not move it further out, to the Hudson South Call Area? Yes, the length of the transmission cable to get the power to shore will be longer, and more costly, for the energy companies profiting from this project. THEY are the ones who should be paying for this, not us homeowners who will see our rental rates decrease and our property values decline when we now have an industrialized ocean view.

Moving these projects to Hudson South seems to solve so many problems! Lets build the first windfarm there, where there will be less impact on the endangered right whale, the migratory birds, and the fishing grounds while also preserving our ocean view. It is also a larger area, with more wind, capable of producing all the energy Governor Murphy and President Biden has committed to develop.

This seems like a win win for everyone, Hudson South!

Comment Number: BOEM-2021-0057-0074-6
Organization: Save Long Beach Island, Inc
Commenter: Christine Leichte
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The proposal should be changed to a sensible one, place the turbines in Hudson South and use the current lease area for power transmission to shore.

This alternative lie waiting just beyond the current lease area, in the "Hudson South" call area, 30 to 57 miles out. The Hudson South area has been screened by the BOEM for relevant wind turbine siting factors, including visible impact, fishing interests, marine protected species, vessel navigation and cost of development, recommended by them for wind energy development, and are proceeding to lease there.

[underline: The offshore wind program need not be delayed by this change.] The current proposed EIS can and should be replaced by one for the Hudson South area based on the analytic work already done by the BOEM in identifying the area. That EIS can be supplemented later when specific sections are leased.

The Hudson South area has greater acreage and higher annual mean wind speeds. By itself with 6890 megawatts of wind energy potential, it can meet almost the entire 7500-megawatt State goal.

The wind turbines would be placed out and the existing closer-in lease area would be used as the hub for a

single, less seabed disruptive, project to transmit all the power from Hudson South destined for NJ to shore, as recently proposed by the NJ Board of Public Utilities.

Even the larger, more powerful wind turbines emerging today can be placed in Hudson South and not be visible, allowing the shore to sustain its tourism-based economy and unvarnished seascape.

Job prospects in NJ from offshore wind development, especially for foundation and other component manufacturing at Paulsboro, and for turbine staging at Lower Alloways Creek are not hurt by this change- the turbines will still be assembled and installed, just further out and where monopile foundations are still viable.

In fact, those job prospects are improved with “invisible” turbines in Hudson South as opposed to highly visible ones near shore that could create a public backlash to the entire NJ wind energy program.

Additional New Jersey jobs may also arise from the large, coordinated transmission project envisioned.

Comment Number: BOEM-2021-0057-0117-1

Commenter: Maureen Keating

Commenter Type: Individual

Other Sections: 17

Comment Excerpt Text:

Opposed as currently written and proposed (specifically distance- placement is too close to NJ shoreline, timeline, process related to community disclosure/involvement)- thank you: For transparency and since stated a few times on the 10/25/21 evening's public call requesting BOEM team clarification: Was there or will there be clarification/ a basic fact sheet for publication in appropriate news outlets to afford the public/residents understanding re the key facts/processes, research, timelines to date and allow appropriate response time re: impact and how the location of 8.7 to 9 mi off the coast of LBI was chosen (vs the noted 29 to 30 + mile minimum mentioned numerous times during the call/transcript, as is in place in Europe- understood that there is significant research available as to the benefit for further off shore placement of turbines, that would also afford the local/union's jobs economy boost- which all support- although, there was also loss of business concerns raised by business owners re: placement-why less than 9 miles off the coast of a barrier island/LBI was chosen vs more open seas (like Europe/research) and preserve the wild life as was repeatedly noted in comments/research;

Comment Number: BOEM-2021-0057-0138-2

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

Our fish happen to be where their turbines are going to be and this is outrageous so we -- we have advocated spreading the turbines out to two miles by two miles and spacing which would allow us to operate within the arrays however they can get more money by jamming these larger and larger turbines into a -- into a given space which was designed probably to get eight or nine megawatts and now this is -- this particular proposal is in half the space getting 1,510 megawatts which is just unbelievable.

Comment Number: BOEM-2021-0057-0164-1

Organization: Save LBI
Commenter: Sharon Mahoney
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

I want to start by saying that savelbi.org is not against the concept of a wind farm off the New Jersey coast but we are concerned over the proposed size and location by Atlantic Shores north which is only nine miles off of our beaches. The proposed wind turbines of the project are over 800 feet tall and to be located only nine to 13 inches -- nine to 13 miles off of our coast. This is closer to the coast than any other wind turbine project in the world.

Savelbi.org is urging BOEM to add Hudson South to the environmental impact statement for Atlantic Shores project as an alternate to the current lease area. BOEM previously recommended Hudson South for wind energy development, it's located much further offshore, than the Atlantic Shore site and has a much greater -- with the Hudson South location 30 to 57 miles offshore, savelbi.org believes this site would be less detrimental to the migratory patterns of local marine and bird life, less impactful to the fishing industry and the safety of our boaters and it would have a far less negative impact on tourism and property values on LBI while promoting a clean energy and helping to mitigate climate change.

Comment Number: BOEM-2021-0057-0165-1
Commenter: Jim Wolf
Commenter Type: Individual

Comment Excerpt Text:

I do disagree in the current form. I think we are diving head first into the shallow end of the pool and the Jersey coast, the residents are kind of being used as collateral damage and I think most of the people that have spoken very passionately would be on board if you were able to say let's do this project but in a safer way where it's not going to be in the path of endangered migratory whales, it's not going to be in the middle of prime fishing grounds, but if you move it out to 35 miles, yes, the visibility is not going to be an issue.

Again, you have to remember, nothing of this size and scope has ever been built anywhere particularly this close to shore. So, it will have an effect on the shore communities, on tourism, and there is lots of livelihoods that rely on that.

So again, I think there are studies that are out there showing that further out that the sheer size and amount of these wind turbines can generate up to seven times more power, upfront cost yes, will be more, but in this 20-to-30-year timeframe that's been presented for the life of these wind turbines, the payout will be astronomical.

So again, I would ask that - to review studies that have been done further out where you are basically not going to have these turbines that are the size of the Chrysler building and for anyone on the east coast, that drives up towards the New York City Skyline, that's kind of what you are looking at, is that visible from ten miles away, absolutely, even on a hazy day.

So I just implore BOEM to look at alternative sites,

Comment Number: BOEM-2021-0057-0165-2

Commenter: Jim Wolf

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

I am not against, I can't be more clear, wind energy but in this current form, I just don't think it's the right thing, and as far as the estimates that are being projected for the amount of power, I would just have anyone turn on the news and look what is happening in Europe that is three decades ahead of us on wind energy, there is a power crisis there. Coal fire plants are being fired back up in record numbers just because of the incorrect and very rosy projections on what wind would generate and the wind just is not blowing that strong, that effectively, that consistently and look at the price of oil over here and natural gas prices for the winter, there is worries if there is going to be enough energy to heat the homes and factories, so we need to look at this in a much more concise way and look at better alternatives for where to place these wind turbines, and I think that is the most important thing that I can stress.

Comment Number: BOEM-2021-0057-0172-1

Commenter: Amanda Burden

Commenter Type: Individual

Comment Excerpt Text:

I want to echo what others have said about agreeing that it's very important that we move to renewable sources of energy but my concern with this project is its location. It seemed that there was a further away point that would have caused less damage to local mammals, to local birds, to all sorts of local wild life that has been removed from consideration and I would like for that to be placed back in consideration.

And my big concern with what is planned is it will actually increase the temperature because of its location, because of the issues with where it is and how it works in that specific location that it's so close to shore that it will cause danger and cause other challenges.

I -- I -- you know, there is a lot of people who seem to think, I have not heard anyone argue against wind or renewable resources, all I have heard is that people agree that those are really important resources but that we really don't want unintended consequences from them because boy wouldn't that be a shame if we make things worse by trying to do something better and also that people really just want to consider a different, a further away location.

I personally would be happy to see, it's not about view at all, I would be happy to see the wind turbines from any part of New Jersey because I agree that they would be very powerful images of something being done for good, but I would hate to see something that was attempted for good that ends up causing or adding into the problem that already exists.

We have this unique once in a generation opportunity to do something that is truly good, let's please be thoughtful in our approach and really use all of the information available to us and all of the resources available to us to make sure that we choose a location that only adds benefit, that does not detract from the wildlife and my goodness wouldn't all of us be so sad to see that what we have done has increased the temperatures and not decreased them after all.

Comment Number: BOEM-2021-0057-0173-1

Commenter: Mary Lee Gaffney
Commenter Type: Individual

Comment Excerpt Text:

One is aside from potentially reduced profits and other extra expenses on the part of the companies that in some cases aren't even American companies, why does this farm need to be so close to shore? The Hudson South location provides a solution that would give us amazing wind energy but it would be 50 miles out to sea, whereas -- where it would not have as much impact on the ocean, on land, on sky, species of animals including human beings. So I don't understand why we are not looking at Hudson 10 South.

And why -- why does this farm need to be the only one on the globe that is so close to the shore? Which effects New Jersey homeowners and state tourist revenue, et cetera. I have traveled many places and seen wind turbines in the sea but they are far enough out where they aren't disturbing the wild life, the birds that need to migrate through them and they don't look like an eyesore from the land.

Comment Number: BOEM-2021-0057-0173-2
Commenter: Mary Lee Gaffney
Commenter Type: Individual

Comment Excerpt Text:

So I just want to say I am in total support of wind energy and solar, and I am -- I am in total support of it. My only question is why aren't we looking as other people have said, why are we not looking at the Hudson South area that has less impact on the environment but still provides the same benefits that the proposed location has.

Comment Number: BOEM-2021-0057-0174-1
Commenter: Owen Bement
Commenter Type: Individual

Comment Excerpt Text:

I also believe that wind energy is a way to supply additional energy in the future for us, with respect to this particular project, I would like to see it farther offshore

Comment Number: BOEM-2021-0057-0174-3
Commenter: Owen Bement
Commenter Type: Individual
Other Sections: 6

Comment Excerpt Text:

I have heard several comments about climate change and climate crisis and my only comment about that is if the Chinese and the people in India don't do their fair share, the little bit that we try to do off the coast of New Jersey isn't going to significantly impact whatever is happening in the climate, and I think we need to move it offshore farther so that it will impact less the present commercial fishing, the present marine life migration and the present bird migration.

Comment Number: BOEM-2021-0057-0176-3
Organization: Mayor of Borough of Seaside Park
Commenter: John Peterson Jr
Commenter Type: Local Agency

Comment Excerpt Text:

I feel this is representative yet again of our precious ocean, our marine environment, always being the scape goat, the dumping ground, the area where land based alternative, land based projects should be looked at first and obviously that involves more complicating factors but not insurmountable factors and this is far too much, far too extensive

Comment Number: BOEM-2021-0057-0186-1
Commenter: Amanda Burden
Commenter Type: Individual

Comment Excerpt Text:

And I would love to support this project. I think it's so important that we look to wind for environmental needs for jobs, for all the things folks have said, the problem is that the location for this project is completely unreasonable, and really should be changed.

There was an initial location that was presented that was several more miles out to sea and that would be much better for all involved. It is not. I have so many questions. Why is the distance for exclusion in New York 17 miles and here we are going to be just nine miles? Why in Europe is it 30 and/or 80 miles and here in the United States it's so much closer? We are putting so many things at risk for doing this, we are putting whales at risk that are endangered; we are putting birds that are endangered at risk, and the latest reading I have seen shows that it really won't create the jobs that are being proposed and it will actually raise temperatures, which is extremely concerning.

Comment Number: BOEM-2021-0057-0186-2
Commenter: Amanda Burden
Commenter Type: Individual

Comment Excerpt Text:

And there are just -- it's so disappointing, this is a really unique time in our country in this moment, in this movement. I would love to support this project, and I would support it if it were at the originally discussed location which is several more miles out to sea, about 30 miles out to sea, just as it is done in Europe. Certainly, it needs to be at least what is noted for New York of 17 miles out to sea, no closer.

It just does not make sense. You would have kind of universal agreement if you would choose a spot that was more conducive to what is appropriate.

Comment Number: BOEM-2021-0057-0189-2
Commenter: Chris Fraga
Commenter Type: Individual

Comment Excerpt Text:

My final comment is I have done research on wind, I am slightly educated, I am not an expert, but I do know according to another United States government organization ENROW (Ph), technological advancements of wind development for offshore have allowed wind farms to be placed further offshore. The average distance of operating wind farms is 29 miles offshore. And ENROW itself is stating that by 2025 most of these offshore farms will move to 40, about 40 miles offshore. So it is not only possible technically, it's a consideration of course financially but it's just the right thing to include --

Comment Number: BOEM-2021-0057-0193-2

Commenter: B Fallows

Commenter Type: Individual

Other Sections: 24

Comment Excerpt Text:

I just can't imagine there is not a solution to this. I refuse to believe that there is not a better way to go about this project which again is very exciting, very promising but I have a hard time believing that the innovation or the possibilities aren't there to move these projects away and out of view, that they would be there, but they would not be a disturbance to people who have grown up and on Long Beach Island.

Comment Number: BOEM-2021-0057-0199-6

Commenter: Daniel LaVecchia

Commenter Type: Individual

Comment Excerpt Text:

Also, the windmills can be easily relocated further offshore whereby eliminating damage to our sensitive marine environment and also avoiding the eye sore our shore dwellers will have to see every day for the rest of our lives.

Comment Number: BOEM-2021-0057-0200-4

Commenter: Greg Cudnik

Commenter Type: Individual

Comment Excerpt Text:

All of these lease sites are outside, and I want them to be outside, but I want them much further off or nowhere to be specific at all.

Comment Number: BOEM-2021-0057-0210-2

Organization: Save LBI

Commenter: Joanne Leichte

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

I will say that we know starting nine miles offshore with turbines that are the closest and most visible

most modern turbine complexes on the earth, I repeat on the earth with severe impacts in tourism, vacation rentals, job losses, property values, none of which have been mentioned, never mind the noise and the light, none of these concerns really have been brought to light and why are we so close to shore when New York is 17 miles and the standard in Europe is 30 plus. Why is that?

Is there an economic reason? Then I am wondering about the benefit that is being considered when there is more wind captured the farther you go out.

Comment Number: BOEM-2021-0057-0210-4
Organization: Save LBI
Commenter: Joanne Leichte
Commenter Type: Non-Governmental Organization
Other Sections: 20

Comment Excerpt Text:

So there is significant information and research and it's not about doing the project, it's how are we doing it, where are they and what is it impacting, not just our marine life and the economy that goes with that, none of the other economic impacts have really been discussed, we are just looking at the jobs we are gaining not the jobs we are losing and I think that moving it farther out and making sure that they are far enough apart, that we consider the important industry and our seafood, our fishermen, our property values, our tourism, the vacation rentals, all of the things that will negatively impact and if we are doing it for environmental reasons, we should be doing it far enough out to capture the most wind possible not the closest to shore and while some may want to look at it, most of us are here enjoying a pristine environment and there is a way to capture this wind for a benefit without losing that pristine value.

Comment Number: BOEM-2021-0057-0210-6
Organization: Save LBI
Commenter: Joanne Leichte
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

I think we need to take a really big look at that but mostly about moving things out and apart, so we are not jeopardizing so much of our economy.

Comment Number: BOEM-2021-0057-0221-1
Commenter: Suzanne Fairlie
Commenter Type: Individual
Other Sections: 27

Comment Excerpt Text:

I am very against the plan as it's being currently described, not because as people have said it's an eyesore. That would be the least of my concerns and is not my concern. Instead with the towers being nine miles out, it will impact the fishing industry, bird migration, whale migration and many other areas environmentally creating more damage than others in good.

It seems that we are the only wind farm being planned within nine miles. The ones that are successful in

Europe and elsewhere are 20 miles, 30 miles and 40 miles out, and the impact to the areas I just discussed, which there are many many studies and I can site for them for you in the letter I'll send to you, but they are definitely proven studies, would be mitigated if the wind farm was 20 miles or 30 miles out and if the towers are two miles apart, not one point six miles apart.

I am sure there has to be a compromise and that we can still go through with the important project but having it be further out.

Comment Number: BOEM-2021-0057-0222-1

Commenter: Richard Brodman

Commenter Type: Individual

Comment Excerpt Text:

My concern is, which has been voiced by some of the LBI residents, is that I think that the windmills are too close. I worry about not just the migration of marine mammals but also it bothers me about the aesthetics and the impact it might have on the businesses of Long Beach Island which are quite fragile at this point in time, it's a seasonal business. I worry about of real estate values for these people as well.

I do think that there is an alternative with regard to the aesthetics of this and in following this, I have been to the open house of Atlantic Shores, their virtual rooms and, et cetera, and I wonder why we can't consider using the Hudson South Call area for the location of the windmills. This area is 37 miles out to 50 miles, its wind energy is supposed to be in excess of what we have already in the proposed lease areas, and I think that this would satisfy the stakeholders which are the residents of Long Beach Island. It is a pristine place, we do like the unobstructed view, but we also worry about the impact that it has on the ecologic life, and so I agree with some of the people who have been able to call in from Long Beach Island to express their views.

Comment Number: BOEM-2021-0057-0239-7

Organization: LaMonica Fine Foods

Commenter: Daniel LaVecchia

Commenter Type: Other

Comment Excerpt Text:

Also, the windmills can easily be relocated further offshore and further apart, thereby eliminating damage to our sensitive marine environment and, also avoiding the eyesore that many shore dwellers will have to see every day for the rest of our lives.

A.3.2.4. Other Comments on Alternatives

Comment Number: BOEM-2021-0057-0009-4

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

It was mentioned in the NOI that a "No Action Alternative" would be evaluated as an alternative in the

upcoming EIS. One of my purposes in commenting here is to note that many changes have occurred since the BOEM Programmatic EIS was prepared in 2007 and since BOEM leased the site to Atlantic Shores 5 years ago. These changes could alter the outcome of the BOEM actions. They need to be considered and fully evaluated in the upcoming EIS evaluation for the No Action Alternative. Such changes include the remarkable advances in on-shore carbon free renewable energy technologies, efficiencies in combined cycle natural gas generation, and carbon capture that would negate or significantly reduce the need for offshore wind development, while still meeting the goals of the Biden Administration and the Governor of New Jersey for development of clean, renewable energy.

Comment Number: BOEM-2021-0057-0009-5

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

as recommended by the Blue Ribbon Panel to the Governor in NJ in 2006, I recommend that BOEM add a Limited Test Project Alternative to its evaluation in the EIS since massive wind energy projects such as proposed by Atlantic Shores have yet to be demonstrated in the United States, and their reliability and cost is not proven in this country. Intermittent sources of energy such as wind power require energy storage to meet base load needs, or fossil capacity must be kept active to supply such power when wind energy is not available. Utility sized battery storage capability is not commercially available. If alternatively, pumped storage is proposed for such energy storage, the costs and impacts of such must be included in the impact analyses

Comment Number: BOEM-2021-0057-0039-6

Organization: Mayor of Borough of Seaside Park

Commenter: John A. Peterson Jr.

Commenter Type: Local Agency

Comment Excerpt Text:

Accordingly, I would ask BOEM to rescind the New York (a/k/a "NY/NJ") Bight Lease Sale. At the very least, BOEM should conclude the "no-action alternative", as appropriate, until such time all the relevant and essential scientific information has been accumulated, thoroughly reviewed, and disseminated to the public.

Comment Number: BOEM-2021-0057-0039-8

Organization: Mayor of Borough of Seaside Park

Commenter: John A. Peterson Jr.

Commenter Type: Local Agency

Comment Excerpt Text:

As such, I would urge BOEM thoroughly, to consider numerous reasonable alternatives, including but not limited to more readily achievable, already vetted, faster, and safer, on-shore, land based alternatives. From a best case scenario, the projected date of completion for already leased sites, to make operational the massive industrial wind farm facilities, targets the year 2035. Even this hypothetical time table does not take into account the inevitable impact from at least one devastating hurricane. The most rapid and efficient efforts to achieve energy efficiency, and the conservation of resources, entail land based

solutions, which will reduce and mitigate the effects of global warming, and, not again run the risk of making the precious ocean, at the Jersey Shore, a dumping ground

Comment Number: BOEM-2021-0057-0050-76
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

NEPA rules require that other reasonable courses of action and their impact should be identified and analyzed in the EIS in detail per 40CFR§1501.9(e) and §1502.14(b), and in comparative form to the proposal per 40CFR§1502.14.

Since as shown above, the wind energy potential from all three areas exceeds the State's program requirement, there are clearly alternative ways of proceeding that involve all three areas. The proper EIS scope described above affords the opportunity to craft EIS alternatives that can meet the Governor's 7500 mw programmatic goal with much reduced environmental impact. Such alternatives could take the form below:

[see original attachment for Table 3. EIS Alternatives]

Comment Number: BOEM-2021-0057-0050-78
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

NEPA rule §1502.14 requires that each alternative be considered in detail and comparative form to evaluate their merits and detriments. That includes the no action alternative.

As shown in Tables 2 and 3 above not proceeding with turbine placement in the Atlantic Shores project area would still allow for the State's offshore power generation goal of 7500 mw to be met through development in the Ocean Wind and Hudson South areas.

So, a no action decision on Atlantic Shores cannot be dismissed as not meeting the State's and the defacto, BOEM goal. Rather this section of the EIS should: (1) prescribe the most likely scenario and locations where the BOEM proposed level of power generation for Atlantic Shores would be made up, i.e., in the Ocean Wind and Hudson South areas, and (2) present the impacts of that turbine placement in comparative form to the proposal and any other alternatives. The analysis done by the BOEM for the Hudson South area to adopt the New York Bight lease areas is sufficient to provide that comparison.

Since the BOEM has repeatedly, and in Court, stated that it is under no commitment for turbine placement in the current lease area, the no action alternative could also include converting the use of the current lease area to a power transmission effort in support of the one consolidated transmission project to transmit all the power from Hudson South to New Jersey that the NJ BPU and the BOEM are pursuing (BOEM Announces Next Steps for Proposed New York – New Jersey Wind Energy Transmission Line 06/17/2019). The EIS should present the significant environmental benefit of that in contrast to the need for two transmission projects and the attendant greater sub-seabed excavation and substation construction

if turbines are placed in both Hudson South and the current lease area.

Comment Number: BOEM-2021-0057-0050-80
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

To summarize, while in many federal projects requiring an EIS the no action alternative is often summarily dismissed, in this case it is extremely attractive. State power objectives can still be met through greater reliance on the Hudson South area which has substantial wind energy and has already been screened for environmental and other use factors. Impacts to endangered whales can be avoided by smart turbine placement. Using direct drive turbines in Hudson South can limit buffer zones and avoid impact to the right whale. Visible turbine impact on local shore communities would be avoided. The jobs expected for New Jersey are still the same.

The fact that the Hudson South areas do not yet have specific turbine size and location information need not be a deterrent to the preparation of such a useful comparison.

The BOEM has already done substantial analysis^{WEP1} regarding the environmental impacts of turbine placement in the Hudson South lease areas which can be used to provide a good comparison of impact there to the other areas consistent with the direction in 40 CFR §1502.21(c). Regarding Lease area A-0498, BOEM can incorporate that EIS by reference and summarize its impacts for comparative purposes.

Therefore, the EIS should at a minimum provide a realistic, thorough, and comparable analysis of the no action alternative using a realistic scenario of where the proposed 1510 megawatts of power for project 1 and whatever power is sought for project 2 would be placed to continue to meet the State's 7500 mw goal if this project was not approved, since it is not likely that that goal would be abandoned under this alternative.

Comment Number: BOEM-2021-0057-0050-85
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The No Action Alternative

NEPA rules in §1502.14 and elsewhere require that each alternative be considered in detail and comparative form to evaluate their merits and detriments. That includes the no action alternative.

It should not be dismissed as not meeting power goals, because as shown above in Tables 2 and 3 above, not proceeding with turbine placement in the Atlantic Shores project area would still allow for the State's offshore power generation goal of 7500 mw to be met through development in the Ocean Wind and Hudson South areas, and the BOEM, defacto by proposing the State endorsed projects, has adopted that goal and the State's Plan.

In addition, the BOEM has not stated its own specific power goal number and plan for its larger offshore wind program so it's not possible to say whether the no action alternative would not meet it. If the BOEM

goal is the same as the President's then it should say so, and how much of that is expected from these projects.

Rather this section of the EIS should: (1) prescribe the most likely scenario and locations where the BOEM proposed level of power generation for Atlantic Shores would be made up, i.e., in the Ocean Wind and Hudson South areas and (2) present the impacts of that turbine placement there in comparative form to the proposal and other alternatives. The considerable analysis done by the BOEM for the Hudson South area to adopt the New York Bight lease areas is sufficient to provide that comparison (see discussion above under Alternative A for more information).

Comment Number: BOEM-2021-0057-0051-4

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

Volume I, Section 3 of the COP evaluates various alternatives associated with onshore infrastructure, points of interconnection, landfall sites, export cable routes as well as alternatives pertaining to the dimensions and design of the WTGs. Ultimately the Monmouth and Atlantic Landfall Sites and Corresponding Larrabee and Cardiff Onshore Interconnection Cable Routes were selected for inclusion in the Project Design Envelope (PDE). Export cable routes were considered based on technical considerations and site characteristics and preferred export cable routes that avoid sensitive habitats were advanced for inclusion in the PDE.

With respect to the development of the EIS, EPA encourages full consideration of alternatives that would allow for the development of the Project such that it meets the purpose and need, while also avoiding, minimizing, and offsetting negative impacts to the greatest extent possible. This includes alternatives related to a) the wind farm area, b) export cable routes and corridors, c) inshore cable routes and corridors, and d) the landfall location. The EIS should include an accessible, clear justification for selection of the preferred alternatives by comparing the affected resource areas under each alternative. The EIS should also discuss alternatives associated with the segmentation of the lease area. The COP focuses on the development of Projects 1 and 2 in the southern portion of the lease area. The segmented lease by nature restricts the potential project development and extent of the Wind Turbine Area (WTA).

Currently a range of the anticipated number of WTGs within Projects 1 and 2 are provided. Alternative configurations for each of the segregated projects should be advanced and further information provided in the DEIS. This should include information about whether specific portions of the lease area should be avoided due to potential impacts on marine resources, complex bottom habitat, and important benthic features such as sand ridges and waves.

Comment Number: BOEM-2021-0057-0051-5

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

Seafloor Disturbance

Preliminary mapping investigations reveal that the lease area and proposed cable routes intersect regions

of relatively high seabed mobility, high seabed habitat vulnerability and also run through regions designated as sand resource areas (or sand borrow areas). [Footnote 1: <https://portal.midatlanticocean.org/>], [Footnote 2: <https://www.northeastoceanodata.org/>] EPA recommends a discussion of this in the EIS and urges BOEM to consider these metrics in determining placement of structures and cables.

Comment Number: BOEM-2021-0057-0052-13

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

As BOEM develops the mandated full range of alternatives for the Atlantic Shores projects, Oceana encourages BOEM to include the following concepts, strategies, tools, and safeguards for consideration. These elements will improve the project, minimize its effects, and ensure that the government and all concerned stakeholders can properly oversee the project as it is developed on shared public waters. 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-2021-0057-0052-23

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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 the environmental effects of the project are avoided and if not avoided then mitigated or minimized.

Comment Number: BOEM-2021-0057-0104-6

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Quieter Foundations for Wind Turbine Generators and Offshore Substations

Atlantic Shores is considering various fixed foundation types to support the ~200 WTGs and OSSs. Piled foundations have been shown to have the most adverse environmental impacts relative to gravity foundations or suction-bucket types. They cause the largest habitat loss (resulting in species displacement and/or mortality), have the most turbulent wake and scour effects, cause the most release of suspended sediment and sediment deposition adversely affecting water quality, and have the largest acoustic impacts among all available foundation types. [Footnote 16: Horwath, S., Hassrick, J., Grismala, R., & Diller, E. (2020, Aug). Comparison of Environmental Effects from Different Offshore Wind Turbine Foundations.

OCS Study BOEM 2020-041, prepared by ICF Incorporated under Contract 140M0118A0004] After a comparative analysis of the long-term environmental cost-benefit of various foundation types suitable for the project site, we recommend that Atlantic Shores pursue gravity foundations and suction bucket foundations as alternatives to monopoles/piled jackets for WTG installations. While habitat losses, wake and scour effects, water quality loss from using these foundations would be similar to or larger than that piled foundations, acoustic effects would be smaller, with other impacts and potential benefits being similar. [Footnote 17: Horwath, S. et al. (2020). Comparison of Environmental Effects from Different Offshore Wind Turbine Foundations, Table 9: Comparison of effects of foundation type on ecological communities relative to monopile foundations] Because underwater noise adversely impacts larger marine life especially species in serious peril such as the NARW and other species which cannot withstand any take, gravity foundations and suction bucket foundations are arguably better choices than piled foundations.

Comment Number: BOEM-2021-0057-0105-2
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM is in an excellent position to fully develop the opportunities, especially as they relate to the advancement of technologies that allow for impacts to be completely avoided or otherwise significantly minimized. Robust assessment of the potential alternatives available for each Construction and Operations Plan (COP) will influence not only this specific siting decision, monitoring protocols, mitigation determinations, and environmental protections, but can establish expectations for future projects. Optimally, BOEM's project review will not only ensure that maximum anticipated impacts are appropriately minimized and mitigated, but it will also steer project designs to avoid impacts in the first instance. This kind of forward-thinking and comprehensive environmental assessment, with an eye toward cumulative ecosystem wide impacts and benefits can ensure that offshore wind is deployed in an environmentally sustainable manner that also fully supports overall project viability.

While the goal and purpose of BOEM's authority in the context of its National Environmental Policy Act (NEPA) review is to determine whether to approve, approve with modifications, or disapprove the Atlantic Shores COP, BOEM's great opportunity to further our collective understanding and fully develop the range of environmental benefits associated with the various foundation technologies, installation and mitigation approaches proposed in the Atlantic Shores COP as feasible should not be missed. As the offshore wind industry advances so too do the technologies that might allow for avoidance of, or significant minimization of, environmental impacts ordinarily associated with offshore wind construction and operation.

Comment Number: BOEM-2021-0057-0105-3
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 17

Comment Excerpt Text:

1) BOEM should reconsider the sole reliance on the Project Design Envelope (PDE) approach for

reviewing COPs; 2) BOEM should individually evaluate each foundation technology identified as viable by the project applicant as a reasonable alternative in the EIS and the best alternative should be selected as the preferred alternative;

Comment Number: BOEM-2021-0057-0105-9

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

Each Foundation Technology Identified as Viable in the COP Should be Evaluated Individually by BOEM as a Reasonable Alternative and the Best Technology Should be Selected as Part of the Preferred Alternative in the EIS.

The Conservancy has consistently recommended that while the PDE approach seems valid for factors such as considering the view-scape impacts associated with the largest possible turbine height, the PDE approach does not allow for effective evaluation of impacts and benefits associated with different foundation types consistently offered by project developers as within the “reasonable range” of designs within the PDE (i.e., gravity-based, suction bucket, and monopile foundations). The Conservancy recommends again that with respect to proposed foundation types, BOEM evaluate each foundation type and/or combination foundation types as separate reasonable alternatives in the EIS, inclusive of anticipated permit conditions.

Anticipated environmental impacts and the effect on corresponding permit conditions should be specified for each option, particularly concerning steps necessary to minimize and mitigate impacts. The scope of each alternative should evaluate how the project may impact benthic habitats in the project area and consider, for example, how Nature-Based Design of scour protection and cable mattresses might potentially provide benthic/fishery habitat mitigation and enhancement opportunities, necessary mitigation for marine mammals, marine life and benthic habitat, and other operational permit conditions relative to each alternative. Structuring the EIS in this manner is critical to identifying and fully understanding the benefits and impacts associated with each foundation type. In order to transition from an offshore wind industry that routinely selects monopiles as the standard foundation to an industry that completely avoids pile driving noise impacts during installation, then project applicants’ determinations that gravity-based and suction bucket foundations are reasonably available and viable options must also be translated by BOEM into alternatives that clearly spell out the varying applicable permit conditions so that project complexity, costs and viability are more assessable by the project applicants and the public. For example, projects that do not require pile driving may not be constrained by permit conditions aimed at minimizing and mitigating pile driving noise, such as seasonal or daily construction windows, exclusion zones, and expensive noise mitigation techniques. It is important to illuminate these distinctions as early as possible for this project, and to inform other developers that are still factoring the cost/benefit of various types of alternative quiet foundation types for other projects, including, but not limited to, the projects anticipated to occur within the existing and pending lease areas in the Mid-Atlantic Bight.

It is incumbent on BOEM to utilize the NEPA process in a way that directs developers to design their projects in the first instance to avoid environmental impacts by selecting the best foundation and turbine types for avoiding those impacts. Selecting design options that avoid impacts in the first instance is without question the primary objective of the mitigation hierarchy and then, only after all reasonably available options for avoiding impacts have been employed, do the “minimizing” and then “mitigating”

impacts come into frame. Avoiding exposure of marine wildlife to pile driving noise unequivocally represents the best practice. BOEM affirmatively determining that an alternative that uses a foundation design other than monopiles is the preferred alternative is also one way to achieve minimization of cumulative impacts from pile driving activities associated with multiple projects that may overlap both temporally and spatially.

More in-depth analysis of the foundation types coupled with an indication of preference in the context of BOEM's COP review will also inform the appropriate hierarchy of decision-making relative to technology determinations and acceptable environmental impacts for offshore wind projects. [Footnote 1: It is of equal importance that coastal states' consistency review determinations pursuant to their respective Coastal Zone Management programs align with the NEPA review process in a way that adds to the fulsome assessment of offshore wind projects with the potential to impact and benefit states' coastal resources and uses. To this end, a project applicant's consistency certification should not be forwarded to a coastal state for a determination until BOEM issues a draft EIS that defines the scale and scope of the environmental assessment.] Without an option for BOEM to steer the project applicant toward preferred foundation and turbine types in the NEPA process, the specifics of each project's design can easily and rather concretely be determined outside and prior to the NEPA environmental review process entirely. This already may be the case for this project.

Atlantic Shores represents in its COP that it conducted "an extensive evaluation of all viable foundation types." (Emphasis added). [Footnote 2: COP Vol. II at p. 2-18] Atlantic Shores' evaluation was comprehensive, considering technical and logistical considerations, economic viability and market availability, as well as seafloor and other siting characteristics. Specifically, Atlantic Shores did not include foundation types in the PDE, including floating foundations, that it considered not technically mature or which were not expected to be commercially available in time for the projects' expected development schedules. [Footnote 3: COP at Vol. I p. 3-16] Because the PDE approach allows the project applicant the option to submit a "reasonable" range of design parameters within its permit application, it follows that Atlantic Shores proposed the use of only foundation types that it considered to be reasonably available and economically viable. Atlantic Shores represents to BOEM that Wind Turbine Generators (WTGs) and offshore substation foundations could consist of either gravity-based jackets, suction buckets or monopiles – that any one of these options is equally available and economically viable.

But it is clear that Atlantic Shores indicated to the New Jersey Board of Public Utilities (NJ BPU) commitments for a specific foundation type. Atlantic Shores has already agreed to purchase monopiles from New Jersey based suppliers and to use a new monopile fabrication facility at the Port of Paulsboro. [Footnote 4: June 30, 2021 Order In the Matter of the New Jersey Board of Public Utilities Offshore Wind Solicitation 2 for 1,200 to 2,400 MW Atlantic Shores Offshore Wind Project 1, LLC, Docket No. QO21050824 (Agenda Item: 8A-1) at p. 18.] While reference to the term "monopiles" may not always translate to foundation type and corresponding need for pile driving, in this case it appears that it does. [Footnote 5: Id. at p. 17 (making reference to Atlantic Shores' commitment to "minimize acoustical impacts to marine mammals, sea turtles, and fisheries, [by] implement[ing] "soft starts" and explor[ing] the use of various sound attenuation technologies for use during construction); see also, id. at p. 18 (referring to EEW American Offshores Structure, Inc.'s "proposal for foundation supply sent to Atlantic Shores.".)] Atlantic Shores financial assurances to the NJ BPU to purchase locally fabricated monopiles suggests a fait accompli with respect to the foundation types to be used for this project – and one that is completely outside of the federal environmental review process. If Atlantic Shores has already made contractual commitments with suppliers to use monopile foundations and BOEM can only review maximum impacts in a PDE approach, then state public utility commissions and boards and private contractual arrangements between the project applicant and local suppliers and not BOEM are determining the best practices and setting the technology standards for the offshore wind industry as a whole.

Comment Number: BOEM-2021-0057-0107-22

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

Provision of high-resolution benthic habitat maps early in the process is important. These data are needed for NMFS to conduct essential fish habitat consultations. This consultation process is designed to avoid impacts wherever possible and determine mitigation measures where impacts cannot be avoided. It is very concerning to us that these data have not been included in this COP. Without these data, we are unable to provide specific suggestions for locations to avoid.

It is important to consider that while features less than 0.5 meters in size may not constitute complex hazards from a cable or turbine installation standpoint, pebbles and cobbles on centimeter scales can offer refuge from flow and predation and provide feeding opportunities for juvenile fish. Reworking and removing epifauna from these sediments during cable and turbine installation will affect the fish that use these habitats. The New England Council has worked to protect complex habitats at these spatial scales from the impacts of fishing, for example, on Nantucket Shoals. The analyses prepared for the New England Council's Clam Dredge Exemption Framework articulate what we consider complex seabed in a fisheries context, and the types of areas we would seek avoidance of wind development. [Footnote 5: See Appendix A at <https://www.nefmc.org/library/clam-dredge-framework> .]

The EIS should also consider an alternative which would minimize impacts to commercial and recreational fisheries. This could include reducing the number of turbines installed; using the shortest offshore cable corridor possible; maximizing cable burial depth; seasonal restrictions on construction activities; and excluding turbine, substation, and cable locations that have greater overlaps with fishing activity. We recommend working with affected fishermen to understand the locations of greatest concern. In addition, the turbine, substation, and cable locations should avoid all shipwrecks as they provide fish habitat and are important recreational fishing locations. For example, the COP lists the Garden State North Reef and the Atlantic City Reef Site as fishing hotspots "in proximity to" the wind turbine area and export cable corridor. These locations were designated as special management zones by the Mid-Atlantic Council due to their importance as recreational fishing sites. [Footnote 6: <https://www.fisheries.noaa.gov/resource/map/new-jersey-special-management-zone-areas><https://www.mafmc.org/actions/2016/nj-special-management-zones>] This is not to say that they are more important than all other recreational fishing hotspots in the area. Nonetheless, construction in these areas must be avoided.

The COP notes that the project will seek to minimize summertime construction activities which may interfere with recreational fishing. Minimizing construction during the summer could also have benefits for important fishery species such as longfin squid, which spawn during the summer and, as described below, may be negatively impacted by construction sounds and sedimentation. However, the EIS should acknowledge the tradeoffs associated with reducing the amount of construction activity and associated impacts during one time of year as this will require an increase in construction during other times of year when different species and different fisheries may be more vulnerable to impacts.

For all alternatives, the EIS should be clear on which measures to avoid, minimize, or mitigate negative impacts will be required as opposed to discretionary. Only required measures should influence the

impacts conclusions in the EIS. Monitoring studies should not be considered environmental protection measures as monitoring is not equivalent to avoidance, minimization, or mitigation. Avoidance, minimization, mitigation, and compensation for negative impacts should all be considered, with compensation thoroughly planned for, but used only as a last resort if avoidance or mitigation are not possible or are not achieved. Avoidance should be the first priority.

Comment Number: BOEM-2021-0057-0107-6

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

A uniform East-Northeast/West-Southwest 1 nm x 0.6 nm grid layout (with 0.54 and 0.49 nm spacing on the diagonals) is proposed in the COP based on predominant traffic flow in the area, including special consideration given to the surfclam/ocean quahog fisheries. Based on the rationale that this uniform layout allows for transit in multiple directions, an additional designated transit lane is not included in the COP.

We are concerned that some details are lacking from the project design envelope described in the COP. Specifically, the maximum design scenario is very clearly described; however, the realistic minimum design scenario is not given any consideration. For example, the COP does not specify a potential range of megawatt capacities for the turbines, though the physical sizes of the turbines are described. Without specifying the minimum and maximum likely turbine capacities, it is challenging to predict how many of the maximum 200 turbines may be required to meet the purpose and need of the project while minimizing negative impacts to the environment and existing uses such as commercial and recreational fishing. Similarly, the potential minimum number of substations cannot be predicted without a more thorough description of considerations related to the size of the offshore substations (small, medium, or large).

The EIS should analyze multiple distinct alternatives associated with smallest, largest, and one or more intermediary potential scales of each project in terms of the number of turbines which might be installed, the number of offshore substations, the total disturbed area of the seafloor, and the length of the offshore export cable corridors. These alternatives should acknowledge that different combinations of turbine sizes, foundation types, number and size of offshore substations, and offshore export cable lengths may be used, and thus result in different levels of impacts. When describing alternatives that represent small or intermediate scales of the project, details should be provided on how determinations will be made regarding which locations to avoid. The impacts of the different foundation types should also be clearly articulated. For example, a greater area of seafloor habitat will be altered with gravity base structures, but more substantial acoustic impacts will be associated with the installation of monopiles.

All the choices described above have implications for habitat, fisheries, and other environmental impacts. It will be important to clearly outline a wide range of possible scenarios, especially if the project size is unknown at the time of EIS completion.

A mix of bottom types exist at the project site including along the potential cable corridors. The EIS should include a habitat minimization alternative which would include micro-siting of inter- array and export cables and exclude potential turbine or substation locations with the goal of minimizing impacts to sensitive habitats including submerged aquatic vegetation, [Footnote 3: It should be noted that all areas with submerged aquatic vegetation were designated habitat areas of particular concern for summer

flounder through Amendment 12 to the Mid-Atlantic Council’s Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (<https://www.mafmc.org/sf-s-bsb>). This is not acknowledged in the Atlantic Shores COP, though other habitat areas of particular concern are acknowledged.] hard bottom, and complex topography including sand waves and troughs. Details should be provided on how determinations will be made and what flexibilities exist to site turbines, substations, and cables (including inter-array and export cables) to minimize impacts to marine habitats.

Greater details should be provided on why two export cable corridors are considered, especially given that the Monmouth Export Cable Corridor (ECC) is nearly two and a half times the length of the Atlantic Export Cable Corridor and has the potential for much greater environmental impacts and impacts to existing uses such as commercial and recreational fisheries. In multiple places, the COP includes statements such as “Projects 1 and 2 have the potential to use either ECC and offshore export cables for each Project may also be co-located within an ECC” (e.g., page 1-6 of Volume 1). If both corridors may be needed to integrate the two projects with the onshore grid, this should be made clear. It is also not clear if a single project may require use of both corridors, nor is it clear if the decision to split this part of the lease area into Project 1 and Project 2, as opposed to a single project, impacts decisions regarding use of a single export cable corridor or two cable corridors. As we have commented to BOEM in the past, export cables can damage marine habitats, raise concerns about electromagnetic fields, and pose a risk to fisheries using mobile bottom-tending gear. The amount of export cabling placed in the ocean must be minimized and it is essential that BOEM take a stronger role in facilitating coordinated transmission across projects and across developers to ensure that impacts are minimized. The Atlantic Shores COP states that offshore cable easements have not yet been requested for this project (page 3-16 of Volume 1); therefore, it appears to us that there is still an opportunity to work towards coordinated transmission planning for this and other nearby projects (e.g., Ocean Wind and future projects which may occur in the remaining sections of the Atlantic Shores and Ocean Wind lease areas).

Comment Number: BOEM-2021-0057-0119-19

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Quiet foundation technology should be included among the reasonable alternatives examined. This technology, which is further discussed below, is practicable and will reduce noise impacts to the North Atlantic right whale and the broader marine ecosystem by avoiding much of the noise that poses harm to species during construction. As discussed more fully in Section II.G, it should be included as a separate alternative that can be compared against more impactful alternatives like pile foundations.

Comment Number: BOEM-2021-0057-0119-20

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Atlantic Shores PDE, as proposed in the COP, is particularly broad. There is no meaningful indication of what type of foundations will be used [Footnote 42: The Atlantic Shores COP covers seven

types of foundations: two piled foundations (monopile and piled jacket), three suction bucket foundations (mono-bucket, suction bucket jacket, and suction bucket tetrahedron base), and two gravity foundations (gravity-pad tetrahedron base and gravity-base structure); ASOW COP Volume I, Table E-1 at E-5], or much information around project design other than a range for the number of turbines [Footnote 43: Id]. This has the potential of making it difficult to compare potential designs and choose a preferred alternative that has been adequately vetted against other alternatives that may have different impacts. If the preferred alternative has a PDE that is so broad that it allows for two or more substantially different project designs (e.g., pile-driven foundations vs. quiet foundations), it effectively does not choose between alternatives. This has the effect of allowing the developer to make that choice at a later time without NEPA oversight. In order to encompass the full range of reasonably foreseeable impacts, BOEM's analysis must include an alternative that combines the most disruptive components for each option included in the envelope. If the PDE is conceived or analyzed so broadly that it impairs BOEM's duty to effectively "inform decision makers and the public of the reasonable alternatives which would avoid or minimize impacts," as NEPA requires [Footnote 44: Id. § 1502.1], it undercuts NEPA review.

Relatedly, it is notable that Atlantic Shores only has a PPA with New Jersey Board of Public Utilities for Project 1, while Project 2 does not yet have a committed power offtaker [Footnote 45: ASOW COP Volume I at E-1]. The COP states that Project 2 is being developed to support future New Jersey Solicitations, the next of which will occur in Q3 of 2022 [Footnote 46: Id]. However, despite being unlikely to secure a PPA until nearly a year hence, the schedule provided in the COP states that all construction for Project 2 will be completed in 2027 [Footnote 47: Id. at 4-3, Table 4.1-1]. Under 30 C.F.R. § 585.631, after a COP is approved, the developer must commence construction by the date given in the construction schedule required by 30 C.F.R. § 585.626(b)21, unless BOEM approves a deviation of the schedule [Footnote 48: 30 C.F.R. § 585.631. Pursuant to 30 C.F.R. § 585.626(b)21, a COP must include a "reasonable schedule of construction activity showing significant milestones leading to the commencement of commercial operations."]. Further, pursuant to 30 C.F.R. § 585.634, a developer must notify BOEM before conducting any activities not described in an approved COP and where a developer seeks to undertake activities not described in an approved COP, a revision to the COP "will likely be necessary." [Footnote: 49: 30 C.F.R. § 585.634]. BOEM may begin the appropriate NEPA analysis and relevant consultations when it determines that a proposed revision could "result in a significant change in the impacts previously identified and evaluated" or "involve activities not previously identified and evaluated." [Footnote 50: Id].

In the event that finalizing a PPA for Project 2 were to delay the proposed schedule such that construction continued past 2027, under BOEM's regulations Atlantic Shores would need to submit a revised schedule, which may require BOEM to conduct a revised NEPA analysis. The need for additional NEPA analysis would depend on the extent to which the new schedule deviated from the original schedule and the extent to which our understanding of the impacts from offshore wind development has changed. For example, if a delayed schedule were to occur after several offshore wind projects currently in the early stage of development were constructed and operated, such projects could give us new and significant information regarding how offshore wind projects impact a variety of resources and communities. Ocean conditions may have significantly changed, as well as the conservation status or behavior patterns of key species. New technologies may develop that could significantly impact construction, turbine size, turbine foundations, layout, or other significant factors, including impact minimization strategies. In such circumstances, additional NEPA analysis could be necessary before Atlantic Shores could proceed with a delayed construction schedule.

Comment Number: BOEM-2021-0057-0119-29

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

While pile-driven foundations have a smaller footprint per foundation than most other foundations [Footnote 70: Id], they are the greatest source of noise of all base configurations. Much of what is known about pile driving noise is what is propagated into the water column from the pile as it is struck. Impulsive noise from pile driving can damage or otherwise negatively impact fish [Footnote 71: Robert Abbott, Ph.D. James A. Reyff “San Francisco – Oakland Bay Bridge East Span seismic safety project: Fisheries and hydroacoustic monitoring program compliance report.” 2004 See: <http://www.biomitigation.org/reports> Available as “Revised Fisheries Compliance Report”], marine mammals [Footnote 72: Michael Dähne, Anita Gilles , Klaus Lucke, Verena Peschko, Sven Adler, Kathrin Krügel, Janne Sundermeyer, and Ursula Siebert (2013) Effects of pile-driving on harbour porpoises (*Phocoena phocoena*) at the first offshore wind farm in Germany. Environmental Research Letters V. 8:17], and zooplankton [Footnote 73: Robert D. McCauley, Ryan D. Day, Kerrie M. Swadling, Quinn P. Fitzgibbon, Reg A. Watson & Jayson M. Semmens “Widely used marine seismic survey air gun operations negatively impact zooplankton.” Nature Ecology & Evolution 1, Article number: 0195 (2017) doi:10.1038/s41559-017-0195], and degrade the acoustic habitat upon which the majority of marine species rely.

Comment Number: BOEM-2021-0057-0119-5

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Atlantic Shores’ project design envelope, particularly its inclusion of seven foundation types, is so broad as to impair review and should be revised.
- Quiet foundation technology should be included among the reasonable alternatives examined in the Draft EIS.

Comment Number: BOEM-2021-0057-0122-11

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS process here must go beyond a cursory action versus “No Action” analysis. First, the clear alternative to offshore wind is onshore wind, which is the same technology located to automatically eliminate most of the “expected impacts” listed in the beginning of this letter. Secondly, the EIS should be looking for best available solutions to climate change and focus on the review of other alternatives (e.g., solar, conservation, efficiency).

Unique to this Proposed Action, however, is the ability (and duty) of BOEM to review the “No Action” alternative in the following additional ways:

1. Project 1 only (105-136 WTGs)

2. Project 2 only (64-95 WTGs)
3. Reduce both Projects 1 and 2 to the minimum number of WTGs, 105 and 64 respectively.

In this way, the EIS can assess the alternatives of 0, 64, 105, and 169 WTGs versus the maximum of 231 WTGs, in addition to the related infrastructure.

Comment Number: BOEM-2021-0057-0122-21

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

COA advocates that the COP-EIS include land-based facilities that are or may be used for development of wind turbine generators as well as operation and management. These are:

1. To reduce the overall footprint; and
 2. To be climate resilient; and
 3. To be as energy efficient as possible; and
 4. Sited in environmentally friendly locations.
-

Comment Number: BOEM-2021-0057-0146-1

Commenter: Jim Binder

Commenter Type: Individual

Comment Excerpt Text:

My point is that we need to look at these impacts and assess them in light of what could be gained by looking at alternatives and the no action alternative considering other technology options for clean renewable energy that have come on-line in recent years and made remarkable advances and that could diminish the size or number of turbines that could be used or could lead to mitigation of the project in its entirety in the no action alternative.

You know, options that have become available and shown remarkable advancement in the last five years, you know, include the use of hydrogen as a fuel for power generation as well as for transportation. The first hydrogen plant in the United States on a power side went on-line in August of this year in Ohio starting with a mixture of five percent hydrogen and 95 percent natural gas ramping up to 100 percent hydrogen by 2030, 450 megawatts. You could build four or five of these facilities on shore and negate the need for this offshore project or at least reduce it in size to minimize environmental impacts that will occur.

The other option is to look at improving the efficiency of existing natural gas power generating facilities by making them cogeneration facilities looking at both the electricity from combustion as well as steam generation. It's been estimated that that would reduce greenhouse gas emissions by as much as 40 percent. That could be implemented immediately with existing infrastructure and operations of existing natural gas plants.

You could look at carbon capture, the point of all of this is that the no action alternatives needs to seriously look at these new technologies that are alternatives and see how that would impact the size and need for this offshore project as proposed.

Second point I'd like to make is that in New Jersey there was a blue ribbon panel that suggested to the governor as long ago as 2006 that you should start slow with wind, no more than 350 megawatts until we know the impacts and the benefits. We are committing here way over our heads, too much too fast. I think we need to look at a limited test project as another alternative.

Point three we all recognize large turbine sizes have come into effect since the WEA was recognized. New York State has adopted a 20 mile exclusion zone, that's statute miles not nautical miles. I think it would be imperative for BOEM to work with the State of New Jersey, DEP to look at a potential exclusion zone,

Comment Number: BOEM-2021-0057-0192-1
Organization: Nature Conservancy
Commenter: Tricia Jedele
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The narrow comment I wanted to make today is that we are really interested and happy to see the number and variation of foundation types determined to be feasible by Atlantic Shores in its COP. The foundation type selected we believe can in its own way act as an opportunity to avoid environmental impact in the first instance. For example gravity based foundations do not necessarily lead to concerns about material impact to benthic habitat in all scenarios and both gravity and suction bucket designs can help to avoid the considerable extra cost that would be associated with having to provide noise mitigation, the need to fuel the -- the need for fuel to run only partially effective very expensive and in high demand noise mitigation devices could be avoided altogether eliminated by selecting some of these other foundation types.

But so that we can really begin to develop an understanding of what types of technologies are best available for avoiding impacts or adding value, it would be really helpful to evaluate those foundation types, for BOEM to evaluate those foundation types and their benefits as opposed to just developing an understanding of whether the impacts associated with kind of the potentially worst-case scenario or most impactful technology are tolerable or mitigatable.

So, we would like to see maybe some additional analysis about the benefits associated with selecting some of the feasible foundation types that have been included in the COP by Atlantic Shores.

Comment Number: BOEM-2021-0057-0199-7
Commenter: Daniel LaVecchia
Commenter Type: Individual

Comment Excerpt Text:

While we do not necessarily see how the thousands of wind turbines planned for the east coast will reverse climate change to the extent that most subscribe to, we do not want to stand in its way. We ask that our regulators slow down this process, put in place a prudent pilot program of maybe ten windmills in a test area that will demonstrate over the next five or ten years.

Comment Number: BOEM-2021-0057-0233-1

Organization: Department of the Army
Commenter: Todd Hoernemann
Commenter Type: Federal Agency

Comment Excerpt Text:

The EIS should address potential impacts to congressionally authorized federal projects and meet requirements specified by 40 CFR 230 when considering alternatives.

Comment Number: BOEM-2021-0057-0234-10
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency
Other Sections: 4

Comment Excerpt Text:

We are aware that some benthic habitat data have been collected and are being processed and interpreted by the developer, and additional information may be provided in the coming months. Some benthic habitat data have been included in the COP in narrative form or in example figures; however, we have yet to review any complete benthic habitat mapping documents and habitat data. This limits our ability to provide site-specific feedback on the proposed projects and potential alternatives. More specifically, at this time it is not possible for us to specify detailed habitat minimization alternatives for both the wind farm area and cable corridors, until we have comprehensively reviewed the benthic habitat mapping data. It would be helpful to have this information in the COP at the scoping stage to help formulate a more detailed alternative.

Comment Number: BOEM-2021-0057-0234-16
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency
Other Sections: 17

Comment Excerpt 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-2021-0057-0234-6
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency
Other Sections: 17

Comment Excerpt Text:

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 NOAA trust resources. The regulations published by the Council on Environmental Quality (CEQ) 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 as to eliminate from full consideration reasonable alternatives that also minimize and avoid adverse effects.

Comment Number: BOEM-2021-0057-0234-7

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 12

Comment Excerpt Text:

We recommend that you fully evaluate and consider alternatives that avoid and minimize impacts to more vulnerable and difficult-to-replace resources such as submerged aquatic vegetation (SAV), natural hard bottom substrates (particularly those with macroalgae and/or epifauna), dense faunal beds (e.g., cerianthid beds), biogenic reefs (including shellfish), shellfish habitat, tidal wetlands/marshes, subtidal and intertidal flats (e.g., mudflats), and prominent benthic features (e.g., offshore sand ridges; ridge and swale complexes). Compensatory mitigation should be provided for unavoidable adverse effects. Inherent to this is the necessity to conduct high-resolution benthic habitat mapping that characterizes and delineates all habitats in the lease area and within all potential cable corridor areas, which we understand is ongoing. Similar to the structure of the draft COP, and to facilitate efficient review of the alternatives, we recommend the EIS discussion of the alternatives, and the comprehensive analyses associated with each, be grouped into the three corresponding elements of the proposed Projects, 1) wind farm areas, 2) offshore export cable routes and associated corridors, and 3) inshore/landside export cable routes and associated corridors and landfall points. The proposed Projects should have multiple alternatives for each element that could be "mixed and matched" in the final selection of each single and complete project.

Comment Number: BOEM-2021-0057-0234-9

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency
Other Sections: 12

Comment Excerpt Text:

While the minimization of impacts should be considered in the development of all alternatives, it will be essential for you to consider a discrete alternative that reduces impacts to fish habitats that are more sensitive and vulnerable to impacts. Based on our understanding the proposed Projects and lease area, we would recommend BOEM consider one or more Fisheries Habitat Impact Minimization Alternatives that focus on 1) reducing impacts to prominent benthic features and complex habitats in the lease area, 2) reducing impacts to habitat from scour protection given the wide range of materials proposed and extent of anticipated impacts, and 3) alternative measures to reduce impacts to sensitive habitats along the export cable.

This alternative should focus on project modifications that reduce adverse impacts to vulnerable fisheries habitat within the lease area, such as prominent benthic features (*e.g.*, sand ridges and banks; ridge and swale complexes) and complex habitats, while also avoiding and minimizing the elimination of natural soft bottom habitats. For example, the crests (highest points) and depressions (lowest points) of the ridge and swale complexes, where unique faunal assemblages are associated with distinct sediment types and sizes, should be avoided and impacts minimized to the maximum extent practicable. This should include avoiding these areas for turbine placement, and reducing the extent of scour protection to minimize the permanent conversion of soft sediment to hard stone or other artificial substrates. This alternative should consider the elimination or relocation of WTGs and inter-array cables in portions of the lease area dominated by complex habitats and prominent benthic features that provide important functions for associated living marine resources. A Fisheries Habitat Impact Minimization Alternative should consider impacts to all existing, fully functional fish habitats that are more vulnerable to project impacts. As discussed elsewhere in this letter, minimizing impacts through project design and identification of a Fisheries Habitat Minimization Alternative must begin with high-resolution habitat mapping and analysis, which will determine which project components are in the most sensitive areas and should be considered for removal or relocation.

Further, the Fisheries Habitat Impact Minimization Alternative should consider the material and composition of any proposed scour protection, for cables, substations, and WTG foundations, as well as the necessary extent (square footage) of such scour protection. The analysis should consider how different types of materials will adversely impact species, such as epifaunal and infaunal invertebrates, including Atlantic surfclam (*Spisula solidissima*), ocean quahog (*Arctica islandica*), and sea scallop (*Placopecten magellanicus*). Additionally, this analysis should consider how different types of materials employed (*e.g.*, size, shape) may or may not maximize the habitat value for early life stages (*e.g.*, juveniles) of species, such as Atlantic cod (*Gadus morhua*), winter flounder (*Pseudopleuronectes americanus*), clearnose skate (*Raja eglanteria*) and summer flounder (*Paralichthys dentatus*). All of these measures should be considered as components of a Fisheries Habitat Impact Minimization Alternative or divided into two sub-alternatives (*e.g.*, WTG location alternative and scour protection alternative). More specifically, the evaluation of materials used for scour protection for pile foundations, substation foundations, inter array cables, and export cables should consider the adverse effects of using thick layers of hard masonry/quarry stone, concrete mattresses, grout or sand bags, rock bags, ballast-filled mattresses, and frond mattresses. Additionally, BOEM should consider eliminating man-made scour protection options (concrete mattresses, grout or sand bags, rock bags, ballast-filled mattresses, and frond mattresses) that do not mimic natural habitats. Some alternatives to consider may include modification of masonry/quarry stone via tumbling to eliminate rough edges and angles. Furthermore, your analysis should also consider layering the tumbled stone so that smaller stones, such as pebble and cobble-sized stones, are present on the surface for use by larvae and juveniles.

The COP suggests the Atlantic Shores Projects may use various types of artificial scour protection over an extensive area. While the COP combines scour protection estimates with other types of impacts, it appears that between 9.3 and 25.96 acres of scour protection protection will be used for offshore substations (depending on type and number), while between 133.4 and 514 acres will be used for WTGs (depending on type and number). The COP estimates approximately 2,328 acres of seafloor impact related to inter-array and inter-link cables and 2,606 acres related to export cables, inclusive of scour protection. Taken together, it appears that approximately 5,000 acres (7.8 square miles) of natural seafloor could be converted to scour protection. However, the COP does not address the potential for additional scour protection that may be required to address depressions left by spuds/jack-up vessels used for pile installation - potentially further increasing the area of scour protection - a situation that has occurred in other areas (e.g., Virginia Research Lease). This issue and associated impacts should be fully addressed and integrated into the analysis.

The EIS should address the potential effects of the various types of artificial materials proposed and the Fisheries Habitat Minimization Alternative (or scour protection sub-alternative) should identify alternative options to reduce project impacts. BOEM's recent (2020) study of the Block Island Wind Farm found no colonization of organisms on concrete mattresses and determined that extensive use of mattresses may result in significant detrimental effects. Therefore, we recommend that the habitat minimization alternative investigate the use of natural smooth stone for scour protection that provides interstitial space for species, especially early life stages of species. The habitat value associated with scour protection does not provide the same value as natural hard habitats and may provide substrates for invasive species and/or alter predator-prey interactions in the area. The distinction between the natural and man-made structures should be incorporated into the analysis and should not be evaluated as equal in terms of habitat functions and values. The limitations of habitat value from scour protection and other man-made structures should be clearly disclosed and analyzed. The decommissioning and removal of structures (e.g., monopiles) should be integrated into this analysis.

A full range of reasonable alternatives to the proposed offshore and inshore export cable corridors should also be considered and evaluated, including an alternative (or alternatives) to avoid and minimize impacts to important, sensitive, and complex habitats located in the Projects' area. Such habitats could include natural hard bottom complex substrates (particularly those with macroalgae and/or epifauna); SAV; dense faunal beds (e.g., cerianthid beds) and shellfish habitat and reefs; other biogenic reefs; prominent benthic features; coastal marshes; subtidal and intertidal flats (e.g., mudflats); shipwrecks, fish havens, and other areas identified as N.J. Prime Fishing Areas (N.J. Administrative Code Section 7:7-9.4); and designated Habitat Areas of Particular Concern (HAPC). HAPCs are designated as high priorities for conservation due to the important ecological functions they provide, their vulnerability to anthropogenic degradation and development stressors, and/or their rarity. Habitat impacts in any area with SAV should be avoided, minimized, or mitigated since SAV is designated as HAPC for summer flounder. Additionally, sandbar shark (*Carcharhinus plumbeus*) nursery HAPC is designated in the project area and overlaps with the Atlantic Export Cable Corridor and Cardiff Interconnection Cable Route. BOEM should consider an alternative that evaluates how cable installation and operation may impact these different habitat types and identify ways to avoid and minimize impacts to sensitive and complex habitats. This is an accepted practice for cables and other utilities projects and should be a component of the evaluation of impacts from offshore wind development. This may include evaluating modifications or expansions of the cable corridors to ensure cables can be routed around complex and sensitive habitats or using existing utility corridors/easements. This alternative should also consider methods used to lay the cable within, or adjacent to, complex habitats for both the offshore and inshore landing locations as well as avoiding, reducing, or modifying scour protection. Options for avoiding and minimizing impacts related to the methods of construction and routes, that allow for full cable burial to minimize permanent habitat impacts and potential interactions with fishing gear, should be also considered.

The proposed project area is designated essential fish habitat (EFH) for numerous managed fish species and trust resources for which NMFS has conservation and management responsibilities, including but not limited to: Atlantic surfclam; ocean quahog; sea scallop; scup (*Stenotomus chrysops*); clearnose skate; longfin squid (*Doryteuthis pealeii*); winter flounder; sandbar shark; and summer flounder. It will be especially important for the habitat minimization alternative(s) to consider ways to minimize both impacts to important benthic habitats as well as the sensitive life stages of species that rely on them. Therefore, construction methods, timing, and associated cable layouts should also be considered in this evaluation as additional measures to minimize impacts to fish habitats. An alternative that minimizes impacts to sensitive benthic habitats, and life stages of species that rely on them, to be a reasonable alternative that should be considered in the NEPA document.

Comment Number: BOEM-2021-0057-0009-13

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

We need to go slowly, and as recommended by the Governor’s Blue Ribbon Panel in 2006, build a test facility (no greater than 350MW) to obtain practical knowledge of costs, benefits and impacts resulting from offshore wind turbine facilities. Let’s not forfeit what we have for an uncertain future before we know for sure what we are doing. And, when and if we do it, let’s do it without visual impact and environmental harm as part of a diverse formula for energy generation

Comment Number: BOEM-2021-0057-0009-15

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

Regarding offshore wind, the reliability of offshore wind power has not been demonstrated at a level in the U.S. for the project size proposed. As noted previously, the Blue Ribbon Panel established by the Governor of NJ to look into the viability of large offshore wind projects in New Jersey prepared a report in 2006. They recommended to the BPU that a limited test project no larger than 350MW first be done to obtain practical knowledge of benefits and impacts resulting from offshore wind turbines before larger projects are developed. That limited test project has never been done. It would be wise to “walk before we run”.

Comment Number: BOEM-2021-0057-0009-9

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

We should not risk such a mammoth investment in offshore wind energy without further understanding its consequences. As previously mentioned, in 2006 a Blue Ribbon Panel for the Governor of NJ studied offshore wind energy and compared it to energy production from fossil, nuclear and renewable fuels as a means of meeting the State’s long term energy needs. It’s final report recommended to the NJ BPU that it proceed with a “limited test project, not to exceed 350MW to obtain practical knowledge of benefits and

impacts resulting from offshore wind turbine facilities”. To date, that test project has not been constructed, nor, for that matter, has any offshore wind project been constructed in NJ.

Comment Number: BOEM-2021-0057-0017-1

Commenter: Nicholas Palmisano

Commenter Type: Individual

Comment Excerpt Text:

I am against the Atlantic Shores Offshore Wind Project. First, I feel that this is too large of a project to begin with. This comment form seeks feedback regarding the impact to wildlife and tourism, and specifically regarding the wildlife portions, the bottom line is we simply cannot know the impact. The only think that will show the true impact is time studying the project. Several years ago there was a pilot program proposed for the Atlantic City area that only included 5 windmills. The project at the time was called Fisherman's Energy. This, in my opinion, is the prudent way to go. Build 5 wind turbines and study all of the effects in the real world before committing to build a project at the scale of what is currently being proposed.

Comment Number: BOEM-2021-0057-0050-79

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Alternative A discussion should also recognize that the current Atlantic Shores lease area was identified over 10 years ago without public input and consideration of onshore visible turbine impact or operational noise impact to endangered whales, and that the explosion in turbine power and dimensions and the associated underwater noise now place significant restrictions on it. Our analysis in the cover letter and Enclosure 2 indicates that there is no room for the turbines proposed in the project area consistent with the requirements of the ESA and MMPA.

Alternative A places greater reliance on development in Hudson South. The Hudson South area has been screened more recently by BOEM for all relevant turbine placement factors such as visible impact, navigation, Coast Guard use, other defense use, fishery conflicts, marine mammal conflicts, water depth and cost, and has been found to be suitable for offshore wind energy leasing. It offers several clear environmental advantages such as avoiding visible turbine impacts to shore communities. Those benefits should be described in the EIS.

Further, regarding the applicant’s interests, as shown by comparing the two maps in exhibit F, EDF Renewables is poised to secure leases covering a large area in the western part of Hudson south. In much the dark green areas of that part EDF has provided the only nomination. In the lighter green areas it is one of two potential leasees. So, it is likely that EDF Renewables will come away with a substantial turbine effort in Hudson South and its interest can be served. Likewise, Shell New Energy could use the its advantage with the current lease area to get involved in the substantial transmission project that will be needed to bring the power from Hudson South to shore.

Comment Number: BOEM-2021-0057-0050-81

Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Alternative B, Current BPU is based on decisions by the New Jersey Board of Public Utilities for power purchase agreements up to 2250 mw for the Ocean Wind project and 1510 mw for the Atlantic Shores project. However, such decisions did not consider the environmental constraints regarding visible impact or endangered whale protection even though they were placed in the docket record.

As mentioned above, the entire project area has very serious constraints regarding those issues, therefore a restricted project would be more sensible, as described below.

Comment Number: BOEM-2021-0057-0050-82
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Alternative C, restricted BPU. The initial proposal by Atlantic Shores to place the first 1510 mw in the southern portion of the lease area shown in blue in Exhibit G offers some possibilities. That area is wider, running from 8.7 miles to about 22 miles from shore. So, turbines could be restricted to the 17.3-19.3-mile range, which would allow for three rows of thirteen Vesta-236 13.6 mw turbines, or 530 mw of power.

This would mitigate the visible impact similar to what BOEM has done for New York State, and reduce the noise levels in the right whale's migration corridor, although they would still exceed the 120 dB level.

No further turbine placement in the lease area should be part of this proposal, and the EIS should state the BOEM's intention in this regard

Comment Number: BOEM-2021-0057-0050-83
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Alternative D, Whale Protective, excludes turbines to protect the critically endangered right whale and the endangered fin and humpback whales. The right whale's migratory path comes within 20 miles to shore (Exhibit B), and the fin and humpback whales' frequent areas out to 11.5 miles (Exhibit C).

As shown above in I.1, since the width of this project area (about 10 miles), is less than the noise zone of influence that will disrupt the right whale's behavior (at least 22 miles), there is no place in this project or entire lease area for turbine placement that will avoid exposures above the 120 dB behavior disruption criterion, and block its migration corridor.

Given the endangered whale constraints, Alternative D also places greater reliance on Hudson South similar to Alternative A.

Comment Number: BOEM-2021-0057-0050-84
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Alternative E, Maximum Use of the Ocean Wind & Atlantic Shores Areas would make greater use of the closer-in lease areas, but that would exacerbate the visible turbine impact on shore communities and the operational noise danger to the endangered whales.

Atlantic Shores has also said they will seek authorization in the next State solicitation (above 1510 mw) for up 20 mw power turbines that are 1042 feet high, or about 200 feet higher than the Vestas-236, so this turbine size (and power) needs to be incorporated into this alternative. This would of course exacerbate the shore visible impact and the operational noise impacts on the whales even further.

Since even the maximum wind energy potential in lease areas A-0498 and A-0499 combined cannot meet the 7500-mw goal, this alternative would still require some development in Hudson South, further linking the three areas, and requiring two transmission projects, which is avoided under Alternative A.

Alternatives similar to those above should form the structure of this EIS to provide real options for decision-making that can achieve wind energy goals with lesser environmental impact

Comment Number: BOEM-2021-0057-0052-28
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Site Characterization

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.

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-2021-0057-0104-25

Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 15

Comment Excerpt Text:

A Fisheries Habitat Minimization Alternative should be developed to avoid siting foundations in/routing cables through complex habitats to decrease the overall adverse impacts to EFH and lessen the direct mortality of fish and invertebrates.

Comment Number: BOEM-2021-0057-0104-35
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

consideration of alternatives in turbine specifications that could influence collision risk, including air gap, total rotor swept zone, and turbine height, and adequately assess collision risk to seabirds using science-based analysis of flight heights (averages and ranges), avoidance rates, and other relevant avian flight behavior. The cumulative impacts analysis in the EIS must incorporate results from BOEM's own analysis of the vulnerability of avian species to the WTGs of the OCS wind energy projects to be developed in the foreseeable future. [Footnote 44: Robinson, W. J., Forcey, G., & Kent, A. (2013). The Relative Vulnerability of Migratory Bird Species to Offshore Wind Energy Projects on the Atlantic Outer Continental Shelf: An Assessment Method and Database. OCS Study BOEM 2013-207.] Many tubenoses, for example, congregate outside the breeding season near upwellings and other locations of high productivity. Such concentrated flocks, if occurring within the turbine array, could produce significantly large collision events, even if such events are relatively rare. When calculating risk to birds, the EIS must consider this variability of large concentrations of birds even in short periods of time in its analysis of seasonal abundance.

Comment Number: BOEM-2021-0057-0104-38
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

- evaluate a broad range of feasible alternatives to every impact producing component of Atlantic Shores COP (including infrastructure design technologies)

Comment Number: BOEM-2021-0057-0114-26
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

A transit corridor of no less than two nautical miles between the two leases would need to be included in these projects' designs to safely preserve these traditional transit paths based on the distance and use patterns of the area. However, due to a high presence of recreational fishing vessels for much of the year, submerged materials, overall port traffic, radar interference associated with OSW structures, and other factors, four nautical miles is appropriate.

Comment Number: BOEM-2021-0057-0119-21

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Our organizations recommend that the EIS analyze the impacts from “quieter” gravity-based and suction bucket foundations separate from those of monopile foundations, to clearly illuminate the pros and cons of the various foundation types on the area’s wildlife and existing uses. As offshore wind development’s PDE portrays the greatest expected impact, it will be necessary to add a section that teases apart the impacts from these very different technologies. BOEM should consider how to present several scenarios (e.g., 100% use of quieter foundations, 100% use of monopile foundations, a mix of quieter and monopile foundations) to allow the public to understand how various impacts could be decreased by adopting a particular alternative. Clearly identifying impacts by foundation type will also help develop relevant agency minimization, mitigation, and monitoring requirements.

Comment Number: BOEM-2021-0057-0119-22

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Our organizations welcome Atlantic Shores’ inclusion of gravity-based and suction bucket foundations in their PDE. Gravity-based and suction bucket foundations offer several environmental benefits over the other offshore wind foundations evaluated in the COP. Most significantly, these foundations do not require pile driving and thus avoid the noise impacts stemming from that activity [Footnote 51: Our groups are highly supportive of fixed foundation types that significantly reduce noise during installation, including gravity-based foundations, suction buckets (or “caissons”), and jack-up foundations (see, e.g., <http://www.windbaseoffshore.com/>), and encourage BOEM to incentivize full consideration of these foundations for all fixed-foundation wind energy projects in the United States]. Pile driving noise has been identified as a stressor of high concern for marine wildlife and the health of the broader marine ecosystem [Footnote 52: “New York State Offshore Wind Master Plan Environmental Sensitivity Analysis. Final Report.” NYSERDA Report 17-25. Prepared for New York State Energy Research and Development Authority by Ecology and Environment Engineering, P.C., New York, New York, (November 2017). Available at: <https://www.nysesda.ny.gov/-/media/Files/Publications/Research/Biomass-Solar-Wind/Master-Plan/17-25i-Environmental-Sensitivity.pdf>]. Sensitivity to the loud impulsive sound that propagates through the water column and substrate from pile driving extends to marine mammals, sea turtles, fish, marine birds, and benthic and pelagic invertebrates, some of which support economically valuable fisheries. Potential impacts of unmitigated exposure to pile driving noise include physical injury, hearing impairment, habitat

displacement, stress, disruption of vital behaviors such as feeding, breeding, and communication, and other health effects [Footnote 53: See, e.g., Weilgart, L. “The Impacts of Anthropogenic Ocean Noise on Cetaceans and Implications for Management,” *Canadian Journal of Zoology* 85, no. 11 (2007): 1091-1116; Weilgart, L. “The Impact of Ocean Noise Pollution on Fish and Invertebrates,” *OceanCare and Dalhousie University* (May 2018). Available at: https://www.oceancare.org/wpcontent/uploads/2017/10/OceanNoise_FishInvertebrates_May2018.pdf]. Particle motion caused by pile driving is also expected to impact species in the water column as well as the seabed, although these impact pathways require further study [Footnote 54: Sophie L. Nedelec, James Campbell, Andrew N. Radford, Stephen D. Simpson, and Nathan D. Merchant (2016) Particle motion: the missing link in underwater acoustic ecology. *Methods in Ecology and Evolution* V7, 836–842].

By entirely avoiding the impact of pile driving noise, the installation of gravity-based or suction bucket foundations represents a ‘best practice’ in the context of the mitigation hierarchy (avoid, minimize, mitigate) for this impact producing factor [Footnote 55: IUCN and The Biodiversity Consultancy. “Mitigating biodiversity impacts associated with solar and wind energy development: guidelines for project developers” (2021). Available at: <https://portals.iucn.org/library/node/49283>]. As developers will not need the same level of noise protection in place, gravity-based and suction bucket foundations may offer the flexibility to construct year-round (e.g., avoiding seasonal restrictions designed to protect North Atlantic right whale from pile driving noise) in certain regions, such as the New York Bight, as long as a mandatory 10 knot vessel speed restriction is in place, and eliminate the need for expensive underwater noise reduction and attenuation technologies (e.g., hydro sound dampers, bubble curtains, etc.).

While our organizations support consideration of gravity-based and suction bucket foundations for the Atlantic Shores project and are encouraged about the potential project’s minimal noise footprint, we acknowledge that there remains much to learn about the potential impacts of these foundation types in the United States. We urge BOEM to work closely with Atlantic Shores to review the project’s potential impacts and to establish a thoughtful and rigorous long-term scientific monitoring program with the view to inform the responsible development of future offshore wind energy projects that employ any of the foundation types proposed in the PDE.

Comment Number: BOEM-2021-0057-0119-23

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

One of the primary environmental considerations for gravity-based foundations in particular is the impact to the benthos. Gravity-based foundations require more seabed preparation and scour protection relative to monopile foundations. BOEM must therefore carefully consider how potential negative impacts to the benthos, particularly designated Essential Fish Habitat for large numbers of species [Footnote 56: ASOW COP, Appendix II-J. Preliminary Essential Fish Habitat Essential. Available at:

<https://www.boem.gov/renewable-energy/state-activities/appendix-ii-j-preliminary-efh-assessment>. EFH has been designated in the lease area and along the export cable corridors for various life stages of more than 41 species of fish and invertebrates], can be avoided, minimized, mitigated, and monitored. Local-scale impacts should be avoided by micro-siting foundations away from sensitive species and habitats. The substrate where the project is to be sited is predominantly sand, mud, and gravel [Footnote 57: Id. at Figure 2, p. 108]; thus, the potential impacts from introducing significant levels of rocky scour should be carefully considered, particularly on sand lance and benthic invertebrates that form a significant

foundation of the trophic pyramid in sand and mud benthos.

To minimize and mitigate potential scour protection impacts for all foundation types, BOEM should consider requiring scour protection follow a Nature-Based Design approach. Nature-Based Design refers to options that can be integrated with or added to the design of offshore wind infrastructure to create suitable habitat for species or communities whose natural habitat has been modified, degraded, or reduced [Footnote 58: Sensu, Hermans et al. 2020. Nature-Inclusive Design: A catalog for offshore wind infrastructure. <https://edepot.wur.nl/518699>]. A rigorous scientific monitoring program for the lifetime of the project will help assess the impact of changes to benthic habitat and community composition and help determine the degree to which scour protections should be removed or left in place during the project's eventual decommissioning.

In addition to benthic considerations, the design of an offshore wind farm (utilizing any foundation type), such as the location, number of turbines, and foundation types, may affect local and regional hydrodynamics [Footnote 59: 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 discussed further in Section IV.E.4.d, as tidal currents move past offshore wind foundations, they generate a turbulent wake that contributes to a mixing of the stratified water column which, with large-scale wind energy buildout, could significantly affect the stratification of a water column, including in the Mid-Atlantic Bight "Cold Pool." [Footnote 60: Lentz, S.J., "Seasonal warming of the Middle Atlantic Bight Cold Pool," *JGR: Oceans* 122(2017): 941-954].

BOEM should follow the monitoring guidance set forth in the New York State Energy and Research Development Authority (NYSERDA) Environmental Stratification Workgroup Report [Footnote 61: Available at: <https://drive.google.com/file/d/15i0sGK9FyQDgS5pipnfeH7tA5FBHMq/view>], and undertake research similar to that conducted in Europe for monopile foundations [Footnote 62: See, e.g., Schultze, L. K. P., et al. "Increased mixing and turbulence in the wake of offshore wind farm foundations," *Id.*] to better understand the effects of individual foundations, as well as the cumulative effects of large-scale build out, on mixing and stratification in the Mid-Atlantic Bight, including potential impacts on the development of the Cold Pool and any indirect impacts on fish and invertebrates, including prey aggregations of higher trophic level predators

Comment Number: BOEM-2021-0057-0119-6

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Atlantic Shores Project 2 does not have a committed power offtaker but has a proposed schedule in which all construction for Project 2 will be completed in 2027. If finalizing a PPA for Project 2 were to delay the proposed schedule such that construction continued past 2027, under BOEM's regulations Atlantic Shores would need to submit a revised schedule, which may require BOEM to conduct a revised National Environmental Policy Act analysis.

2. Preferred foundation type (Section III):

- Gravity-based and suction bucket foundations (known as "quiet" foundations) offer significant environmental benefits over pile driven foundations and may enable flexibility in construction timing and decreased noise mitigation requirements.

- By entirely avoiding the impact of pile driving noise, the installation of gravity-based or suction bucket

foundations represents a ‘best practice’ in the context of the mitigation hierarchy (avoid, minimize, mitigate) for noise.

Comment Number: BOEM-2021-0057-0125-13
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

As such the EIS must consider a greater array spacing to allow commercial operation, or assume these areas will be closed to most gear types fished in NJ commercially. Thus, mitigation must be considered that includes the fact that these areas will be closed to commercial fishing. And this compensatory mitigation or impact fees fully offset these fisheries losses. Finally, this mitigation funds must be identified and distributed by an independent source, with no relationship or control by the developers.

Comment Number: BOEM-2021-0057-0214-3
Commenter: Peggy Middaugh
Commenter Type: Individual

Comment Excerpt Text:

Specifically, I hope you will consider new construction technology that has been reported to significantly reduce noise impacts on marine animals.

A.3.2.5. Alternate Technology or Energy Source

Comment Number: BOEM-2021-0057-0007-1
Commenter: Andrew Sangatardo
Commenter Type: Individual

Comment Excerpt Text:

I am totally opposed to wind generators. Not only is it old technology and costly to maintain China dominates the market. Do you want to rely on China for replacement parts. How about researching tidal turbines the technology is here. It would seem to me that turbines are less intrusive to the environment

Comment Number: BOEM-2021-0057-0009-10
Commenter: James Binder
Commenter Type: Individual

Comment Excerpt Text:

So, what are the onshore alternatives. As noted above, in regard to carbon free or reduced carbon technologies, there are many in addition to wind and solar that can fill the void, including: nuclear; hydrogen as a fuel for power plants and for transportation; carbonless synthetic fuels; biomass; upgrading existing natural gas power plants to more efficient, combined cycle natural gas power plants; and carbon capture from gas, coal and oil plants and use of carbon captured for product manufacture, to name a few.

I note from an article that appeared in Mechanical Engineering Magazine in its June/July 2021 edition, "Bright Futures", that in regard to the state of readiness of hydrogen for power generation, that the "Long Ridge Energy Terminal, a 485 MW plant being built along the Ohio River and scheduled to begin production in Fall 2021, will use a blend of natural gas and 5% hydrogen, with the goal of using 100% hydrogen by 2030". From two to four similarly sized power plants could replace all of the power projected from the Atlantic Shores offshore wind project, without any use of the ocean's resources. Another option is to upgrade existing natural gas power plants to include combined cycle power generation, thereby increasing their efficiency and significantly reducing carbon emissions. The same article in Mechanical Engineering cites as an example the Lake Charles Power Station which is expected to emit around 40% less carbon dioxide than the single-cycle plant it replaced. Hydrogen use and combined cycle gas plants are currently viable and can be put in place before 2035 to reduce carbon emissions, while avoiding job disruptions and taking advantage of existing global infrastructure and competencies.

On the home front on Long Beach Island, New Jersey Natural Gas, our gas provider, is engaged in a green hydrogen project where hydrogen is blended into its existing natural gas system lowering overall carbon emissions of the gas delivered to its customers.

Biomass also is playing an increasing role to produce electricity while reducing carbon emissions. As an example, anaerobic digestion of food waste and other organic wastes that are currently landfilled is being used to generate electricity at net zero carbon emissions levels.

Use of these technologies offers secure, uninterrupted baseload power. They are not dependent on development of costly utility sized battery storage (not commercially available) or pumped storage used to store energy when the wind is not blowing or power is not needed.

Let's not forget offshore wind also requires construction of offshore electrical substations and installing power cables to bring the electricity to shore for connection to the grid. Those connections will impact bays and the undisturbed wetlands between the bays and the point of connection

Comment Number: BOEM-2021-0057-0009-14

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

The no action alternative should address renewable energy technology advances that have occurred since the Programmatic EIS was prepared by BOEM in 2007. The purpose and need for the proposed project has changed. The U.S. was recently and can again be energy independent due to the abundant supply of natural gas. The increased use of natural gas in power generation, replacing coal and oil, has resulted in significant reductions in emissions of greenhouse gas emissions below 1990s levels. In addition, there are other renewable, carbon free technologies that have advanced since the Programmatic EIS was prepared, including nuclear, use of hydrogen as a fuel for transportation and power generation and anaerobic digestion of organics for power generation. So, if the purpose and need of offshore wind is to provide needed power and to reduce greenhouse gas emissions, that has already or is in the process of happening. In addition, the reliability of wind power was recently called into question with the power outages in Texas this past winter. A reassessment of comparative costs is also needed

Comment Number: BOEM-2021-0057-0048-4

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

Please recognize the remarkable advances in alternative land based alternative energy projects and means to reduce carbon emissions as part of a sincere analysis in the No Action Alternative.

Comment Number: BOEM-2021-0057-0049-6

Organization: Geothermal National International Initiative

Commenter: John (Jack) DiEnna

Commenter Type: Other

Comment Excerpt Text:

If the primary goal is to reduce Greenhouse Gas emissions (GHG) there is a better way to do it by using geothermal technology, the Energy Under Our Feet to deliver space conditioning (heating and cooling) and water heating to facilities throughout NJ. The US DOE states that building energy use accounts for 36% of all the primary energy used in the US and 40% of the total energy used in those building is for space conditioning and water heating. This is a renewable technology that uses the thermal energy in the ground to heat and cool a facility. It does not impact any environment and can be installed throughout NJ. This technology will reduce emissions, lower energy costs to the end user and create JOBS.I would welcome the opportunity to discuss the other benefits of geothermal technology such as the amount of jobs it creates and how it would benefit the residence of NJ but the main reason for this email is to bring to light the actual cost of wind.

Comment Number: BOEM-2021-0057-0069-2

Commenter: Matthew Kelly

Commenter Type: Individual

Comment Excerpt Text:

While I would prefer to see the money put towards new, modern nuclear power plants I fear the public perception and that of many government representatives wont allow it.

Comment Number: BOEM-2021-0057-0079-2

Commenter: Donald Miller

Commenter Type: Individual

Comment Excerpt Text:

INSTEAD WHAT ABOUT A NUCLEAR POWER PLANT ON THE OLD FORKED RIVER SITE , THE INFRASTRUCTURE IS ALL READY IN PLACE .I UNDER STAND THE MODERON PLANT ARE SMALLER AND MORE POWER FULL. LOOK AT THE NAVY SHPS WITH NUCLEAR POWER PLANTS,NEVER NEED TO BE REFUELED,THAT LONGER THEN 15 YEARS. EVEN NATURAL GAS PLANT ARE MORE EFFECTION THEN WIND POWER. NO WIND POWER HERE KEEP OUT AND STAY A WAY FROM THE NEW JERSEY COAST.

Comment Number: BOEM-2021-0057-0100-12

Commenter: David Wallace
Commenter Type: Individual

Comment Excerpt Text:

The federal government and the grid operators know that wind and solar along with battery backup is not the solution to supplying electricity to every factory, office building, store and home in the U.S. 24 hours a day 365 days per year. The solution is going to be natural gas fired and nuclear power plants that can provide 100 percent of the power when the wind farms produce little or no power. Otherwise, the grid shuts down. However, the environmental community is telling the public that they can supply all the power needed using renewable power. Therefore, they are trying to stop the government from issuing new oil and gas leases to force increases in production of renewables. The Biden administration has now told BOEM to publish oil and gas lease bids for the Gulf of Mexico. The environmental community feels the Biden has betrayed them. The truth is that the ENGOs have betrayed the public not the president who is trying to keep the economy going and the lights on. The wind and solar systems will never be able to base capacity they are only 50 percent effective and the sun does not shine and the wind does not blow all the time. Gas fires and nuclear power plants can provide 100 percent of the power needed all the time.

Up until about one year ago, there was a large surplus of natural gas in the U.S. However, the demand for gas in the rest of the world market because it was replacing coal as the power plant fuel source. That drove up the price of natural gas and the U.S. became a big exporter, which drove up the price of gas to twice what it was a year ago.

Comment Number: BOEM-2021-0057-0114-17
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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 collocation 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-2021-0057-0115-5
Commenter: Dorothy (Dottie) Reynolds
Commenter Type: Individual

Comment Excerpt Text:

Of course the corporations that will benefit from the construction of wind farms promise that wind farms will solve much of our climate change problems. But have they in locations where they already exist? California and Europe are suffering high costs and an energy shortage crisis due to replacing sources such as natural gas and nuclear power with reliance on wind and solar energy. They are not producing enough power to meet their needs. Texas produces the most wind power of any U.S. state, but it still only

accounts for less than 20% of the electricity generated. Frozen wind turbines hampered the state's power output last winter. Germany, a leader in green energy, has the most expensive electricity rates in the world. And Germany's carbon emissions are 10 times greater than those of France, which gets 70% of its electricity from nuclear power. Nuclear power can provide carbon-free electricity on a massive and reliable scale. Europe has 5,402 turbines connected to their grid. Do they have fewer storms, less flooding? Wind farms do not have less of a damaging impact on wildlife than fossil fuels. We want to slow climate change, but we must want to do it in the most beneficial way. The global reduction of greenhouse gas emissions and air temperature is uncertain and the cost is uncertain.

Comment Number: BOEM-2021-0057-0115-7

Commenter: Dorothy (Dottie) Reynolds

Commenter Type: Individual

Comment Excerpt Text:

Wind energy is much more expensive and less reliable since the wind does not always blow, or blows too forcefully for the turbines to safely operate. Of the five turbines located on America's first wind farm off Rhode Island, four have been shut down the summer of 2021 for maintenance and safety concerns. Thirty-seven abandoned wind turbines lie at the south end of Hawaii's Big Island.

Comment Number: BOEM-2021-0057-0115-9

Commenter: Dorothy (Dottie) Reynolds

Commenter Type: Individual

Comment Excerpt Text:

More importantly, a more efficient and less environmentally harmful form of green energy will likely be developed in the near future. Natural gas and atomic power already exist and are less harmful to the environment. Top oil firms have pledged to produce oil with less greenhouse gas emissions by developing new cleaner fuels like hydrogen and biofuels from algae and also capturing and burying carbon for storage and perhaps reuse. It would be a shame if we installed thousands of turbines only to find there was a better way to reduce greenhouse gas.

Comment Number: BOEM-2021-0057-0153-4

Commenter: Dennis Yi

Commenter Type: Individual

Comment Excerpt Text:

The mention of hydrogen technology by the way is utterly spurious. Hydrogen plants do not generate energy, they are not a net source, they cannot replace fossil fuels. Hydrogen plants consume energy and create fuel for cars and such that could be electrified instead in totality and using no fuels and would then be powered by electricity such as generated by turbines. Or they could just be replaced with things such as electric trains.

In addition, 40 percent less emissions from natural gas are still 60 percent more emissions than necessary.

Comment Number: BOEM-2021-0057-0194-9

Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Aggressive solar energy policy is also missing from this state and the alternatives, combined these would generate many more long-term jobs.

Comment Number: BOEM-2021-0057-0198-2
Commenter: David Wallace
Commenter Type: Individual

Comment Excerpt Text:

The very electricity that they are bragging about will only operate about 50 percent of the time, so about 50 percent of the time there has to be a backup power system, mostly either natural gas or nuclear power plants.

We are closing nuclear power plants so that the wind energy can hook into their substation, that is absolutely ludicrous, we need to keep the nuclear power plants going and have new substations built for any wind power because the nuclear power plants can carry the base load, you cannot depend on the wind power to flow all the time which was demonstrated in Europe this year where they ran out of electrical power because they relied on wind power so much.

A.3.3 Bats

Comment Number: BOEM-2021-0057-0104-18
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

A comprehensive survey of bats offshore and along the coasts of the Gulf of Maine, mid-Atlantic, and the Great Lakes detected bats up to 70 nm from the mainland, although their activity generally declined with increased distance from shore. [Footnote 54: Peterson, T. S., Pelletier, S. K., & Giovanni, M. (2016). Long-Term Bat Monitoring on Islands, Offshore Structures, and Coastal Sites in the Gulf of Maine, Mid-Atlantic, and Great Lakes - Final Report. Prepared by Stantec for the U.S. Department of Energy.] However, there is very little data available on the interaction of bats with offshore wind energy turbines. The bat species potentially present in Atlantic Shores project area are already facing multiple stressors on land including WTG collisions, habitat loss, climate change impacts, and deadly diseases like the fungal white-nose syndrome. These stressors can potentially alter the behavior of cave-dwelling and tree-roosting bats, and also alter the migratory paths of the tree roosting species, thus increasing their use of the offshore environment. [Footnote 55: Defenders comments on Empire Offshore Wind COP EIS scope; (2021, Jul 26). Comment Tracking #: krl-06vq-yrk2]

Nine species of native bats are found in New Jersey. [Footnote 56: Maslo, B. & Leu, K. The Facts About Bats in New Jersey. New Jersey Agricultural Experiment Station, Rutgers University. Cooperative

Extension Fact Sheet FS1207]

- 6 resident species that hibernate in caves, mines, or in manmade structures: little brown bat (*Myotis lucifugus*), northern long-eared bat (*M. septentrionalis*), eastern small-footed bat (*M. leibii*), Indiana bat (*M. sodalis*), tricolored bat (*Perimyotis subflavus*), and the big brown bat (*Eptesicus fuscus*). Of these, the Indiana bat is listed as Endangered at federal and state levels [Footnote 57: New Jersey Division of Fish & Wildlife. (2018, Mar 20). New Jersey's Endangered and Threatened Wildlife] and the northern long-eared bat is a federally Threatened species. [Footnote 58: USFWS - Environmental Conservation Online System (ECOS): Northern Long-Eared Bat (*Myotis septentrionalis*)] The USFWS is currently conducting a court-ordered review to determine, by November 2022, if the northern long-eared bat warrants uplisting to Endangered status under the ESA. [Footnote 59:

https://www.biologicaldiversity.org/species/mammals/northern_long-eared_bat/pdfs/Dkt-96-Northern-Long-ear-Bat-Remedy-Order.pdf] The listing status of the little brown and tricolored bats is also being reviewed by the USFWS. [Footnote 60: USFWS - Environmental Conservation Online System (ECOS): Tricolored bat (*Perimyotis subflavus*)], [Footnote 61: USFWS – Environmental Conservation Online System (ECOS): Little brown bat (*Myotis lucifugus*)]

- 3 (part-time resident) migratory tree roosting bat species: silver-haired bat (*Lasionycteris noctivagans*), eastern red bat (*Lasiurus borealis*), and hoary bat (*Lasiurus cinereus*).

Comment Number: BOEM-2021-0057-0104-19

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 20

Comment Excerpt Text:

Better understanding of bat presence and behavior in Atlantic Shores projects area is needed to afford them protection from potential adverse impacts of Atlantic Shores project activities. Both tree-roosting and cave-dwelling bats populations have high mortality from collisions with terrestrial WTGs, [Footnote 62: NYSERDA - NYS-ETWG. (2021, July). State of the Science Workshop on Wildlife and Offshore Wind Energy 2020 – Cumulative Impacts: Bats Workgroup Report] and most of the 9 bat species found in NJ have been tracked crossing open waters of the northeast Atlantic. The EIS must consider impacts to all bat species with a presence in this region, including the Endangered Indiana bat because it has been shown to be present in the region and tracked crossing the coastal waters. [Footnote 63: Tracking Indiana bat: Motus Wildlife Tracking System <https://motus.org/data/tracksSelect?e=2013-01-01&l=2021-12-31&s=100460>] BOEM must consider all available science and technology-based recommendations on avoidance and mitigation measures at the outset lest more species become listed within the lifetime of the proposed Atlantic Shores project.

Comment Number: BOEM-2021-0057-0104-20

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

We recommend evaluating the following monitoring and OSW operational requirements:

- a comprehensive regional bat monitoring plan in collaboration and consultation with scientists and

technical experts. This plan must include continued visual monitoring using real-time detection systems such as Motus tracking[Footnote 64: Bird Studies Canada. (2018). Motus Wildlife Tracking System. <https://motus.org/>], field surveys, etc. and acoustic monitoring at the height of turbine nacelles[Footnote 65: Peterson et al. (2016); Hatch, S. K., Connelly, E. E., Divoll, T. J., Stenhouse, I. J., & Williams, K. A. (2013). Offshore Observations of Eastern Red Bats (*Lasiurus Borealis*) in the Mid-Atlantic United States Using Multiple Survey Methods. PLoS ONE, 8(12).]

- evaluate bat deterrent technologies being developed for land-based turbines for deployment or modified for use in the offshore environment to minimize bat impacts:

- turbine coatings to counteract any attraction to smooth surfaces which might be perceived as water[Footnote 66: Victoria J. Bennett, V. J. & Hale, A. M. (2017?). Texturizing Wind Turbine Towers to Reduce Bat Mortality. DE-EE0007033,]

- ultraviolet lighting which many bat species can see[Footnote 67: NREL Wind Research. Technology Development and Innovation Research Projects.]

- ultrasonic noise emitters to effectively “jam” bats’ radars and make WTGs unappealing to bats[Footnote 68: <https://www.osti.gov/biblio/1484770>; Weaver, S. P., Hein, C. D., Simpson, T. R., Evans, J. W., & Castro-Arellano, I. (2020). Ultrasonic -acoustic deterrents significantly reduce bat fatalities at wind turbines. *Global Ecology and Conservation*, 24, e01099. <https://doi.org/10.1016/j.gecco.2020.e01099>; Arnett, E. B., Hein, C. D., Schirmacher, M. R., Huso, M. M. P., & Szewczak, J. M. (2013). Evaluating the Effectiveness of an Ultrasonic Acoustic Deterrent for Reducing Bat Fatalities at Wind Turbines. PLoS ONE, 8(6), e65794. <https://doi.org/10.1371/journal.pone.0065794>.]

- acoustic monitoring at the height of turbine nacelles[Footnote 69: Peterson et al. 2016; Hatch, S. K., Connelly, E. E., Divoll, T. J., Stenhouse, I. J., & Williams, K. A. (2013). Offshore Observations of Eastern Red Bats (*Lasiurus Borealis*) in the Mid-Atlantic United States Using Multiple Survey Methods. PLoS ONE, 8(12).]

- targeted tagging

- thermal imaging technology to detect collisions

- explore targeted or smart operational curtailment (e.g. via feathering of turbine blades, which at high risk periods, has been shown to reduce bat fatalities by >90% at land-based WTGs[Footnote 70: Arnett, E. B., Huso, M. M., Schirmacher, M. R., & Hayes, J. P. (2011). Altering turbine speed reduces bat mortality at wind- energy facilities. *Frontiers in Ecology and the Environment*, 9(4), 209–214. <https://doi.org/10.1890/100103>]. [Footnote 71: Borssele Wind Farm in the Netherlands is the first proposed offshore wind farm in Europe with a bat mitigation requirement for migratory bats. One proposed mitigation measure is targeted operational curtailment.]) to minimize bat collisions with offshore WTGs.

- evaluate seasonal increase of turbine cut-in speed (shown to reduce overall bat fatalities by 36% including those of eastern red bats but not of hoary or silver-haired bats[Footnote 72: Good, R. E, Merrill, A., Simon, S., Murray, K., & Bay, K. (2012). Bat Monitoring Studies at the Fowler Ridge Wind Farm, Benton County, Indiana. Final Report: April 1 – October 31, 2011. Prepared for Fowler Ridge Wind Farm, Fowler, Indiana.

https://tethys.pnnl.gov/sites/default/files/publications/Good%20et%20al.%202012_Fowler%20Report.pdf] at land- based WTGs during warm, slow wind speed nights during seasonal migration when bat activity is highest[Footnote 73: Peterson et al. (2016).] to reduce fatal collisions[Footnote 74: Arnett, E. B., Johnson, G. D., Erickson, W. P., and Hein, C. D. (2013). A Synthesis of Operational Mitigation Studies to Reduce Bat Fatalities at Wind Energy Facilities in North America. A report submitted to the National Renewable Energy Laboratory. Bat Conservation International. Austin, Texas, 2013; Arnett, E. B., Huso, M. M., Schirmacher, M. R., & Hayes, J. P. (2010). Altering turbine speed reduces bat mortality at wind-energy facilities. *Frontiers in Ecology and the Environment*, 9(4), 209–214; Tidhar, D., Sonnenberg, M., & Young, D. (2012). Post-construction Carcass Monitoring Study for the Beech Ridge Wind Farm

Greenbrier County, West Virginia. FINAL REPORT. Prepared by Western EcoSystems Technology, Inc.; Ostridge, C. & Framer, C. (2018).

Understanding the costs of bat curtailment. Presentation at AWEA Siting Conference. 20 Mar. 2018.] as shown in the case of the Nathusius pipistrelle (*Pipistrellus nathusii*) during its summer/autumn migration along North Sea. [Footnote 75: South Fork Wind Farm and South Fork Export Cable Project Draft Environmental Impact Statement, Table H-36, 86 Fed. Reg. 1520 (Posted January 4, 2021).] Bat activity levels offshore could be used as a proxy for their risk from OSW. [Footnote 76: NYSERDA - NYS-ETWG. (2021, July). State of the Science Workshop 2020 – Bats Workgroup Report]

- consult with the USFWS on Atlantic Shores project impacts to listed/potentially listed bat species in developing and implementing protocols to avoid, minimize, and mitigate such impacts.
- support and invest in scientific and technological research to:

- develop methods and technologies for monitoring, risk assessment, direct detection of collisions specifically in the offshore environment [Footnote 77: NYSERDA - NYS-ETWG. (2021, July). State of the Science Workshop 2020 – Bats Workgroup Report] so that OSW-related bat mortalities could be accurately quantified since traditional fatality assessment (i.e. relying on carcasses around WTGs) is not feasible at offshore sites.

- continually evaluate mitigation strategies being developed for land-based wind energy projects for their potential application to OSWs. Bat mortality has been shown to increase with the tower height of land-based WTGs, [Footnote 78: Barclay, R. M. R., Baerwald, E. F., & Gruver, J. C. (2007). Variation in Bat and Bird Fatalities at Wind Energy Facilities: Assessing the Effects of Rotor Size and Tower Height. *Canadian Journal of Zoology*, 85(3), 381–87; Rydell, J., Bach, L., Dubourg-Savage, M- J., Green, M., Rodrigues, L., & Hedenström, A. (2010). Bat Mortality at Wind Turbines in Northwestern Europe. *Acta Chiropterologica*, 12(2), 261–74.] suggesting that fewer, larger turbines deployed in OSWs may be detrimental to bats.

- improve acoustic monitoring to distinguish between calls of different species. [Footnote 79: Peterson et al. (2016).]

Comment Number: BOEM-2021-0057-0119-11

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

It is challenging to assess potential bat risk or the Project’s pre- and post-construction monitoring plans as the results from Atlantic Shores’ boat-based acoustic bat surveys were not included in the COP and the post-construction monitoring plan has yet to be developed.

- Because so little is known about potential bat impacts from offshore wind, BOEM should require support for and, once they are verified and commercially available, adoption of monitoring technologies as part of Atlantic Shores’ monitoring framework and protocol.

- BOEM’s impact analyses must account for the potential for bats to be attracted to offshore wind facilities; the impact analyses should also not assume that pre- construction bat activity will correlate with post-construction bat fatalities.

- BOEM should analyze impacts to cave-hibernating bats, including federally listed species, from offshore components of Atlantic Shores.

Comment Number: BOEM-2021-0057-0119-110

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM should be conservative in its impact analysis, as bats are present in the offshore environment near Atlantic Shores,[Footnote 320: ASOW COP Volume II, Figure 4.4-1 at 4-54] Atlantic Shores is nearer to shore than most other proposed offshore wind projects (and, as discussed later, bat activity is expected to be higher nearer to shore), and a lack of available information on impacts to bats from offshore wind does not indicate impacts are unlikely.

It is challenging to assess potential bat risk or the Project's pre- and post-construction monitoring plans because the results from Atlantic Shores' boat-based acoustic bat surveys were not included in the COP [Footnote 321: These results will be included in the 2021 COP supplement; ASOW COP Volume II at 4-49] and the post-construction monitoring plan has yet to be developed [Footnote 322: ASOW COP Volume II at 4-62]. Although the COP states that "only a limited number of individuals would be expected to be affected [Footnote 323: Id. at 4-59]" and "it is expected that mortality rates will be relatively low offshore [Footnote 324: Id]". given the paucity of data on bats in the region and the uncertainties around bat behavior at offshore wind facilities, there are not enough data at this time to make conclusions about potential impacts to bats from Atlantic Shores' development.

Comment Number: BOEM-2021-0057-0119-111

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

Recognizing that much remains unknown regarding the impacts to bats from offshore wind in the United States, BOEM must require an explicitly defined monitoring and adaptive management plan. This plan must include a commitment to standardized monitoring both before construction and during operations and be made available for public review and comment. Additionally, because technologies to improve understanding of and reduce bat risk offshore (e.g., strike detection and deterrent technologies) are likely to be developed over the life of Atlantic Shores, the Draft EIS for Atlantic Shores should specifically require the adoption of monitoring technologies when they are verified and commercially available as part of the Project's monitoring framework and protocol.

Determining risk and adaptively managing to minimize impacts relies on monitoring, but traditional fatality monitoring is not feasible offshore. Given the challenges of conducting fatality assessments at offshore sites [Footnote 325: Kunz, T.H., Arnett, E.B., Cooper, B.M., Erickson, W.P., Larkin, R.P., Mabee, T., Morrison, M.L., Strickland, M.D., and Szewczak, J.D., "Assessing impacts of wind energy development on nocturnally active birds and bats: a guidance document," *Journal of Wildlife Management*, vol. 71, pp. 2449-2486 (2007); Rydell, J., Bach, L., Dubourg-Savage, M., Green, M., Rodrigues, L., and Hedenstrom, A., "Bat mortality at wind turbines in northwestern Europe." *Acta Chiropterologica*, vol. 12, pp. 261-274 (2009)], many dead or injured bats would most likely go unrecorded, either falling into the water or becoming prey to marine scavengers or predators [Footnote 326: Assessing bat fatalities based on carcasses found on vessels and structures is unlikely to provide a

meaningful estimate of bat fatalities, as carcasses can fall far from the wind turbine, based on carcass size, wind speed, turbine height, and other factors. We recommend BOEM consult with Manuela Huso, Research Statistician at United States Geological Survey Forest and Rangeland Ecosystem Science Center prior to making any inferences about total fatalities based on carcasses recovered from structures]. BOEM's assessment of the impacts to bats should, therefore, be conservative, and employ the best available scientific methods, such as autodetection, acoustic monitoring at nacelle height, targeted tagging of bats, and thermal imaging technology. BOEM should also support research into monitoring methods for bats that are better suited to the offshore environment.

Acoustic surveys are an important tool for understanding bat activity offshore. We appreciate that Atlantic Shores is conducting acoustic surveys in the Project Area as part of their Bat Survey Plan and will share results in their 2021 COP supplement [Footnote 327: ASOW COP Volume II at 4-49]. BOEM should require Atlantic Shores to not only share the survey results, but the collected data, too. If BOEM uses these acoustic surveys in their impact analyses, these data should be made publicly available in order to facilitate a full and fair discussion of impacts to bats. In addition to requiring developers and their consultants to publish the full dataset collected, BOEM should encourage the submission of all bat acoustic data to the Bat Acoustic Monitoring Portal, BatAMP [Footnote 328: <https://batamp.databasin.org/>].

While preliminary acoustic surveys represent an important first step to assessing bats' use of the Project Area, pre-construction acoustic surveys are inappropriate for predicting post-construction fatality risk for bats. At land-based wind facilities, pre-construction bat activity surveys do not correlate with post-construction fatalities [Footnote 329: 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 energy facilities: A synthesis, NAT'L RENEWABLE ENERGY LAB. (NREL) (Mar. 2013)], possibly due to bats' attraction to turbine structures (see Section III.H.5). Furthermore, low levels of bat calls do not necessarily indicate that bats are not present [Footnote 330: Aaron J. Corcoran et al., Inconspicuous echolocation in hoary bats (*Lasiurus cinereus*), PROCEEDINGS ROYAL SOC'Y B (May 2, 2018)]. Although Atlantic Shores' COP relies heavily on offshore bat acoustic surveys to predict low bat presence, BOEM should not overly base its risk assessment for bats on pre-construction offshore surveys.

Comment Number: BOEM-2021-0057-0119-112

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Although more tracking and acoustic monitoring studies are needed, there is increasing evidence that bats regularly use the offshore environment. Although Atlantic Shores' COP assesses limited existing survey data for bats offshore New Jersey, due to the limited amount of data available on bats offshore, additional relevant data should be considered to better understand potential bat risk. BOEM should leverage information on bat presence offshore, including data submitted to the Motus Wildlife Tracking System [Footnote 331: Bird Studies Canada. 2018. "Motus Wildlife Tracking System." 2018. <https://motus.org/>.], an international network of researchers using coordinated automated radio-telemetry arrays to study small flying organisms' movements, including bats (this system is also discussed above in Section IV.G, Impacts to Birds). Motus contains data on bat movements, including along the Atlantic coast, which could inform which species need to be considered in BOEM's analyses. Even though there are currently

relatively few tagged bats included in Motus, the existing data indicate potential bat use offshore [Footnote 332: See, e.g., Section III.I.2 of NWF et al. (2021) comments in response to the notice of intent to prepare an EIS for Sunrise Wind Farm (SRWF Scoping Comments). Available at <https://drive.google.com/file/d/17JF-8av1xijblTMUwt9niFe4IiMnev8/view?usp=sharing>]. As discussed further in Section IV.H.7.b, BOEM should require Atlantic Shores to support the tagging of additional bats and deploy Motus towers within their offshore Project Area.

Comment Number: BOEM-2021-0057-0119-113

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Given the presence of northern long-eared bats nearby in the onshore environment and the potential for the species to make cross-water flights,[Footnote 342: ASOW COP Volume II at 4-57]. BOEM should be conservative in its risk analysis. BOEM should consult with USFWS about potential impacts to northern long-eared bats from the offshore components of Atlantic Shores and the Draft EIS should assess potential impacts from the offshore components of the Project on northern long-eared bats and other cave-hibernating bats.

Although these comments focus on impacts from the offshore components of the project, Atlantic Shores should take particular care during tree-clearing activity associated with the onshore project components, as northern long-eared bat summer activity and a maternity roost were documented near the onshore transmission cables [Footnote 343: ASOW COP Volume II at 4-57]. We appreciate that Atlantic Shores will go beyond the requirements of the final 4(d) rule for northern long-eared bats [Footnote 344: Endangered and Threatened Wildlife and Plants; 4(d) Rule for the Northern Long-Eared Bat, 81 Fed. Reg. 1,900 (Jan. 14, 2016).] and follow recommendations from the New Jersey Department of Environmental Protection [Footnote 345: ASOW COP at 4-62.]. Environmental groups consider the 4(d) rule to be under-protective and have challenged the 4(d) rule in court. Furthermore, USFWS was recently ordered by a federal court, following a remand of the agency's threatened listing in 2020 [Footnote 346: Ctr. for Biological Diversity v. Everson, 435 F. Supp. 3d 69 (D.D.C. 2020).], to complete a rulemaking to determine whether the northern long-eared bat warrants listing as an endangered species under the ESA no later than 18 months after the completion of a new species status assessment (SSA) [Footnote 347: Ctr. for Biological Diversity v. Everson, Civil Action No. 15-477 (EGS), ECF No. 96 (D.D.C. Mar. 2, 2021)]. Because USFWS completed the SSA at the end of May 2021, the final rule is due at the end of November 2022.

Comment Number: BOEM-2021-0057-0119-114

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The COP describes bat use of the offshore environment to be predominantly seasonal [Footnote 348: ASOW COP Volume II at 4-55]. BOEM should note in its analyses that the best available science on bats and wind energy interactions from both land-based wind energy in North America and from offshore

wind energy in Europe indicates that seasonal exposure of bats to wind turbines can cause significant fatalities.

The majority of migratory tree bats fatalities from land-based wind energy occur during the spring and fall migration period [Footnote 349: Arnett, E. B., Brown, W. K., Erickson, W. P., Fiedler, J. K., Hamilton, B. L., Henry, T. H., Jain, A., Johnson, G. D., Kerns, J., Koford, R. R., Nicholson, C. P., O'Connell, T. J., Piorkowski, M. D., & Tankersley, R. D. (2008). Patterns of Bat Fatalities at Wind Energy Facilities in North America. *Journal of Wildlife Management*, 72(1), 61–78. <https://doi.org/10.2193/2007-221>; Arnett, Edward, Manuela Huso, Michael Schirmacher, and John Hayes. 2011. "Altering Turbine Speed Reduces Bat Mortality at Wind- Energy Facilities." *Frontiers in Ecology and the Environment* 9 (4): 209–14. <https://doi.org/10.1890/100103>]. Despite this predominantly seasonal exposure, demographic modeling for hoary bats (*Lasiurus cinereus*), the bat species most frequently killed by land-based wind turbines in North America, shows that the 2014 land-based wind energy build out is sufficient to cause a 90% decline in hoary bat populations over the next 50 years (associated with a 22% risk of extinction if widespread mitigation measures are not adopted) [Footnote 350: Frick et al. 2017] and that wind energy buildout can cause population-level declines during the lifetime of Atlantic Shores [Footnote 351: Friedenber and Frick 2021.]. Although this research focused on hoary bats, Frick et al. (2017) caution that other migratory tree bats, such as eastern red bats (*L. borealis*) and silver-haired bats (*Lasionycteris noctivagans*) which also experience high levels of fatalities at land-based wind facilities, might also experience population-level declines. This is of particular note as all three species of migratory tree bats have been detected in acoustic surveys offshore near Atlantic Shores [Footnote 352: ASOW COP Volume II, Figure 4.4-1 at 4-54] and have the greatest abundance offshore [Footnote 353: ASOW COP Volume II at 4-58 and 4-59]. With limited research available on bats offshore, BOEM cannot dismiss the evidence from land-based wind that seasonal interactions with turbines can cause significant impacts on migratory tree bats.

Beyond the survey efforts near Atlantic Shores, in offshore bat surveys of the Great Lakes, Gulf of Maine, and Mid-Atlantic, migratory tree bats were widespread, with eastern red bats detected at 97% of all surveyed sites (and 100% of sites in the Mid-Atlantic), including the most remote fixed site (41.6 km from mainland) and potentially on shipboard surveys over 100 km offshore [Footnote 350: Calls were identified to the eastern red bat/tri-colored bat/evening bat frequencies on shipboard surveys 129 km offshore in the Mid-Atlantic. Peterson et al. 2016.].³⁵⁴ Eastern red bats alone accounted for 40% of all detected bat activity offshore. Hoary bats and silver-haired bats had less total activity offshore but were still widespread, found at 95% and 89% of all sites, respectively [Footnote 355: Id]. Data in Motus also indicate eastern red bats and hoary bats have made cross-water flights near Cape Cod (see Figure 1) [Footnote 352: Bird Studies Canada 2018.].³⁵⁶

Furthermore, seasonal exposure of Nathusius's pipistrelle (*Pipistrellus nathusii*) to expected build out of turbines in the North Sea during their late summer/autumn migration was considered sufficient exposure as to affect Nathusius's pipistrelle populations, triggering operational curtailment measures between August 15 and October 1 [Footnote 357: Boonman, M. (2018). Mitigation measures for bats in offshore wind farms: Evaluation and improvement of curtailment strategies.]. This further belies claims that seasonal exposure of bats precludes significant impacts.

Comment Number: BOEM-2021-0057-0119-115

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Bats, especially migratory tree bat species like the eastern red, hoary, and silver-haired bats, are believed to be attracted to land-based wind turbines [Footnote 358: 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. <https://doi.org/10.2307/43189889>; Cryan, P. M., & Barclay, R. M. R. (2009). Causes of Bat Fatalities at Wind Turbines: Hypotheses and Predictions. *Journal of Mammalogy*, 90(6), 1330–1340. <http://www.jstor.org/stable/27755139>; Arnett et al. 2008; Horn, J. W., Arnett, E. B., & Kunz, T. H. (2008). Behavioral Responses of Bats to Operating Wind Turbines. Source: *The Journal of Wildlife Management*, 72(1), 123–132. <https://doi.org/10.2193/2006-465>; Kunz, T. H., Arnett, E. B., Erickson, W. P., Hoar, A. R., Johnson, G. D., Larkin, R. P., Strickland, M. D., Thresher, R. W., & Tuttle, M. D. (2007). Ecological Impacts of Wind Energy Development on Bats: Questions, Research Needs, and Hypotheses. In *Ecology and the Environment* (Vol. 5, Issue 6).; Ahlén, I. (2003). Wind turbines and bats- a pilot study] and have been recorded altering flight paths to approach turbines [Footnote 359: Cryan et al. 2014]. Although no scientific consensus exists on why bats are attracted to onshore wind facilities, theories include that bats may perceive turbines as trees to roost in and bats may seek insect prey that congregate near turbines [Footnote 360: Id]. This attraction behavior puts bats at increased risk for collision with turbine blades and whether such behavior could occur at offshore wind turbines merits careful consideration.

Comment Number: BOEM-2021-0057-0119-116

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Atlantic Shores' COP identifies the highest impact design in project design envelope for bats to be the maximum buildout of the project, 200 wind turbine generators [Footnote 361: ASOW Volume II at 4-58 and Volume I at 4-100.]. This implies that a higher number of smaller turbines would have greater impact on bats than fewer, larger turbines. However, when analyzing impacts to bats, BOEM should not assume that fewer, larger turbines reduce risk to bats. Although no research has been done on tower height and bat fatalities in the offshore environment, research onshore has shown that bat mortality increases with tower height [Footnote 362: Barclay, Robert M.R., E.F. Baerwald, and J.C. Gruver. 2007. "Variation in Bat and Bird Fatalities at Wind Energy Facilities: Assessing the Effects of Rotor Size and Tower Height." *Canadian Journal of Zoology* 85 (3): 381–87. <https://doi.org/10.1139/Z07-011>; Rydell, Jens, Lothar Bach, Marie-Jo Dubourg-Savage, Martin Green, Luisa Rodrigues, and Anders Hedenström. 2010. "Bat Mortality at Wind Turbines in Northwestern Europe." *Acta Chiropterologica* 12 (2). Museum and Institute of Zoology at the Polish Academy of Science : 261–74. <https://doi.org/10.3161/150811010X537846>], meaning that development approaches that favor fewer, larger turbines could be detrimental to bats [Footnote 363: A meta-analysis by Thompson et al. 2017 found no relationship between turbine height and bat fatalities, but cautioned that research was needed to understand how turbines in excess of 140 m in height might affect bat fatalities. Given this, it is inappropriate to rely on this research to support statements that fewer, larger turbines would reduce bat fatalities. Thompson, M., J.A. Beston, M.Etterson, J.E. Diffendorfer, S.R. Loss. 2017. "Factors associated with bat mortality at wind energy facilities in the United States." *Biological Conservation* 215: 241-245.]. A study on northwestern European wind facilities found that bat fatalities increased with tower height and

rotor diameter [Footnote 364: Rydell et al. 2010] and a meta-analysis of North American wind facilities found that bat fatalities increased exponentially with tower height (although this study did not find that rotor diameter affected fatalities) [Footnote 365: Barclay et al. 2007.]. Insufficient data exist to determine where (if any) a tradeoff exists between decreasing the number of towers vs. increasing their height, but current research does not support the claim that fewer, larger turbines would have decreased impacts on bats. Therefore the Draft EIS should note the scientific uncertainty surrounding the degree to which bat mortality may increase with tower height and should adjust the language accordingly regarding bat impacts.

Comment Number: BOEM-2021-0057-0119-117

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Because there is so little research on bats offshore, impacts to bats are often only given cursory consideration. However, bat species on the east coast are facing stressors on land that may make their populations more vulnerable to additional take offshore. The northern long-eared bat and the Indiana bat are listed as threatened and endangered under the ESA due, in part, to high rates of mortality from white-nose syndrome, a highly pathogenic fungus.

Similarly, numerous other east coast bat species, such as the Indiana bat, little brown bat, eastern small-footed bat, big brown bat (*Eptesicus fuscus*), and tri-colored bat (*Perimyotis subflavus*) are affected by white-nose syndrome. Due to white-nose syndrome mortality, the USFWS recently issued a positive 90-day finding for the petition to list the tri-colored bat [Footnote 366: Endangered and Threatened Wildlife and Plants; 90-Day Findings for Five Species, 82 Fed. Reg. 60362, December 20, 2017. e day-findings-for-five-species] and USFWS staff have communicated their intent to assess the little brown bat for potential ESA-listing [Footnote 367: See National Domestic Listing Workplan Fiscal Years 2021-2025 (<https://www.fws.gov/endangered/esa-library/pdf/National-Listing-Workplan-FY21-FY25.pdf>) and Robyn Niver, USFWS, personal communication (2018).].

The three migratory bat species on the east coast, the silver-haired, eastern red, and hoary bat, are the bat species most highly impacted by land-based wind energy development, representing almost 80% of all bats killed at wind facilities in North America [Footnote 368: Hoary bats, eastern red bats, and silver-haired bats represent 38%, 22%, and 18% of all bat fatalities at wind turbines in the United States and Canada, respectively. Arnett, Edward B., and Erin F. Baerwald. 2013. "Impacts of Wind Energy Development on Bats: Implications for Conservation." In *Bat Evolution, Ecology, and Conservation*, 435–56. New York, NY: Springer New York. https://doi.org/10.1007/978-1-4614-7397-8_21]. Recent research [Footnote 369: Frick et al. (2017); EPRI (2020); Friedenber and Frick (2021).] has implicated wind energy as causing potential population-level declines for hoary bats, and hoary bats and eastern red bats are expected to be recommended for listing in Canada in the near future. Other east coast bat species, such as little brown bats, tri-colored bats, big brown bats, northern long-eared bats, Seminole bats (*Lasiurus seminolus*), and Indiana bats have also been documented killed by wind turbines [Footnote 370: Arnett and Baerwald (2013).].

Comment Number: BOEM-2021-0057-0119-118

Organization: National Wildlife Federation, Natural Resources Defense Council, National

Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In previous NEPA analyses, the Geographic Analysis Area for cumulative impacts to bats was defined as 100 mi offshore and 5 mi inland [Footnote 371: VW1 SEIS, at A-6, Tbl A-1., (June 2020); SFWF DEIS, Table E-1, 86]. The migratory movements of bats, especially migratory tree bats, are poorly understood, and many species of bats—both long-distance migrants like migratory tree bats but also cave-hibernating bats—are capable of flights in excess of 100 km, indicating that bats found offshore in wind development areas could also be found significant distances inland. Hoary bats, which are capable of long-distance flights over water [Footnote 372: 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 distances over 1,000 km [Footnote 373: 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 [Footnote 374: Id]. Research from Canada found that 20% of little brown bat movements exceeded 500 km [Footnote 375: 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 5 mi [Footnote 376: Bird Studies Canada 2018.]. In addition to little brown bats, data in Motus tracks movements of individual silver-haired bats, eastern red bats, hoary bats, eastern small-footed bats, and Indiana bats from coastal areas on the east coast to areas in excess of 100 mi inland [Footnote 377: Id]. These movements seem to refute BOEM's assertion in previous NEPA analyses that bats that could be exposed to offshore wind energy projects would not be found far inland (and therefore exposed to land-based wind energy facilities) and instead support that a geographic scope of 100 mi inland was more appropriate.

Comment Number: BOEM-2021-0057-0119-119

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

While these comments provide some additional resources on bat movement offshore and bat interactions with wind turbines for BOEM to include in their analysis, there remains insufficient research on bats and offshore wind to accurately assess cumulative risk and impact from the 22 GW buildout scenario used in the Vineyard Wind 1 and South Fork NEPA analyses, let alone the broader scope outlined in Section II.E.1.

Because of this knowledge gap, it is imperative that BOEM require offshore wind facilities to commit to pre- and post-construction monitoring and to integrate novel technology for monitoring as it becomes available. Monitoring data must be made readily and promptly available to the public.

Although we now know that population-level impacts to bats are possible from land-based wind, these impacts to bats from onshore wind energy were not anticipated and were only discovered because of monitoring for avian impacts [Footnote 378: Arnett et al. 2008.]. While post-construction monitoring should occur at the project-level, BOEM and their partner agencies should support coordinated and regional surveys of bat use of the OCS and WEAs. Should further monitoring and research efforts reveal that impacts to bats are non-negligible, BOEM and other agencies should support the development and deployment of minimization strategies and deterrent technologies.

The following is a list of recommendations for BOEM and its partner agencies to support successful understanding of offshore wind's impact on bats, modified and expanded upon from Peterson et al. (2016) [Footnote 379: See Peterson et al. 2016, §5]. BOEM and its partner agencies should:

- Support supplemental field surveys for bats on the OCS, using similar methodology as described in Peterson et al. (2016) [Footnote 380: Peterson et al. 2016.].
- Require acoustic detectors to be placed at nacelle height on a subset of turbines constructed along the Atlantic OCS and require that the data collected be made publicly available.
- Support research to determine whether it is possible to improve acoustic monitoring to enable better species identifications, such as being able to differentiate calls between the ESA-listed northern long-eared bat and other *Myotis* species.
- Support continued advances in radio telemetry equipment, nanotag transmitters, and GPS tags so that more bats can be tracked offshore (e.g., support the development of smaller GPS tags with longer battery lives).
- Support deploying Motus towers and/or other nanotag receiving towers in the coastal and offshore environment, including on structures in WEAs.
- Support efforts to tag additional individual bats with nanotag transmitters and GPS tags.
- Support the development of bat monitoring technology for offshore WTGs, such as strike detection technology and thermal video.
- Support research on and testing of bat deterrent devices for offshore WTGs, such as ultraviolet lighting or ultrasonic noise emitters.
- Require offshore wind projects to support testing and deployment of best available monitoring and deterrent technologies, once developed.
- Require offshore wind projects to promptly report and make publicly available all monitoring and testing data.

The Draft EIS for Atlantic Shores should specifically require the adoption of monitoring technologies when they are verified and commercially available as part of the Project's monitoring framework and protocol. BOEM should further support and encourage their development and testing at Atlantic Shores. The shared cost of development, testing, and implementation of these technologies across all lessees and with BOEM, if standardized, would avoid an undue economic burden on individual projects.

Comment Number: BOEM-2021-0057-0119-120

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

However, bat activity in the Project Area prior to turbine installation may not accurately predict bat fatalities during turbine operation. As discussed earlier, at land-based wind facilities, pre-construction bat activity surveys are poorly correlated with post-construction fatalities [Footnote 381: Solick, D., Pham, D., Nasman, K., Bay, K. (2020). Bat Activity Rates do not Predict Bat Fatality Rates at Wind Energy Facilities. *Acta Chiroptera*, 22(1); Hein, C. D., Gruver, J., & Arnett, E. B. (2013). Relating pre-construction bat activity and post-construction bat fatality to predict risk at wind energy facilities: a synthesis. A report submitted to the National Renewable Energy Laboratory]. Because of this, the commitment to post-construction monitoring is critical to yielding a better understanding about how bats interact with offshore wind turbines. An important component to this will be programmatically supporting the tagging of individual bats, such as through Motus, requiring receiving towers in the WEA, and requiring installation of acoustic detectors, preferably at nacelle height.

Data on bat activity and calls within the rotor-swept zone of offshore WTGs would allow better understanding of which bat species are at risk and during what environmental conditions, which could inform mitigation measures. Because bat activity offshore seems to be predominantly restricted to warm, slow wind speed nights and is highly seasonal [Footnote 382: RWF COP Appendix AA, 2.3.1, p. 27; Peterson et al. (2016). In their study, the majority of bat activity in the Gulf of Maine and the Mid-Atlantic occurred below 10 m/s average nightly wind speed and above ~7°C.], if bat minimization measures are needed and targeted curtailment is shown to be effective in the offshore environment, periods of operational curtailment could be restricted to these highest risk times to decrease loss in energy generation.

In addition to operational curtailment, it is possible that deterrent technologies to prevent bats from approaching wind turbines could be useful in minimizing bat fatalities offshore. Deterrent technologies are being developed for land-based turbines, including turbine coatings (to counteract any attraction to smooth surfaces which might be perceived as water) [Footnote 383: Texturizing Wind Turbine Towers to Reduce Bat Mortality DE-EE0007033, <https://www.energy.gov/sites/prod/files/2019/05/f63/TCU%20-%20M17%20-%20Hale-Bennett.pdf> (last visited Oct. 04, 2021).], ultraviolet lighting (which many bat species can see) [Footnote 384: NREL Wind Research, Technology Development and Innovation Research Projects <https://www.nrel.gov/wind/technology-development-innovation-projects.html> (last visited Oct. 04, 2021).], and ultrasonic noise emitters (to possibly 'jam' bats' radars and make wind facilities unappealing to bats) [Footnote 385: <https://www.osti.gov/biblio/1484770>; Weaver, S. P., Hein, C. D., Simpson, T. R., Evans, J. W., & Castro-Arellano, I. (2020). Ultrasonic acoustic deterrents significantly reduce bat fatalities at wind turbines. *Global Ecology and Conservation*, e01099. <https://doi.org/10.1016/j.gecco.2020.e01099>; Arnett, E. B., Hein, C. D., Schirmacher, M. R., Huso, M. M. P., & Szewczak, J. M. (2013). Evaluating the Effectiveness of an Ultrasonic Acoustic Deterrent for Reducing Bat Fatalities at Wind Turbines. *PLoS ONE*, 8(6), e65794. <https://doi.org/10.1371/journal.pone.0065794>]. One of the ultrasonic deterrent technologies, NRG Systems, has been commercially deployed at land-based wind facilities [Footnote 386: <https://news.duke-energy.com/releases/duke-energy-renewables-to-use-new-technology-to-help-protect-bats-at-its-wind-sites>]. None of these technologies have been assessed yet in the offshore environment nor on turbines with such large swept areas, which may present a challenge for effective deterrent use offshore.

A.3.4 Benthic Resources

Comment Number: BOEM-2021-0057-0066-4

Commenter: Peter Hartney

Commenter Type: Individual

Other Sections: 5 14

Comment Excerpt Text:

Moving from economic to the environmental, the proposal submitted by Atlantic Shores either fails to address or glosses over the impact of the wind farms on a number of environmental issues which BOEM needs to give significant consideration. Among these issues are the impact upon the benthic species and habitats which have yet to be significantly studied and understood (<https://tos.org/oceanography/article/offshore-wind-energy-and-benthic-habitat-changes-lessons-from-block-island-wind-farm>; https://research-repository.st-andrews.ac.uk/bitstream/handle/10023/21420/Hutchison_2020_tos_interaction_between_CC.pdf?sequence=1 the impact upon the migratory patterns of the endangered right whale in addition to the impact, negative in my opinion, on the seasonal flight path of migratory birds in the middle of which the proposed windfarm projects are located;

Comment Number: BOEM-2021-0057-0121-3

Commenter: Horatio (Ray) Nichols

Commenter Type: Individual

Comment Excerpt Text:

2. Re ocean floor impacts: consider them in context of other existing activities that affect the sea floor and the biota: such as commercial harvesting of clams by drag-lining.

Comment Number: BOEM-2021-0057-0234-10

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 2

Comment Excerpt Text:

We are aware that some benthic habitat data have been collected and are being processed and interpreted by the developer, and additional information may be provided in the coming months. Some benthic habitat data have been included in the COP in narrative form or in example figures; however, we have yet to review any complete benthic habitat mapping documents and habitat data. This limits our ability to provide site-specific feedback on the proposed projects and potential alternatives. More specifically, at this time it is not possible for us to specify detailed habitat minimization alternatives for both the wind farm area and cable corridors, until we have comprehensively reviewed the benthic habitat mapping data. It would be helpful to have this information in the COP at the scoping stage to help formulate a more detailed alternative.

Comment Number: BOEM-2021-0057-0234-34

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 12

Comment Excerpt Text:

The Atlantic Shores Projects are proposed to be constructed in or directly adjacent to important habitat for numerous federally-managed species and their prey. Additionally, the export cable corridors likely overlap sensitive offshore and nearshore-estuarine habitats such as subtidal and intertidal flats, coastal marsh, SAV, and others. The NEPA document, and the EFH, benthic resources, finfish, and invertebrates sections, in particular, should accurately describe the Projects' area and the resources that rely on habitats that are susceptible to project impacts. 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, as well as habitats important for eggs, larvae, and juveniles. The evaluation of the Projects' impacts should not only consider impacts of the Projects 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/inland locations. The document should analyze the effects to the physical and biological habitat features and the biological consequences of those effects. It will be important to consider impacts of the Projects on all life stages (adults, juveniles, larvae, eggs), and we recommend focusing on species and life stages that may be more vulnerable to impacts.

Additionally, habitats that support particularly sensitive life stages of species should be identified and described. For example, juvenile summer flounder inhabit a variety of inshore coastal and estuarine habitats, including SAV (eelgrass and other species). Any area with SAV is designated as a HAPC and should be identified and mapped. Project activities that adversely affect SAV should be avoided or minimized to the extent practicable. Additionally, species with adhesive or demersal eggs or neutrally buoyant larvae, such as winter flounder, are particularly sensitive to actions such as dredging and trenching. Furthermore, sensitive or unique features such as those designated as New Jersey (NJ) Prime Fishing Areas in accordance with N.J.A.C. 7:7-9.4 should be identified and described, and any potential impacts be analyzed. A large portion of the lease area is designated a NJ Prime Fishing Area ("Lobster Hole"), in addition to a smaller feature ("The Wall") being present, closer to shore. Other Prime Fishing Areas overlap with, or are very close to, the export cable routes. These areas are designated NJ Prime Fishing Areas because of their demonstrable history of supporting a significant local intensity of recreational or commercial fishing activity, which likely results from high fish production, high benthic faunal density, and species diversity; dense aggregations of fish are likely supported by high local primary production. It is important that the EIS fully describe and analyze impacts of the Projects on sensitive habitats and unique benthic features as well as vulnerable life stages of any NOAA trust resource, and evaluate ways to avoid and minimize those impacts. If it is not feasible to avoid or minimize negative impacts, mitigation measures must be proposed and analyzed.

We would also note that impacts to complex habitats and benthic features, such as those found in the Projects' area, are known to result in long recovery times and are potentially permanent. Such impacts 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 the Projects' 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. Benthic features (*e.g.*, sand ridges and banks; ridge and swale complexes) and complex habitats are more

vulnerable to permanent impacts or may take years to decades to recover from certain impacts. The variability in recovery times by habitat type and components should be fully discussed and analyzed in the document.

The analysis should include discussion of the potential effects of habitat alteration from construction and operation of the Projects using the best available scientific information. The analysis should address the potential impact of converting unconsolidated soft bottom and smaller-grained hard habitats that support distinct assemblages of fish and shellfish to artificial structures (WTGs and scour protection) that may attract larger predatory species and lead to shifts in the invertebrate communities. While the WTGs may create a reef effect, the document should clearly distinguish the difference between man-made structures and any natural complex habitat - such as pebbles/granules and cobbles - that may be present in the area. The distinction between the ecological functions and values of natural and man-made structures should be incorporated into the analysis. The decommissioning and removal of WTG structures should also be incorporated into the analysis. Furthermore, numerous species feed, rest, spawn, drift, and settle in this same area, so comprehensive analyses related to changes in hydrodynamics and underwater noise, vibrations, and turbidity and sedimentation as a result of WTG placement/operation and scour protection placement should be undertaken. Functionally immobile species such as Atlantic surfclam and ocean quahog are particularly susceptible to impacts based on their life history strategies. Near permanent disturbances, such as increased noise and vibrations from the presence and operation of WTGs, will likely increase stress in Atlantic surfclams, ocean quahogs, and other species, leading to a potential cascade of negative biological consequences (e.g., reduced feeding and respiration, poor body condition, reduced survivorship, reduced fecundity).

The document should evaluate the extent to which the introduction of artificial hard structures (WTGs and scour protection) will have both direct and indirect impacts on marine resources that could lead to changes in the distribution and abundance of Federally managed species and their prey. For example, artificial hard structures will permanently eliminate soft bottom habitats for numerous species such as Atlantic surfclam, ocean quahog, sea scallop, longfin squid, benthic prey species, and various flatfish (e.g. flounder). This change in habitat could alter predator-prey interactions by providing additional habitat for structure-oriented species (e.g., black sea bass and other large predators) and species like moon snails and starfish that prey on bivalves. These species could become more abundant and aggregate within the Project area due to presence of WTGs and scour protection, potentially changing species interactions. Potential changes to community structure from habitat conversion should be fully evaluated in the EIS. Furthermore, Atlantic surfclams and ocean quahogs burrow into sand and gravelly sediments and are directly susceptible to habitat loss and mortality from the construction of turbine foundations, permanent placement of foundations and scour protection, and trenching of cables in the lease area and in the export cable corridor. Sea scallops inhabit the same areas, but are epifaunal, existing primarily on surficial sediments. Numerous flat fish (e.g., flounder) also burrow into surficial sediments to ambush prey and seek refuge from larger predators, making them more susceptible to construction activities in soft bottom areas, and to the permanent elimination of soft bottom. The EIS should fully evaluate all of the direct, indirect, individual, cumulative, and synergistic estimated impacts to fish and invertebrates due to the potential conversion of existing natural substrates with artificial materials.

Comment Number: BOEM-2021-0057-0234-48

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt 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 in the area that may be directly or indirectly impacted by the Projects' construction and operation activities, including complex habitats and prominent benthic features, as described above.

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 these Projects, including species that live within, or seasonally use, the immediate area and adjacent locations. 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.

A.3.5 Birds

Comment Number: BOEM-2021-0057-0002-1

Commenter: jean publieee

Commenter Type: Individual

Comment Excerpt Text:

certainly approval should only be issued for one at a time to see how it does. secondly, how many birds do these towers kill. i know wind towers are massive killers of birds and especially in this over ocean migratory route. for that reason, i am not in favor of this tower.

Comment Number: BOEM-2021-0057-0013-1

Commenter: Matthew M.

Commenter Type: Individual

Comment Excerpt Text:

My main concern with these windfarms is their location along the Atlantic flyway, one of the most important migratory routes in the world for many birds including endangered species like the red knot, sanderling, and roseate tern. Unless these windfarms are inactive for half the year during busy migrations, I fear they will have a major impact on these species. The disruption to important marine creatures such as the horseshoe crab is also of concern. This area has been a vital location for migratory species far longer than it has been a state. And I would argue that the NJ coastline is more valuable preserved as a migratory route than an energy farm - more than that, preserving this flyway is our responsibility. And even if these wind farms are run as responsibly as possible - locking them down during migrations so they only kill hundreds of birds each year instead of thousands, and securing them during extreme summer weather events like hurricanes - so that they barely run from March through December; one has to wonder what the point really is.

Comment Number: BOEM-2021-0057-0027-4

Commenter: Kevin Kernan

Commenter Type: Individual

Comment Excerpt Text:

Turbines will also more than likely decimate the threatened Piping Plover bird population that would have to cross the complex to reach the island to nest

Comment Number: BOEM-2021-0057-0030-3

Commenter: Liza Wolf

Commenter Type: Individual

Comment Excerpt Text:

The project will decimate the threatened piping plover bird population that must cross the rotating turbine blades to nest on Long Beach Island.

Comment Number: BOEM-2021-0057-0035-4

Commenter: Anthony Hagen

Commenter Type: Individual

Comment Excerpt Text:

A proposed red knot bird study to be funded by one of these turbine companies would study the southward migratory behavior of just 30 birds. That does not seem adequate. During construction, noise can be muffled, cable laying, through design, can be kept to a minimum, and during operation, turbine blade motion can be ceased during heavy bird or bat activity. In addition, construction can be timed to coincide with the least populated seasons, when most of these animals are far from the site of construction activity.

Comment Number: BOEM-2021-0057-0040-3

Commenter: Lauren Morse

Commenter Type: Individual

Comment Excerpt Text:

I am an avid birder and know that the process will work to ensure that pelagic birds and migrants are not unduly affected. These birds are already under severe stress in part due to climate change, so moving to renewable energy sources is a critical part of ensuring the survival of these species and their habitats

Comment Number: BOEM-2021-0057-0050-13

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

It will potentially decimate the threatened Piping Plover population that has nested on the Island and been protected for many years.]

· A substantial number of piping plovers, about 86, nest on the Island. They migrate north south beyond the project area and therefore must cross it to get to their nesting grounds. Their ability to avoid wind turbines of this size is unknown, but reasonable estimates predict the death of 31 percent of the population crossing the wind complex each year (I.13).

Comment Number: BOEM-2021-0057-0050-4
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

(5) potentially decimate the threatened piping plover bird population that must now cross the turbine complex to nest on the Island

Comment Number: BOEM-2021-0057-0050-57
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The NOI does not mention the Piping Plover or the Red Knot birds.

The piping plover's existence is "threatened" under the Endangered Species Act (ESA) and should receive a review under that statute. About 86 plovers' nest in Holgate and Barnegat Light where they are protected, others in the North Brigantine State Natural Area.

It migrates offshore, north-south^{PP1} and must cross the project area in and out from their nests. If heading toward turbines, it would seem quite difficult for a 7-inch bird to avoid rotating blades with a 774-foot diameter and blade tip speeds approaching 200 miles per hour creating highly turbulent conditions. Assuming little avoidance there is the potential for a high number of fatalities^(PP2) estimated here at up to 31 percent per year. That is based on reference PP2, Figure 2.25, the average of the Chapin, Dead Neck, Avalon, Stone Harbor results. It is also consistent with the percent of transit area blocked by rotating blades and 2 flights per bird, in and out.

The BOEM needs to do a current assessment of collision risk and fatalities here. It cannot rely on the BAND model as it did for the Vineyard Wind 1 Biological Assessment which according to the U.S. Fish and Wildlife Service has major drawbacks^{PP3}.

The BOEM cannot assume a 98 percent avoidance rate by simply referencing studies which reference other studies, which in turn are based on much smaller turbines (e.g., 216-foot diameters), other bird species, and different circumstances. On its face it does not seem realistic to expect a small bird to easily and often escape multiple rows of rotating turbine blades with diameters more than two football fields long, a rotor swept area 13 times that used in previous studies, and wind tip speeds approaching 200 miles an hour causing significant disruptions in air currents.

Prior studies^(PP2) acknowledge that the avoidance rate for the piping plover is simply not known. If the BOEM uses an avoidance percentage number it needs to provide a plausible explanation for it. Otherwise, it should be conservative in its analysis

Comment Number: BOEM-2021-0057-0050-58
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Similarly, the federally threatened and State endangered red knot is likely crossing the lease area as well, and a similar analysis should be done for it. It has a critical habitat in the Holgate and North Brigantine areas during its fall migration^(PP4). The results of all Atlantic Shores studies of its migration routes should be included in the draft EIS. Phase 1 results should be made available now.

Authorizations should also include compliance with the Migratory Bird Protection Act

Comment Number: BOEM-2021-0057-0050-87
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

With respect to the Piping Plover, it is our understanding that USFWS Regional Office 5 is preparing such a cumulative analysis. We suggest that the BOEM consult with them toward including that in the draft EIS.

Comment Number: BOEM-2021-0057-0058-1
Commenter: Angelisa DiPalma
Commenter Type: Individual
Other Sections: 27

Comment Excerpt Text:

This is absolutely horrible. Its not necessary and it will kill tens of thousands of birds.

Comment Number: BOEM-2021-0057-0066-4
Commenter: Peter Hartney
Commenter Type: Individual
Other Sections: 4 14

Comment Excerpt Text:

Moving from economic to the environmental, the proposal submitted by Atlantic Shores either fails to address or glosses over the impact of the wind farms on a number of environmental issues which BOEM needs to give significant consideration. Among these issues are the impact upon the benthic species and

habitats which have yet to be significantly studied and understood (<https://tos.org/oceanography/article/offshore-wind-energy-and-benthic-habitat-changes-lessons-from-block-island-wind-farm>; https://research-repository.st-andrews.ac.uk/bitstream/handle/10023/21420/Hutchison_2020_tos_interaction_between_CC.pdf?sequence=1) the impact upon the migratory patterns of the endangered right whale in addition to the impact, negative in my opinion, on the seasonal flight path of migratory birds in the middle of which the proposed windfarm projects are located;

Comment Number: BOEM-2021-0057-0074-4
Organization: Save Long Beach Island, Inc
Commenter: Christine Leichte
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

potentially decimate the threatened piping plover bird population that must now cross the turbine complex to nest on the Island.

Comment Number: BOEM-2021-0057-0104-15
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Atlantic Shores project area is within the Atlantic Flyway avian migratory corridor whose diverse and complex coastal and pelagic ecosystems and geographies encompass critical feeding, foraging, breeding habitats of hundreds of resident and nocturnal /diurnal migratory species including raptors, songbirds, coastal shorebirds, waterfowl, waders, and pelagic birds. [Footnote 37: US Fish and Wildlife Service (USFWS), Division of Migratory Birds. Atlantic Flyway Shorebird Conservation Initiative] Among these broad groups found in Atlantic Shores area are several listed and at-risk avian species protected by multiple statutes, conservation policies, agreements, and treaties. [Footnote 38: BOEM. (2021, Sep). Atlantic Shores Wind Farm Construction and Operations Plan - Volume II: Affected Environment. Table 4.3-1 List of Species Detected within the WTA and Federally-Listed Species that may Occur in the Project Area],[Footnote 39: North American Waterbird Conservation Plan, U.S. Shorebird Conservation Plan, Memorandum of Understanding between U.S. Minerals Management Service and Fish and Wildlife Service on the implementation of Executive Order 13186 (01/17/2001) on “Responsibilities of Federal Agencies to Protect Migratory Birds”, United Nations Convention on the Conservation of Migratory Species of Wild Animals (CMS), & the International Union for Conservation of Nature (IUCN) whose members include BOEM, USFWS, & NOAA.] In its preparation of the EIS, BOEM must consider impacts from project construction, operation, maintenance, repowering, and decommissioning to all species of concern, which include the following:

- roseate tern (*Sterna dougallii*) - federal & NJ Endangered
- piping plover (*Charadrius melodus*) - federal & NJ Threatened, IUCN Near Threatened
- rufa red knot (*Calidris canutus rufa*) – federal Threatened, NJ Endangered (nonbreeding populations), IUCN Near Threatened,

- black-capped petrel (*Pterodroma hasitata*) - currently a Candidate for federal listing[Footnote 40: USFWS. (2018). Proposal to list the black-capped petrel as threatened.]

Avian species of Special concern (SC), Threatened (T), and Endangered (E) under NJ laws[Footnote 41: New Jersey Division of Fish & Wildlife. (2018, Mar 20). New Jersey's Endangered and Threatened Wildlife] in the Atlantic Shores projects area:

Column A: American bittern (*Botaurus lentiginosus*) - E
Column B: Sedge wren (*Cistothorus platensis*) - E
Column A: Upland sandpiper (*Bartramia longicauda*) - E
Column B: Golden-winged warbler (*Vermivora chrysoptera*) - E
Column A: Least bittern (*Ixobrychus exilis*) - E
Column B: King rail (*Rallus elegans*) - T
Column A: Short-eared owl (*Asio flammeus*) - E
Column B: Northern harrier (*Circus cyaneus*) - T
Column A: Peregrine falcon (*Falco peregrinus*) - T
Column B: Vesper sparrow (*Pooecetes gramineus*) - T
Column A: Northern parula (*Parula americana*) - T
Column B: Grasshopper sparrow (*Ammodramus savannarum*) - T
Column A: Common Loon (*Gavia immer*) - SC
Column B: Common tern (*Sterna hirundo*) - SC
Column A: Least tern (*Sternula antillarum*) – SC
Column B: Common moorhen (*Gallinula chloropus*) - SC
Column A: Blackpoll warbler (*Dendroica striata*) - SC
Column B: Mourning warbler (*Oporornis philadelphia*) - SC
Column A: Long-eared owl (*Asio otus*) - SC
Column B: Eastern whip-poor-will (*Caprimulgus vociferous*) -SC

Comment Number: BOEM-2021-0057-0104-16

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15 20

Comment Excerpt Text:

All current avian monitoring technologies and survey methodologies have limitations in their scope and specific use in addition to inherent sampling biases. The EIS must use models produced from standardized monitoring/survey data collection methods and address the biases of each method used in the COP. The EIS must include:

- accurate estimates of avian populations;
- thorough evaluation of local population-level cumulative impacts in addition to flyway-wide impacts on a broad range of bird species with a presence in the Atlantic Shores area particularly passerines and other nocturnal migrants, seabirds, and species most at risk, employing complementary methods and technologies.
- Since all current OSW areas occur within migratory pathways of trans-Atlantic songbirds and shorebirds, BOEM must conduct a quantitative assessment of the cumulative effects including population viability analyses from OSW build out in the Atlantic OCS to mitigate the increased likelihood of large-scale migratory collision events or displacement events as the total OSW footprint increases.

- An examination of a detailed adaptive ecosystem-wide management plan, based on above analyses, describing how all conservation obligations afforded to impacted avian species by multiple statutes, conservation policies, agreements, and treaties[Footnote 42: North American Waterbird Conservation Plan, U.S. Shorebird Conservation Plan, MOU between U.S. Minerals Management Service and FWS on the implementation of EO 13186 (01/17/2001), UN- CMS, & IUCN] will be met. This comprehensive plan could include methods and standards for monitoring, avoidance, and mitigation, informed by current science and best available technologies, in ecosystem-wide approaches. The best management practices defined by this plan could be extended to other OSW projects within the region and all along the Atlantic coast which encompass important habitats for birds migrating along the Atlantic Flyway.
- application of Collision Risk Models (CRMs) in analyzing potential collision impacts on at-risk species in the offshore environment which may occur within 20 km of the Atlantic Shores area footprint. CRMs provide a mechanism for testing outcomes against model predictions (e.g. observed vs expected collision rates). The collision risk analysis in the EIS must be complete and transparent as CRMs are extremely sensitive to input parameters such as avoidance behavior, flight height, flight activity, flux rate, corpse detection rate, rotor speed, bird speed, and collision risk. CRMs should also consider differences in daytime and nighttime flight patterns. [Footnote 43: Band, B. (2012). Using a collision risk model to assess bird collision risks for offshore windfarms. SOSS report for The Crown Estate, Norway.]
- mortality data and displacement data in cumulative impacts analyses and adaptive management strategies, to validate CRMs, and to measure long-term impacts on at-risk species.

Comment Number: BOEM-2021-0057-0104-17

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

The EIS must consider measures to minimize construction and operational lighting throughout the footprint of OSW projects following BOEM guidelines[Footnote 45: BOEM. (2021, Apr 28). Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development] to minimize collision risk.

A comprehensive regional avian monitoring plan could help BOEM determine the OSW impacts on the vast number of resident and diurnal/nocturnal migratory birds (several of which are endangered species) using the coastal, near shore and offshore pelagic environments of the Atlantic Shores projects area. This plan could be developed and implemented in collaboration and consultation with ornithologists and technical experts and include:

- effective baseline data collection protocols for the Atlantic Shores region initiated immediately and continued through decommissioning including complementary acoustic and visual monitoring methods and technologies, e.g. marine radar surveys, vessel surveys, personned or digital aerial transect surveys, acoustic monitoring, radio telemetry, satellite telemetry, etc. to fill knowledge gaps and to inform future OSW installation processes. Some of the survey and monitoring methods/technologies and their scope include:

- personned or digital (for higher altitudes if safety is an issue) aerial transect surveys coupled with vessel surveys to track larger bodied species of all relevant taxa and to inform OSW siting that minimizes avian impacts while also measuring the realized level of impacts from before and after construction. Distance

sampling is the most obvious method to address inaccuracies in transect surveys and we recommend that BOEM incorporate this accepted method into Atlantic Shores projects area survey protocols along with predictive models where available.

- satellite tracking information from Movebank[Footnote 46: Max Planck Institute’s free, online database of animal tracking data. <https://www.movebank.org/cms/movebank-main>] and Icarus Initiative[Footnote 47: International Cooperation for Animal Research Using Space (ICARUS). Scientists working to develop a satellite-based system to observe small animals such as birds, bats, and turtles. <https://www.icarus.mpg.de/en>] for larger bodied shorebirds, along with additional research and tagging of priority bird species.

- radio telemetry for evaluation of full life cycle of sensitive smaller bodied species.

- satellite telemetry technology supplemented with pressure sensors to obtain fine scale movement data and flight altitude

- marine radar methods to monitor nocturnal migrants. Migration of various birds (including at-risk species like red knot, piping plover, and whimbrel) over the Atlantic Ocean has been documented. [Footnote 48: Sorte, F. A. L. & Fink, D. (2017). Projected changes in prevailing winds for transatlantic migratory birds under global warming. *Journal of Animal Ecology*, 86, 273–284.] While nocturnal migrants are known to typically fly above the rotor swept zone for current wind turbines in operation, they may also fly lower, potentially within the rotor swept zone, during inclement weather and cross winds.[Footnote 49: Van Doren, B. M., Horton, K. G., Stepanian, P. M., Mizrahi D. S., & Farnsworth, A. (2016). Wind drift explains the reoriented morning flights of songbirds. *Behavioral Ecology*, 27, 1122–1131.]

- aerial surveys over the southern New England/mid-Atlantic OSW planning areas to capture annual and seasonal variations in avian movement that are not adequately accounted for by the current MDAT regional avian activity surveys. Begin surveys as soon as possible and repeat frequently enough to cover within and between seasonal and annual variation in avian distribution to capture changes in distribution caused by OSW & inform collision risk analysis.

- science-based monitoring protocols for automated radio telemetry currently being developed by NYSERDA and USFWS[Footnote 50: Williams, K., Adams, E., & Gilbert, A. (2020). USFWS Migratory Birds.] who are also testing the feasibility of floating receiving stations. Financially support efforts to advance this technology by adopting it into regional monitoring protocols for OSW and employing data from these efforts into this EIS and other OSW impacts analyses in the future. Conduct further telemetry studies on other less known life stages, time periods, and appropriate geographic scope, and incorporate those results in the EIS.

- real-time implementation strategies to use the collected data in adaptive management. The adaptive management framework should include cost effective operational adjustments and advances in detection and avoidance technology, e.g. “smart curtailment” to contain reasonable loss of energy production, seasonal adjustments based on mortality data as needed to compare with defined thresholds, etc. This framework also requires interagency (BOEM and USFWS) coordination and commitment beyond Atlantic Shores projects that would be applicable to OSW projects planned and proposed off Atlantic coast.

- installation, upgrades, or maintenance of new and/or existing network of such as Motus Wildlife Tracking System[Footnote 51: Bird Studies Canada. 2018. Motus Wildlife Tracking System. <https://motus.org/>] receivers on WTGs and onshore OSW infrastructure

- commitment to address unforeseen impacts through compensatory mitigation to offset potential long-term adverse impacts from the 2 Atlantic Shores projects. Migratory birds pose huge conservation challenges since their lifecycle spans multiple regions/countries requiring significant investment of resources to restore equivalent quality habitats at multiple sites. The large number of migratory species potentially affected by the 2 projects will require directed environmental compensatory mitigation for meaningful beneficial outcomes, e.g. the \$63 million compensation mitigation package for migratory seabirds in Mexico helped in the recovery and delisting of Pacific Brown Pelican. Mitigation more

effectively compensates for impacts when conducted on a project- and population-specific basis although a compensatory mitigation fund could serve similar purposes.

- Investment in research to understand the effects of displacement and mortality relative to turbine size and spacing. There is no substantial evidence to suggest that larger turbines spaced farther apart lower bird collision risks. Turbulence above and below the rotor swept zone can affect flight performance. If this makes the birds more susceptible to physical interactions with turbines, then larger turbines would only increase that risk. The risk of collision with the tower itself and turbulence around the rotor swept zone must also be evaluated.
- Support for the development of technologies to detect bird collisions or mortalities informed by onshore post-construction mortality studies. The Department of Energy recently funded development of collision detection technology to detect small object collisions with WTGs. [Footnote 52: Oregon State University. Wind turbine sensor array for monitoring wildlife and blades collisions. <http://research.engr.oregonstate.edu/albertani/wind-turbine-sensor-array-monitoring-wildlife-and-blades-collisions>] Similar technologies being tested elsewhere might become available in time if/when Atlantic Shores COP is approved and ready to be implemented. [Footnote 53: Dirksen, S. (2017). Review of methods and techniques for field validation of collision rates and avoidance amongst birds and bats at offshore wind turbines. Report number: Sjde 17-01 DOI:10.13140/RG.2.2.15547.41766] Require developers to report mortality events promptly and publicly and require turbine developers to integrate these systems into their turbines.
- The impacts of less energy production from increased spacing with fewer larger turbines within the footprint of OSW project versus the additional habitat loss impacts from more of smaller projects (and more space) required to meet state and national energy goals must be balanced in the context of avian conservation. Fund studies to address this alternative through financial support of OSW project developers or using tax revenues.
- pursuit of studies to verify CRM utility in the offshore environment and its integration into viable collision detection requirements for Atlantic Shores and future OSW projects
- requirement of schedules/activities modification to protect breeding ESA-listed species from potential onshore impacts of the 2 Atlantic Shores projects including hiring trained spotters to prevent any harm to nesting chicks (e.g. the Endangered piping plover which nests on the beach) within 100 m of onshore construction activities.

Comment Number: BOEM-2021-0057-0105-15

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

It is clear that piping plovers are a species that could be adversely affected by wind energy development in the Mid-Atlantic Bight. The evidence for concern is less about impacts to nesting areas on beaches than about collision risk during migration. Piping plovers migrated offshore directly across the Mid-Atlantic Bight, from breeding areas in southern New England to stopover sites spanning from New York to North Carolina, over 800 km away. During offshore migratory flights, piping plovers flew at estimated mean speeds of 42 km hr⁻¹ and altitudes of 288 m (range of model uncertainty: 36–1,031 m) likely to be well within the rotor swept area of the proposed turbines. (Loring, et al. 2020) [Footnote 22: Loring, P., McLaren, J., Goyert, H., Paton, P. (2020) Supportive Wind Conditions Influence Offshore Movements of Atlantic Coast Piping Plovers During Fall Migration. *The Condor*, 122 (3). Retrieved from: <https://doi.org/10.1093/condor/duaa028>.] The (Loring, et al. 2020) study provides new information on the timing, weather conditions, routes, and altitudes of piping plovers during fall migration. This information can be used in estimations of collision risk that could potentially result from the construction of offshore

wind turbines under consideration across large areas of the U.S. Atlantic Outer Continental Shelf. As the Atlantic Shores COP recognizes, the terrestrial receiver stations relied on in the (Loring, et al., 2020) study did not fully cover the offshore environment and no piping plovers were tagged south of Rhode Island. COP Vol. II at p. 4-29. For this reason, based on the available data, it is not possible to project flight paths or collision risks for this species based on the point data. The Conservancy supports placement of Motus antennae on multiple Atlantic Shores buoys in 2021 to provide data that can allow for the evaluation of piping plover movements within the Project Area.

As with the Atlantic sturgeon, it is important to consider not only the potential impacts to piping plovers by evaluating project related activities on nesting areas, but to also fully consider migratory paths. The research to date shows that 1) plovers fly in places where towers could be placed, and 2) our ability to predict at a fine scale if they will fly through the tower footprint is not adequate.

Comment Number: BOEM-2021-0057-0112-5
Organization: New York State Department of State
Commenter: Kisah Santiago-Martinez
Commenter Type: State Agency

Comment Excerpt Text:

Interference with known migratory pathways, flyways, and overwintering sites of Rare, Threatened and Endangered Species, as well as important ocean habitats.

Comment Number: BOEM-2021-0057-0119-10
Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Draft EIS should consider impacts to avian species of conservation obligation, including but not limited to birds protected by Endangered Species Act, the Migratory Bird Treaty Act, BOEM's Memorandum of Understanding with the U.S. Fish and Wildlife Service, and the International Union for Conservation of Nature.

- The Draft EIS must be transparent in its use of collision and displacement risk assessments for the project and acknowledge limitations of these assessments.
- The Draft EIS should provide clear parameters for monitoring impacts from the project before, during, and after construction and during operation, incorporating guidance from New York State Energy Research and Development Authority's Environmental Technical Working Group, the Atlantic Marine Bird Cooperative, and non-profit groups contributing to this letter, keeping in mind that impacts are likely to occur beyond the project footprint and multiple tools will be necessary to create a complete picture of potential impacts to birds in and around the project boundary (e.g., marine radar, satellite and radio telemetry, and telemetry surveys covering up to 20 km beyond the project footprint).
- BOEM should require a plan for documenting, minimizing, and compensating for loss of birds from collision with turbines, including losses that are identified after the project is constructed or are unknown at the time of developing the plan, which may include but is not limited to temporary curtailment strategies and collision detection technology.
- The Draft EIS should outline actions to limit impacts to breeding, migrating, wintering, and staging

birds from both offshore and onshore construction activities.

Comment Number: BOEM-2021-0057-0119-100

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

We expect that BOEM will apply collision risk models (CRMs) to evaluate avian impacts from Atlantic Shores. While limited, CRMs are one of the only tools available to hypothesize potential impacts to birds from collision in the offshore environment. As such, CRMs provide a mechanism for testing outcomes (e.g., observed collision rates) against the model predictions (e.g., expected collision rates), and BOEM must address the need to collect the data necessary to test these hypotheses. We appreciate how BOEM addressed our concerns in the Final EIS for Vineyard Wind 1 and reiterate our expectation that BOEM's collision risk analysis in the Draft EIS be complete and transparent.

The Draft EIS should include a CRM-driven analysis for all species of conservation obligation which may occur within 20 km of the Atlantic Shores footprint and for which a current CRM would be appropriate, even if the species has not been documented within the footprint of Atlantic Shores This should include a recent stochastic derivation of the Band model, such as the McGregor (2018) [Footnote 277: McGregor RM, King S, Donovan CR, Caneco B, Webb A. 2018. A Stochastic Collision Risk Model for Seabirds in Flight:61. <https://tethys.pnnl.gov/sites/default/files/publications/McGregor-2018-Stochastic.pdf>] version.

BOEM must be transparent in its CRM application. These models are extremely sensitive to the input parameters. A study by Cook et al. (2014) found that estimations of avoidance and collision risk from Band models were highly sensitive to the flux rate (total number of birds passing through the wind farm), corpse detection rate, rotor speed, and bird speed. Factors such as weather (i.e. wind speed and visibility) and habitat use would also affect the accuracy of these estimates, as such factors would greatly influence avian flight patterns and behavior [Footnote 278: Cook ASCP, Humphreys EM, Masden EA, Burton NHK. 2014. The Avoidance Rates of Collision Between Birds and Offshore Turbines. *Scottish Marine and Freshwater Science* 5:263]. Therefore, the Draft EIS must provide the inputs used in its analysis for public comment and transparency. Providing CRM results without transparency to the inputs and analytical process would never be acceptable from a scientific perspective and, therefore, should not be acceptable from BOEM. Providing inputs would show whether BOEM followed the guidance provided by Band in assessing collision risk. These details regarding inputs should include, but not be limited to, avoidance behavior, flight height, flight activity, flux rate, corpse detection rate, rotor speed, bird speed, and collision risk.

Additionally, CRMs should consider differences in daytime and nighttime flight patterns. As Band himself stipulates:

"For some species typical flight heights are dependent on the season, and in such a case it will be best to use seasonally dependent typical flight heights in assessing collision risk for each month, rather than average flight heights across the year...Flight activity estimates should allow both for daytime and nighttime activity. Daytime activity should be based on field surveys. Night-time flight activity should be based if possible on nighttime survey; if not on expert assessment of likely levels of nocturnal activity...collision model[s] should take both day and night flights into account. Where there is no night-

time survey data available, or other records of nocturnal activity, for the species in question, (or for other sites if not at this site), it should be assumed that the Garthe and Hüppop/ King et al. 1-5 rankings apply. These rankings should then be translated to levels of activity at night which are respectively 0%, 25%, 50%, 75% and 100% of daytime activity. These percentages are a simple way of quantifying the rankings for use in collision modelling, and they may to some extent be precautionary [Footnote 279: Band, B. 2012. Using a collision risk model to assess bird collision risks for offshore windfarms. SOSS report for The Crown Estate, Norway.
https://www.bto.org/sites/default/files/u28/downloads/Projects/Final_Report_SOSS02_Band1ModelGuidance.pdf]."

There are new derivations of the Band model under development, namely the 3-D CRM for seabirds by the Shatz Energy Research Center [Footnote 280: Seabird Distribution in 3D: Assessing Risk from Offshore Wind Energy Generation, Shatz Energy Research Center (2020), <https://schatzcenter.org/2020/04/seabird3dstudy/>] and stochastic CRM specific to ESA-listed species in southern New England from the University of Rhode Island [Footnote 281: Transparent Modeling of Collision Risk for Three Federally-Listed Bird Species to Offshore Wind Development, US Fish and Wildlife Service with University of Rhode Island (Oct. 29, 2020) https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Transparent-modeling-of-collisionrisk-for-three-federally-listed-bird-species-to-offshore-wind-development_1.pdf]. These models should be applied, once available, in BOEM's assessments of avian impacts for future offshore wind developments, as they will be better able to incorporate variation in input parameters.

Moreover, collision risk models provide a starting point, not an end point, from which to predict cumulative, population-level impacts across wind farms in the Atlantic OCS. CRMs are not found to be reliable in predicting mortality:

"Siting and permitting decisions for many European offshore wind facilities are informed by collision risk models, which have been created to predict the number of avian collisions for offshore wind energy facilities. However, these models are highly sensitive to uncertainties in input data. The few empirical studies at land-based wind facilities that have compared model-estimated collision risk to actual mortality rates found only a weak relationship between the two, and due to logistical difficulties, the accuracy of these models has not been evaluated in the offshore environment [Footnote 282: Allison, T. D., Diffendorfer, J. E., Baerwald, E. F., Beston, J. A., Drake, D., Hale, A. M., Hein, C. D., Huso, M. M., Loss, S. R., Lovich, J. E., Strickland, M. D., Williams, K. A., & Winder, V. L. (2019). Impacts to wildlife of wind energy siting and operation in the United States. *Issues in Ecology*, vol. 21, Ecological Society of America]."

BOEM should pursue studies to not only verify CRM utility in the offshore environment, but should also move toward viable collision detection requirements for Atlantic Shores and future offshore wind developments.

Comment Number: BOEM-2021-0057-0119-101

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

There is no substantial evidence to suggest that larger turbines, spaced farther apart, reduce risks to birds, and it should be a goal of BOEM to understand the effects of displacement and mortality relative to turbine size and spacing.

Studies, like those from Krijgsveld et al. (2009), [Footnote 283: Krijgsveld KL, Akershoek K, Schenk F, Dijk F, Dirksen S. 2009. Collision Risk of Birds with Modern Large Wind Turbines. *Ardea* 97:357–366. Netherlands Ornithologists' Union] Smallwood and Karas (2009), [Footnote 284: Smallwood KS, Karas B. 2009. Avian and Bat Fatality Rates at Old-Generation and Repowered Wind Turbines in California. *The Journal of Wildlife Management* 73:1062–1071] and Johnston et al. (2014), [Footnote 285: Johnston, A., A.S.C.P. Cook, L.J. Wright, E.M. Humphreys, and N.H.K. Burton. 2014. Modeling Flight Heights of Marine Birds to More Accurately Assess Collision Risk with Offshore Wind Turbines. *Journal of Applied Ecology* 51, 31–41] which suggest that fewer, larger turbines reduce avian collision risk, are based on turbines less than 5 MW. Conversely, studies by Loss et al. (2013), [Footnote 286: Loss SR, Will T, Marra PP. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. *Biological Conservation* 168:201–209] Choi et al. (2020), [Footnote 287: Choi DY, Wittig TW, Kluever BM. 2020. An evaluation of bird and bat mortality at wind turbines in the Northeastern United States. *PLOS ONE* 15:1–22. Public Library of Science] and Huso et al. (2020) [Footnote 288: Huso MMP, Conkling TJ, Dalthrop DH, Davis M, Smith H, Fesnock A, Katzner T. 2020. Bigger not necessarily better for wind turbines: Wildlife mortality scales with energy production. In review] find that bird deaths not only increase with turbine size, but also suggest that the number of bird deaths from collision with wind turbines is proportional to the number of MW produced in a wind farm.

As turbines increase in size, they are more likely to encroach on airspace occupied by nocturnal migrants [Footnote 289: Id] while not necessarily avoiding airspace occupied by relatively lower flying foraging marine bird species. Turbulence above and below the rotor swept zone can also affect flight performance. If this should make birds more susceptible to physical interactions with turbines, then larger turbines would only increase that risk. Additionally, limiting risk evaluations to the rotor swept zone neglects the risk of collision from the tower itself and turbulence around the rotor swept zone.

The size of turbines has grown substantially over the past decade, and this trend is expected to continue. In its current COP, Atlantic Shores proposes to use turbines with nameplate capacity between 8 and 20 MW, for a maximum blade tip height of 320 m above mean sea level and maximum rotor swept zone of 280 m [Footnote 290: ASOW COP, Table E-1, p. E-6]. For comparison with neighboring proposed projects, Vineyard Wind expects to use turbines of up to 16 MW nameplate capacity in its Park City Wind (Phase One) Project, with a potential rotor swept diameter of 255 m and maximum potential height of 319 m [Footnote 291: VWS COP, Volume I, Table S-1, p. S-4]. In Phase Two of the Vineyard Wind South project, Vineyard Wind proposes to use turbines up to 19 MW in nameplate capacity, which could reach a maximum height of 357 m above sea level, with a rotor swept diameter of 285 m [Footnote 292: VWS COP, Volume I, Table S-2, p. S-9]. University of Virginia is currently developing 200 m long blades to power a 50 MW turbine, with a potential rotor swept zone of approximately 400 m. Given that the tower height would need to be more than 200 m in height to accommodate rotor blades of this size, turbines could soon reach heights greater than 400 m above sea level.

It will be important for BOEM to consider the full range of possible turbine parameters expected for the Atlantic Shores project. Any changes to the project design envelope, especially those that result in changes to the rotor swept zone or maximum blade tip height, could require additional review under NEPA.

Suggestions that increased spacing (1 nm) between turbines would reduce risks to birds from both collision and displacement is unfounded, as offshore wind farms in Europe do not provide this level of spacing, and therefore, there is no operational comparison to be made. Instead, increased spacing means

fewer turbines and less energy production within the footprint of the project, so more projects (and more space) will be necessary to meet state and national energy goals. Furthermore, greater space between turbines may increase collision risk if species vulnerable to collision end up using the wind farm more frequently. Unfortunately, these are all unknowns until these configurations are developed and operational. BOEM should require and approve a monitoring plan to answer these questions.

The Draft EIS should include a risk assessment, considering the full range of the potential rotor swept zone provided in the COP, to assess 1) impacts from collision and barrier effects to migrating birds, and 2) potential increased habitat loss that may need to occur in order to reach offshore wind energy goals.

Comment Number: BOEM-2021-0057-0119-102

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

As we have mentioned above and in previous comments, BOEM should not limit the impact assessment to the project footprint.

Terns use upwellings and ocean turbulence as ecological cues to locate important foraging areas offshore. In addition to project construction's disruption of foraging fish breeding communities on the ocean floor, the turbine monopiles can mimic these cues, even when foraging fish are not present. According to recent research, "[t]he structures themselves may provide artificial foraging cues (or ecological trap) by which terns will ignore important upwellings in favor of investigating turbulence created by the turbine structure." [Footnote 293: Lieber L, Langrock R, Nimmo-Smith WAM. 2021. A bird's-eye view on turbulence: seabird foraging associations with evolving surface flow features. *Proceedings of the Royal Society B: Biological Sciences* 288:rsb.2021.0592, 20210592].

Birds are not only disturbed from foraging, staging, roosting, and nesting habitat in the immediate footprint of construction. We know that kittiwakes—a species which occurs within the Project Area—can be displaced up to 20 km from operating wind farms [Footnote 294: Peschko V, Mendel B, Müller S, Markones N, Mercker M, Garthe S. 2020. Effects of offshore windfarms on seabird abundance: Strong effects in spring and in the breeding season. *Marine Environmental Research*:105157]. We also know that, while birds may congregate more frequently in areas outside of the Project Area, they may continue to pass through the WEA, putting them at greater risk of collision. We simply do not know the full extent of habitat loss that marine birds will experience as a result of the Project, nor do we know the rate at which birds that continue to forage in the area will be lost to collision. Though flight-initiation distances are highly variable, nesting and foraging shorebirds can be disturbed from coastal anthropogenic activities more than 200 m away [Footnote 295: Glover HK, Weston MA, Maguire GS, Miller KK, Christie BA. 2011. Towards ecologically meaningful and socially acceptable buffers: Response distances of shorebirds in Victoria, Australia, to human disturbance. *Landscape and Urban Planning* 103:326–334]. Diving marine birds may also be heavily impacted from the noises associated with pile driving [Footnote 296: Anderson Hansen K, Hernandez A, Mooney TA, Rasmussen MH, Sørensen K, Wahlberg M. 2020. The common murre (*Uria aalge*), an auk seabird, reacts to underwater sound. *The Journal of the Acoustical Society of America* 147:4069–4074]. Underwater noise impacts to diving birds must be considered in the Draft EIS, and cannot be limited to an assessment of the Project footprint. Additionally, vessel traffic can disrupt wintering marine birds, [Footnote 297: Mendel B, Schwemmer P, Peschko V, Müller S, Schwemmer H, Mercker M, Garthe S. 2019. Operational offshore wind farms and associated ship traffic

cause profound changes in distribution patterns of Loons (*Gavia* spp.). *Journal of Environmental Management* 231:429–438] and construction activities can have impacts to birds and their prey which will not end immediately after construction—these are modifications to the habitat which will not return to a healthy state until long after construction activities [Footnote 298: Perrow MR, Gilroy JJ, Skeate ER, Tomlinson ML. 2011. Effects of the construction of Scroby Sands offshore wind farm on the prey base of Little tern *Sternula albifrons* at its most important UK colony. *Marine Pollution Bulletin* 62:1661–1670]. Given the avian distribution off the coast of New Jersey, it is likely that marine bird communities will be heavily disturbed during construction activities.

Construction activities from the cable laying and pile driving will likely impact birds, regardless of timing. Beach nesting birds, like Piping Plover, American Oystercatcher, Least Tern, Herring Gull, Double-crested Cormorant, and Common Tern, may be present in and around the Project Area from March through September; Northern Gannet, Red Knots, Semipalmated Sandpiper, and Black-bellied Plover may be affected by construction activities in spring and fall. Marine birds, such as shearwater and petrel, will be present around the Project during the winter. If the construction of cable routes is timed to avoid beach nesting birds, then it will likely impact wintering seabirds. While it may not be possible to avoid impacts entirely, the Draft EIS needs to be transparent in addressing these impacts and provide a path to mitigate these impacts.

While Roseate Tern, Piping Plover, and Red Knot may fly through the WEA, the Draft EIS must also consider the potential impacts of developing the Project to these ESA-listed species onshore. Piping Plover or tern chicks within 100 m of onshore construction activities will require the developer to hire a spotter to prevent the chicks from encountering harm during activities. Additionally, no construction activities may be allowed on the beach or intertidal zone within 100 m of Piping Plover chicks or nests, as this would starve breeding plovers of necessary foraging habitat. Migrating Red Knots and other shorebirds rely on coastal areas to rest and refuel during their fall migration as do Common and Roseate in August-October. The Draft EIS must consider the impacts of building out the Project to these species, even when the activities associated with development fall outside the offshore Project Area. BOEM should take steps to avoid cable routes with significant ecological impacts, as the preferred cable route proposed is less likely to cause significant disturbance.

Comment Number: BOEM-2021-0057-0119-103

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

In addition to accounting for potential avian impacts in the Draft EIS, as we have reiterated repeatedly herein, the developer must provide its plan to monitor bird activity in the Project area and the surrounding area before, during, and after construction. We suggest that BOEM clearly outline monitoring requirements and coordinate with other stakeholders, including New York, Rhode Island, Connecticut, and Massachusetts state agencies, and the Regional Wildlife Science Entity, to support the development of a regional monitoring plan for birds and other wildlife.

Monitoring for adverse effects requires multiple modes of evaluation in a coordinated framework pre- and post-construction. Radar, vessel and aerial surveys, acoustic monitoring, and telemetry are all complementary tools that provide data necessary for evaluating impacts, though none of these tools provides the full picture when used alone.

Comment Number: BOEM-2021-0057-0119-104

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

Post-construction fatality monitoring onshore is a key component of Tier 4 of the USFWS Land-Based Wind Energy Guidelines [Footnote 299: U.S. Fish and Wildlife Service. 2012. U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines. OMB Control No, 10180148. U.S. Department of Interior, Fish and Wildlife Service, Hadley, MA. Available from https://www.fws.gov/ecologicalservices/es-library/pdfs/WEG_final.pdf]. Many wind projects onshore conduct post-construction monitoring, especially on public lands managed by the Department of Interior’s Bureau of Land Management. Developers survey for carcasses around a radius from the turbines, under an a priori protocol, to determine avian mortality rates. The data are adjusted for searcher efficiency, carcass persistence, and other sources of bias.

This practice is entirely impractical at sea for obvious reasons, however, that does not relieve BOEM from requiring post-construction fatality monitoring—an obligation that the onshore wind industry has committed to and is required to fulfill. There is ongoing, rapid development of imaging and bird strike technologies used in the European Union and the United Kingdom, and such technologies are also being developed in the United States. Grant funding from the Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy, state energy agencies, and others supports technical and economic advancement of offshore and onshore wind. The DOE Wind Energy Technologies Office invests in energy science research and development activities that enable the innovations needed to advance wind systems, reduce the cost of electricity, and accelerate the deployment of wind power.

DOE has recently funded development of collision detection technology from the Albertani Lab [Footnote 300: Clocker K, Hu C, Roadman J, Albertani R, Johnston ML. 2021. Autonomous Sensor System for Wind Turbine Blade Collision Detection. *IEEE Sensors Journal*:1–1] at Oregon State University and WT Bird from WEST, Inc. [Footnote 301: Verhoef JP, Eecen PJ, Nijdam RJ, Kortering H, Scholtens HH. 2003. WT-Bird A Low Cost Solution for Detecting Bird Collisions:46]. Similar technologies are being tested at Block Island Wind Project and other offshore locations in the European Union and United Kingdom and are making rapid gains in being effective, officially verified, commercially available, and affordable at scale in the near future, possibly at the same time as the Project would be ready for construction and operation [Footnote 302: Dirksen S. 2017. Review of methods and techniques for field validation of collision rates and avoidance amongst birds and bats at offshore wind turbines. *Sjoerd Dirksen Ecology*]. However, these technologies must be fully integrated into turbine design before they can be deployed. DOE is currently evaluating the development status of these integrated systems based on their readiness for offshore wind deployment [Footnote 303: Brown-Saracino J. 2018. State of the Science: Technologies and Approaches for Monitoring Bird and Bat Collisions Offshore. *RENEWABLE ENERGY*:23. Available at https://www.briloon.org/uploads/BRI_Documents/Wildlife_and_Renewable_Energy/NYSERDA_workshop_JocelynBrown-Saracino.pdf]. BOEM must support the development of these technologies and must drive turbine developers to integrate these systems into their turbine designs. We cannot wait on offshore wind project developers to drive the market, BOEM must require this type of collision monitoring and work with the industry to support the development of these technologies to make deploying them a reality.

The incorporation of these new monitoring technologies, and hopefully a standardized technology, should be a required element in the post-construction monitoring plan for the Project. BOEM should require standardized methodology for using these new technologies across all projects in the Atlantic OCS to incorporate mortality data, and possibly displacement data, into ongoing cumulative effects analyses and adaptive management strategies, to validate collision risk models, and to measure impacts on ESA-listed species and other species of conservation obligation by augmenting tracking data with data from on-site detection technology.

Many of the offshore wind projects to date have suggested in their COPs that mortality monitoring can rely on carcass monitoring around the base of the offshore wind turbines. This is contrary to the standard protocol for post-construction monitoring at onshore wind projects, where a radius from the turbine is prescribed as the search area and includes where birds may be propelled or thrown from the actual turbine structure and blades after collision. The offshore structures anticipated to be installed have very little available structure on which a dead or injured bird could land. Defining the structure as a search area, if it means the turbine base or nacelle (since no injured or dead birds could be found on the blades), is woefully inadequate. Only updated technology will detect bird strikes or mortalities in the appropriate range established by onshore post-construction mortality studies. The Draft EIS must address this inadequacy in the COP and mandate a protocol for adequately monitoring mortality events.

The Draft EIS should specifically require the adoption of collision detection technologies when they are verified and commercially available and BOEM should support their development and testing. The shared cost of development and implementation of these technologies across all lessees and with BOEM, if standardized, would avoid an undue economic burden on individual projects.

Additionally, BOEM must require that lease applicants report mortality events promptly and publicly.

Comment Number: BOEM-2021-0057-0119-105

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

Within the Final EISs for both the South Fork and Vineyard Wind 1 Projects, BOEM proposed that the industry develop a monitoring framework in coordination with the federal and state jurisdictions, to include, at a minimum:

- Acoustic monitoring for birds and bats;
- Installation of Motus receivers on WTGs in the WDA and support with upgrades or maintenance of two onshore Motus receivers;
- Deployment of Motus tags to track roseate terns, common terns, and/or nocturnal passerine migrants;
- Pre- and post-construction boat surveys;
- Avian behavior point count surveys at individual WTGs; and
- Annual monitoring [Footnote 304: SFWF FEIS at G-6, Table G-2].

We support these admirable expectations and expect that BOEM will expand on this framework in the Draft EIS to specify how this monitoring should be carried out to collect the best available data.

Monitoring pre- and post-construction should be designed in such a way as to be able to discern any changes to avian spatial distribution that might be a result of construction and operation of Atlantic Shores. A monitoring plan should incorporate the suggestions previously provided to BOEM on October 23, 2020 via the Avian Considerations recommendations [Footnote 305: “Re:BOEM’s obligations under Migratory Bird Treaty Act in Vineyard I Construction and Operation Plan Environmental Impact Statement.” Submitted to BOEM Oct. 23, 2020; Available here: https://drive.google.com/file/d/1SNv6_3296W_S-c-OgMsfikDAGFu7fOr4/view?usp=sharing] as well as recommendations provided to BOEM from the Atlantic Marine Bird Cooperative.

More specifically, we recommend that efforts to track avian movement include both satellite and automated radio telemetry, as appropriate, and these efforts should not be limited to Roseate Terns, Common Terns, and nocturnal passerine migrants. Technically speaking, while the passive radio telemetry receivers for these efforts are considered part of the Motus network, the tags themselves are VHF and ultra high frequency radio transmitters. Recommendations by USFWS Northeast Migratory Bird Office should be followed when deploying receivers and tags, using the specifications best able to capture migratory routes in the offshore environment.

As we have specified to BOEM previously, we further suggest that transect surveys be accompanied by telemetry and radar studies. Radar surveys can provide a broad overview for comparison of flight paths, especially for nocturnal migrants which could not be captured during daytime survey efforts, [Footnote 306: Desholm M, Kahlert J. 2005. Avian collision risk at an offshore wind farm. *Biology Letters* 1:296–298. Royal Society] while telemetry, especially satellite telemetry with pressure sensors, can gather high resolution distribution and flight path data for priority species.

Comment Number: BOEM-2021-0057-0119-106

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 20

Comment Excerpt Text:

In the past, BOEM has failed to provide any reasonable scientific evidence to support its cumulative impact assessment for birds resulting from wind farm construction and operation in the Atlantic OCS.

Loss et al. (2013) estimates that the average annual mortality rate for birds from turbines onshore is 3.58 birds/MW (95% C.I.=3.05-4.68) [Footnote 307: Loss SR, Will T, Marra PP. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. *Biological Conservation* 168:201–209]. The Draft EIS must use this range to estimate potential cumulative impacts from Atlantic Shores over, at minimum, the predicted 30-year lifespan of Atlantic Shores. While the exact turbine models to be deployed are not yet known, BOEM should provide, at minimum, estimates based on the specifications provided in the COP. Furthermore, BOEM should model how the Loss et al. estimates could change in response to increased height and rotor swept area for larger turbines, enlisting existing flight altitude data from nearshore studies.

These calculations only address direct mortality from collisions and do not include the rates of mortality

driven by barrier effects and habitat loss. Barrier effects and displacement can have significant energetic costs for birds and can additionally result in increased foraging rates. Both can have consequences for individual survival and can decrease rates of egg laying and fledging.

The Draft EIS must provide a quantitative assessment of the cumulative effects from wind farm build out in the OCS, including population viability analyses which consider changes in vital rates that result from both direct and indirect impacts. BOEM's cumulative impact level should reflect these estimates. In the past, BOEM has prescribed impact levels to birds based on immediate impacts or impacts to species detected during surveys within the proposed development footprint. These limited evaluations are not acceptable. We expect BOEM to be fully transparent in its impact level assignments in the Draft EIS, clearly outlining the best available science and analyses that lead to each impact level assignment.

Comment Number: BOEM-2021-0057-0119-107

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

The Draft EIS should provide more certainty that the developer will use adaptive management for birds and collect "sufficiently robust" data to inform mitigation strategies to avoid, minimize, and mitigate impacts to birds.

Comment Number: BOEM-2021-0057-0119-108

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

To provide regulatory certainty to lease applicants, the draft EIS should explicitly outline protocols for monitoring, adaptive management, and mitigation.

The South Fork Final EIS suggests "bird deterrent devices to minimize bird attraction to operating turbines [Footnote 311: Id. at G-6, Table G-1]. However, the specifics of such measures are not provided but the South Fork Draft EIS suggested that painting a turbine blade black and widely spacing wind turbines may reduce collision risk [Footnote 312: Id., Table G-1]. Should BOEM make black turbine blades a requirement for Atlantic Shores, it could provide an excellent opportunity to institute adaptive management, by studying their efficacy in reducing collisions in order to inform best management at future wind farms [Footnote 313: Roel May et al., Paint it black: Efficacy of increased wind turbine rotor blade visibility to reduce avian fatalities, *ECOLOGY & EVOLUTION* (July 26, 2020)]. Painting a blade black to reduce motion smear is likely to be more effective for birds active during daylight hours compared to nocturnally active ones (e.g., nocturnal migrants and nocturnally foraging terns). However, as we have addressed previously, widely spacing turbines is not a minimization strategy, as there is little evidence to suggest that turbine spacing reduces risks to birds. However, this too could provide an opportunity to learn from this management practice and adapt management for future wind developments from this knowledge.

Instituting adaptive management, using the two strategies above as examples, will require robust collision monitoring. As we have noted in this document and in other letters to BOEM, collecting bird carcasses is an inadequate method for estimating collisions in the offshore environment. Instead, collision monitoring will need to use technology from which we can rapidly learn the variables contributing to collision risk and adjust management accordingly—including informed curtailment strategies as necessary. Collisions with turbines over water are unlikely to result in a confirmation of the strike without detection technology. This will continue to be a data deficiency in the monitoring plans. We are concerned that a continued lack of collision data will be misconstrued as a lack of need for collision mitigation. Therefore, BOEM must correct this knowledge gap by requiring a true commitment to collision detection technology deployment at offshore wind developments, Atlantic Shores included.

The framework for adaptive management should include operational adjustments that are reasonable and cost effective and include advances in detection and avoidance technology. For example, the adaptive management framework should include smart curtailment to constrain loss of energy production, seasonal adjustments based on mortality data as needed to compare with defined thresholds, and other operations that are proven to be effective in case of a rare event of mortality of a significant species or number of birds. These are practices used in adaptive management at some onshore wind facilities and in European Union offshore wind facilities. Their incorporation into the leasing process early will permit BOEM to require their adoption as new technologies become available.

An adaptive management framework requires a level of coordination and commitment that goes well beyond Atlantic Shores. BOEM and USFWS must commit to providing a structure that ensures this across the offshore wind landscape.

Comment Number: BOEM-2021-0057-0119-109

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

Compensatory mitigation is another tool that should be used to offset adverse impacts from Atlantic Shores.

Given the current technology, there are no viable options for effectively minimizing the potential impacts of developing Atlantic Shores to the extent needed to protect birds from harmful and long-term impacts. Furthermore, migratory birds pose significant conservation challenges, as many originate from other regions and actions to increase their populations require significant investment of time and resources to restore equivalent habitat. The breadth of species potentially affected and the migratory nature of these species will require environmental compensatory mitigation.

The number of birds affected is uncertain due to the lack of available technology to accurately measure impacts (e.g., collisions) on a species level or the fate of those birds after a collision event (e.g., injury, morbidity, or mortality). We further note that, as discussed above, the agencies still have conservation obligations under frameworks, including ESA and MBTA. Based on studies of ESA-listed species alone (discussed above), it seems likely that birds protected by federal laws will be killed in collisions with turbines under the currently anticipated industry build-out scenario. As such, compensatory mitigation

should be provided for bird mortality resulting from development of the WEAs, and particularly for species of conservation concern.

Directed mitigation can result in meaningful beneficial outcomes. For example, the Montrose restoration, a \$63 million mitigation package compensated for migratory seabirds in Mexico, contributed to efforts which led to the recovery and delisting of Pacific Brown Pelican [Footnote 314: Endangered and Threatened Wildlife and Plants; Removal of the Brown Pelican (*Pelecanus occidentalis*) From the Federal List of Endangered and Threatened Wildlife, 74 Fed. Reg. 59444 (November 17, 2009). <https://www.federalregister.gov/documents/2009/11/17/E9-27402/endangered-and-threatened-wildlife-and-plantsremovalof-the-brown-pelican-pelecanus-occidentalis>].

Mitigation more effectively compensates for impacts when conducted on a project and population-specific basis. This model is encouraged for offshore wind energy development impacts. However, if a project-by-project approach proves difficult to operationalize, a compensatory mitigation fund could be developed and administered by trustees of federal agencies. Following the model of other forms of development, this would most appropriately be funded by the developers whose actions are resulting in the impacts, with funding amounts based on likely or actual impacts (see below).

Quantifying compensatory mitigation for birds should initially be based on a generous estimate of the number of birds that could be killed in collisions with turbines, including ESA-listed species and nocturnal migrants. Evaluating mitigation necessary to effectively compensate for these losses should utilize resource equivalency analysis, which accounts for the fact that birds at different life stages do not functionally equate in conservation importance (e.g., one additional hatchling does not functionally replace a breeding adult bird). This approach has been used extensively for addressing bird losses resulting from oil spills and contaminants in California. For example, under NEPA, the Damage Assessment and Restoration Plan / Environmental Assessment for the Luckenbach Spill called for a number of mitigation projects to compensate for the losses of migratory birds in distant countries where those species originate, such as Mexico, Canada, and New Zealand, in the amount of \$21 million [Footnote 315: Luckenbach Trustee Council. 2006. S.S. Jacob Luckenbach and Associated Mystery Oil Spills Final Damage Assessment and Restoration Plan/Environmental Assessment. Prepared by California Department of Fish and Game, National Oceanic and Atmospheric Administration, United States Fish and Wildlife Service, National Park Service]. Quantities and supporting analyses should be re-evaluated as collision monitoring data become available and additional mitigation provided as necessary.

Compensatory mitigation requirements under the ESA were essentially ignored by the previous administration. We urge the current administration to observe compensatory mitigation requirements for species currently listed and under listing consideration for the ESA which may be impacted by offshore wind development: Piping Plover, Red Knot, Roseate Tern, and Black-capped Petrel.

Seabirds are long lived and have delayed maturity and low fecundity. This life history means that adult survival is the main driver of population change. Mortality from offshore wind energy development is likely additive and, if skewed to breeding adults, will likely have a greater potential to drive declines in population trajectories. These unique life-history traits require a substantial and long-term commitment to reach the offset needed. Given that compensatory mitigation is time-consuming from concept to success, we urge the developers and agencies to commit to this and initiate action as soon as possible.

Comment Number: BOEM-2021-0057-0119-90

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Draft EIS must address population-level, cumulative impacts to avian populations from developing Atlantic Shores and other areas in the Atlantic outer continental shelf (OCS) expected to be developed in the reasonably foreseeable future. In doing so, BOEM must consider impacts to a broader range of avian species which may be impacted by Atlantic Shores, and not limit its evaluation to federally-listed species. Recognizing that much remains unknown regarding the impacts of offshore wind to avian species in the United States, Atlantic Shores' Draft EIS must require an explicitly defined monitoring and adaptive management plan. Monitoring and adaptive management plans must include sufficient standardized monitoring before, during, and after construction.

Most importantly, the adaptive management plan 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. Further, BOEM should call for incorporation of best monitoring and management practices into a regional adaptive management plan to adequately measure and mitigate cumulative impacts to birds from offshore wind developments expected across the Atlantic OCS for the reasonably foreseeable future.

Comment Number: BOEM-2021-0057-0119-91

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM must ensure that the Draft EIS retains consideration of the full range of potential impacts on all bird species known to forage or rest in or near Atlantic Shores, or migrate through the area, including those species protected under the Migratory Bird Treaty Act (MBTA) and the ESA as well as species of birds covered under obligations for conservation of birds under the Fish and Wildlife Conservation Act as amended in 1988, [Footnote 239: 16 U.S.C. 2901-2911 (1988), <https://www.fws.gov/laws/lawsdigest/FWCON.HTML>] Executive Order (EO) 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds" (January 17, 2001), [Footnote 240: Exec. Order No.13186, 3 C.F.R. 1 (Jan. 10, 2001), https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/Req-EO13186migratorybirds.pdf] North American Waterbird Conservation Plan, [Footnote 241: North American Waterbird Conservation Plan, Waterbird Conservation for the Americas, Version 1. <https://www.fws.gov/migratorybirds/pdf/management/northamericawaterbirdconservationplan.pdf>] the U.S. Shorebird Conservation Plan, [Footnote 242: Brown, S., C. Hickey, B. Harrington, and R. Gill, eds. 2001. The U.S. Shorebird Conservation Plan, 2nd ed. Manomet Center for Conservation Sciences, Manomet, MA] the Memorandum of Understanding (MOU) between the Department of the Interior U.S. Minerals Management Service and the Department of the Interior U.S. Fish and Wildlife Service (USFWS) regarding implementation of EO 13186, [Footnote 243: 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" (Jun. 4, 2009). https://www.boem.gov/Renewable-Energy-Program/MMSFWS_MBTA_MOU_6-4-09-pdf.aspx] the United Nations Convention on the Conservation of Migratory Species of Wild Animals (CMS), [Footnote

244: Convention on the conservation of migratory species of wild animals, Bonn, 23 June 1979. <https://www.cms.int/en/convention-text>] the Atlantic Flyway Shorebird Initiative, led by the USFWS, and BOEM, Department of Interior (DOI), USFWS, and NOAA membership in the IUCN, [Footnote 245: IUCN Member List, <https://www.iucn.org/about/members/iucn-members>] hereinafter collectively referred to as the “conservation obligations.”

As we have commented to BOEM before, we are aware that the DOI and the USFWS are now relying on a new rule (the January 7 rule) [Footnote 246: 50 C.F.R. § 10 (2021)] which codifies an illegal interpretation of the MBTA and limits its scope to the purposeful take of birds [Footnote 247: U.S. Department of the Interior, “The Migratory Bird Treaty Act Does Not Prohibit Incidental Take,” Memorandum M- 37050 (Dec. 22, 2017), <https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>]. Our organizations strongly oppose this rule as contrary to the plain language and intent of the law, and we urge BOEM to continue to implement its MBTA responsibilities as all administrations have done, previous to the 2017 Jorjani Opinion M-37050, with explicit recognition that incidental take is prohibited. This would also be consistent with the current administration’s recently proposed rule, [Footnote 248: 86 F.R. 24573 (2021)] intended to revoke the January 7 rule, and is additionally consistent with the memorandum of understanding that BOEM signed with USFWS in 2009 to protect migratory bird populations [Footnote 249: 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” (Jun. 4, 2009). https://www.boem.gov/Renewable-Energy-Program/MMSFWS_MBTA_MOU_6-4-09-pdf.aspx]. Recognizing incidental take as prohibited, and producing a Draft EIS consistent with this interpretation of the MBTA, is vital to maintain regulatory certainty and to create consistent expectations for developers and other stakeholders. If DOI’s new interpretation changes BOEM’s analysis and associated requirements for impacts to migratory birds in any way, a detailed description and explanation of such changes must be included in the Draft EIS. We note that signatories of these comments (Natural Resources Defense Council, National Wildlife Federation, and National Audubon Society), together with many other organizations and states, successfully challenged DOI’s unlawful reinterpretation of the MBTA in court [Footnote 250: National Audubon Society v. U.S. Department of Interior, No. 18-cv-08084 (S.D.N.Y 2019)] and expect BOEM and USFWS to respect the court’s ruling.

The MBTA states, “[u]nless and except as permitted by regulations . . . it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill . . . any migratory bird.” [Footnote 251: Migratory Bird Treaty Act of 1918, 16 U.S.C. § 703 (1918)]. For decades, the DOI has interpreted the MBTA to encompass “incidental takes” of migratory birds, including from wind turbines. It was not until the 2017 Jorjani Opinion M-37050 that the DOI limited the MBTA’s legal scope to only include actions that purposely take migratory birds [Footnote 252: United States Department of Interior, The Migratory Bird Treaty Act Does Not Prohibit Incidental Take, Memo M-37050 (Dec. 14, 2017), <https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>]. However, on August 11, 2020, the United States District Court for the Southern District of New York found that “the Jorjani Opinion’s interpretation runs counter to the purpose of the MBTA to protect migratory bird populations.” [Footnote 253: Natural Resources Defense Council v. United States DOI, 2020 WL 4605235, at *6 (S.D.N.Y. Aug. 11, 2020)]. The court found that the statute’s unambiguous text makes clear that killing a migratory bird “by any means or in any manner,” regardless of how, is covered by the statute [Footnote 254: *Id.* at 28]. As such, the district court struck down the Jorjani Opinion as unlawful, restoring the MBTA’s protections for migratory birds from incidental takes [Footnote 255: *Id.* at 42-44]. The unlawful reinterpretation does not relieve BOEM or USFWS from their obligations for conservation of birds under the aforementioned federal laws, EO and MOU, as well as MBTA.

In addition to ESA-listed species (i.e. rufa Red Knot, Piping Plover, and Roseate Tern), at a minimum, the

Draft EIS should include analyses of the following priority species, which are likely to use the Project array, to fulfill BOEM's conservation obligations:

- Least Tern, Gull-billed Tern, Black Skimmer, Band-rumped Storm Petrel, Fea's Petrel, Cory's Shearwater, Manx Shearwater, and Audubon's Shearwater are all marine birds occurring in the Atlantic OCS listed as USFWS Birds of Conservation Concern under the Fish & Wildlife Conservation Act, 1988 amendment [Footnote 256: U.S. Fish and Wildlife Service. 2021. Birds of Conservation Concern 2021. United States Department of the Interior, U.S. Fish and Wildlife Service, Migratory Birds, Falls Church, Virginia.
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>]
- American Golden-plover, Bicknell's Thrush, Bobolink, Buff-breasted Sandpiper, Pectoral Sandpiper, Chimney Swift, Connecticut Warbler, Semipalmated Sandpiper, Solitary Sandpiper, Upland Sandpiper, and Whimbrel are all trans-Atlantic migrating birds and USFWS Birds of Conservation Concern [Footnote 257: Id] with documented migratory paths through the Atlantic OCS, [Footnote 258: Sorte FAL, Fink D. 2017. Projected changes in prevailing winds for transatlantic migratory birds under global warming. *Journal of Animal Ecology* 86:273–284] and should therefore be prioritized for studies concerning risks to nocturnal migrants.
- Black-legged Kittiwake, Horned Grebe, Leach's Storm-petrel, Long-tailed Duck, Atlantic Puffin, and Chimney Swift are classified by IUCN as Vulnerable.
- Black Scoter, Common Eider, Semipalmated Sandpiper, Blackpoll warbler, Razorbill, and Sooty Shearwater are classified by IUCN as Near Threatened.
- Red Knot, Semipalmated Sandpiper, and Buff-breasted Sandpiper are classified by the CMS as Endangered. Further, the following trans-Atlantic migrating birds have documented routes through the Atlantic OCS WEAs, and should therefore be prioritized in the Draft EIS for analysis of impacts to nocturnal migrants: [Footnote Id.]
- American Golden-Plover
- Bicknell's Thrush
- Blackpoll Warbler
- Bobolink
- Buff-breasted Sandpiper
- Chimney Swift
- Connecticut Warbler
- Pectoral Sandpiper
- Semipalmated Sandpiper
- Solitary Sandpiper
- Upland Sandpiper
- Whimbrel
- White-rumped Sandpiper

- Ipswich Sparrow [Footnote 260: Crysler ZJ, Ronconi RA, Taylor PD. 2016. Differential fall migratory routes of adult and juvenile Ipswich Sparrows (*Passerculus sandwichensis princeps*). *Movement Ecology* 4:3]

Many of the species which may migrate through the Atlantic Shores area are also protected under various state regulations, in addition to the federal ESA and the MBTA. Therefore, the Draft EIS should consider impacts to species protected under New York, Rhode Island, Connecticut, and Massachusetts endangered species laws, as well as the species of greatest conservation need designated under the states' Wildlife Action Plans. However, the states' endangered species lists do not consider all vulnerable species which occur in federal waters off Rhode Island's coast. Many species that occur in the Atlantic Shores area are not considered vulnerable by the state, because they do not occur frequently in state jurisdiction, but are protected under other state laws. Razorbill and Atlantic Puffin, for example, are both considered threatened in the state of Maine, and occur regularly within and around the planned Project Area and are predicted to be highly vulnerable to habitat loss from offshore wind [Footnote 261: Robinson Willmot J, Forcey G, Kent A. 2013. *The Relative Vulnerability of Migratory Bird Species to Offshore Wind Energy Projects on the Atlantic Outer Continental Shelf: An Assessment Method and Database*. Final Report to the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs OCS Study BOEM 2013-207]. Additionally, recent research suggests that similar species are sensitive to underwater noise [Footnote 262: Anderson Hansen K, Hernandez A, Mooney TA, Rasmussen MH, Sørensen K, Wahlberg M. 2020. The common murre (*Uria aalge*), an auk seabird, reacts to underwater sound. *The Journal of the Acoustical Society of America* 147:4069–4074] and may experience physiological impacts from construction. Black-legged Kittiwake are additionally highly sensitive to displacement from offshore wind [Footnote 263: Peschko V, Mendel B, Müller S, Markones N, Mercker M, Garthe S. 2020. Effects of offshore windfarms on seabird abundance: Strong effects in spring and in the breeding season. *Marine Environmental Research*:105157] and are documented within and around the Atlantic Shores footprint, and should continue to be adequately assessed within the COP. Importantly, ~1,000,000 waterbirds are enumerated annually as they move along the New Jersey coast (Avalon Seawatch, ca. 1995-2020) during fall migration. Eighty percent of the birds counted are Black and Surf Scoter (~50%), Red-throated Loon, Northern Gannet, and Double-crested Cormorant.

BOEM should additionally consider species prioritized for conservation by avian expert partners, including the Atlantic Flyway Shorebird Initiative, Partners in Flight, Atlantic Coast Joint Venture, and the North American Waterbird Plan. Along with ESA-listing and IUCN Redlist status, the species included on these initiative priority lists are of high national and international conservation concern. Their priority status by these entities highlights their vulnerability and is further indicative of the need for enhanced mitigation and conservation measures to ensure their survival.

The COP does not provide adequate species-specific impact assessments, even for ESA-listed species, Piping Plover, rufa Red Knot, and Roseate Tern. The Draft EIS must not rely on the COP for its evaluation of impacts and must evaluate the cumulative species-specific impacts in a manner that is appropriate for each species' ecology.

In evaluating impacts to vulnerable species, BOEM must consider local population-level impacts in addition to flyway-wide impacts, based on the best available science.

Comment Number: BOEM-2021-0057-0119-92

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Radio and satellite telemetry and radar monitoring methods should be employed to evaluate risks to species which are likely to use the Project Area for migration. Many nocturnally migrating passerines from across North America convene along the New Jersey coast prior to beginning their southward trans-Atlantic migration in the fall. Beach nesting birds, like Piping Plover, American Oystercatcher, and Roseate Tern, may cut across the Project Area to reach breeding grounds in the spring and on their return flights south. Similarly, Red Knots migrating across the New York Bight from coastal Massachusetts to stopover areas along the New Jersey coast may cross through the Project Area. These interactions are fleeting, however, and would not be adequately captured using transect survey methods. Adults and sub-adults may occur in the Project Area in the spring and summer to forage. Therefore, any transect surveys are likely to underestimate the impacts to these populations.

Satellite telemetry technology, supplemented with pressure sensors, should be prioritized for large-bodied birds, as this is the best method for gathering fine scale movement data and flight altitude. Satellite telemetry data are available for raptors and other taxa and should be included [Footnote 264: See, e.g., Martell, M.S., Henny, C.J., Nye, P.E., and Solensky, M.J. (2001). Fall Migration Routes, Timing, and Wintering Sites of North American Ospreys as Determined by Satellite Telemetry. *The Condor*, 103(4):715-724; <https://www.movebank.org/cms/movebank-main>]. Radio telemetry is appropriate for smaller bodied birds, including songbirds, but it should be reserved for these species, and the network of receiving stations in the offshore will need to be expanded significantly in order to evaluate the level of interaction between birds and the Atlantic Shores turbines. We expect that the Draft EIS will include an evaluation of all relevant telemetry and radar data available for birds which may enter the Project Area (on and offshore), work with Atlantic Shores' developers to expand these monitoring methods to evaluate impacts from the Project and outline these requirements within the Draft EIS.

We recommend BOEM require marine radar methods to document trends in avian movements within and around the Atlantic Shores project area. Despite the high value of telemetry technology to document changes in migratory routes and species distributions, the application of telemetry technology is generally limited in the number of species and sample sizes included. Marine radar can complement telemetry data to better document the quantity and timing of birds flying through the Project Area. This is particularly valuable for understanding impacts to nocturnal migrants.

Comment Number: BOEM-2021-0057-0119-93

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

Given that there are no studies within the United States that document the responses of local avian populations to offshore wind development in United States' waters, BOEM should adopt a conservative approach in the Draft EIS's avian impact analysis. In doing so, BOEM must address the limitations of the survey methods used within the COP to assess avian impacts.

Comment Number: BOEM-2021-0057-0119-94

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Personned aerial surveys paired with vessel surveys, can inform offshore wind siting that minimizes avian impacts, while also measuring the realized level of impacts when comparing survey results before and after construction and should be evaluated for use here. However, both aerial and vessel surveys have limitations and associated biases. They are most appropriate for larger bodied species that spend a great deal of time during the day within the survey area. Transect surveys are less appropriate for assessing risk to migrants, as the surveys are generally not repeated frequently enough to catch migration events. Migration behavior is a dynamic response to endogenous and exogenous factors that requires oversampling to ensure that infrequent events are not missed by chance alone.

Many species are not adequately detected using transects survey methods. Aerial surveys cannot appropriately address impacts to species that are potentially vulnerable to offshore wind but rarely occur in and around the WEA. This is true for species for which populations are low enough that even small levels of take can have population-level effects (e.g., endangered Black-capped Petrel) or species for which interactions with the WEA may be relatively rare but theoretically could result in large take levels under particular circumstances (e.g., nocturnal trans-Atlantic migrants encountering the WEA during inclement weather). Additionally, smaller avian taxa are difficult to distinguish at the species level during transect surveys. Alcids are rarely attributed to species using personned or digital aerial surveys. Sterna terns and small gulls are rarely attributable to species using any survey method (i.e. aerial or vessel), and vessel surveys frighten away many marine birds. Additionally, Roseate Terns are known to use the offshore environment at night during staging periods [Footnote 265: Loring, P., Ronconi, R., Welch, L., Taylor, P. and Mallory, M., 2017. Postbreeding dispersal and staging of Common and Arctic Terns throughout the western North Atlantic. *Avian Conservation and Ecology* 12:20] and migration [Footnote 266: Loring, P., Paton, P., McLaren, J., Bai, H., Janaswamy, R., Goyert, H., and Sievert, P. 2019. Tracking offshore occurrence of Common Terns, endangered Roseate Terns, and threatened Piping Plovers with VHF arrays, Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM] but transect surveys do not evaluate nocturnal activity for obvious safety reasons. Therefore, a comprehensive monitoring plan must include transect surveys in concert with additional methods to assess potential changes in distribution or migratory patterns before and after Project construction. Telemetry (e.g., radio and/or satellite telemetry as appropriate) and marine radar monitoring methods must also be employed as they serve different (though complementary) objectives for different suites of species.

Much of the purpose of these surveys is to collect background information regarding spatial trends which can be compared against data collected post-construction. Personned aerial surveys cannot be completed safely at wind development areas post-construction. We recommend that BOEM work with Atlantic Shores to institute survey protocols pre- and post-construction that can address these limitations and include these requirements in the Draft EIS. As marketed, digital aerial surveys allow for surveys that fly at higher altitudes than personned surveys, reducing safety risks, while also allowing for surveys to be continued after wind farms have been constructed. While this is true given the current 12- 20 MW turbines under consideration by the offshore wind farms with publicly available construction and operation plans, the 200 m turbine blades in development in Virginia [Footnote 267: Institute of Energy for Southeast Europe, Blades, Longer Than Two Football Fields, Could Help Bring Offshore 50 MW Wind Turbines to the World <https://www.iene.eu/blades-longer-than-two-football-fields-could-help->

bring-offshore-50-mw-wind-turbines-to-the-world-p2488.html (visited Apr. 29, 2021)] will challenge the potential for even digital aerial surveys post-construction. Additionally, digital aerial survey technology is relatively new and its reliability for attributing observations to species and characterizing flight altitude has not yet been tested or published. As of now, it appears that federally endangered Roseate Terns can be distinguished from other sterna tern species for at least some proportion of occurrence events. However, the reliability of these photo identifications have not been verified. Additionally, Common Terns are considered a species of concern in Connecticut. Records from Normandeau suggest that digital aerial photos of this species are less distinguishable from other sterna terns (namely Arctic and Forster's Tern). This is similarly true for storm petrel and alcid species, making it difficult to understand how these species distributions may be influenced by the development of the WEAs under consideration. Therefore, the rate of mis-identification for Roseate Tern and other species should be tested and published, and these rates should be incorporated into density estimates.

Comment Number: BOEM-2021-0057-0119-95

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

As stated above and in previous comments to BOEM, raw data from transect surveys is not appropriate for addressing potential environmental impacts. The Draft EIS must address the biases of each monitoring method used in the COP and Draft EIS and present published results from the associated studies that account for imperfect detection. Distance sampling is the most obvious method to address imperfect detection in transect surveys and we recommend that BOEM and developers incorporate this accepted method into their survey protocols [Footnote 268: Bradbury G, Trinder M, Furness B, Banks AN, Caldow RWG, Hume D. 2014. Mapping Seabird Sensitivity to Offshore Wind Farms. PLOS ONE 9:e106366. Public Library of Science]. Personned and digital aerial surveys, as well as vessel surveys, are unable to reliably distinguish between similar-looking species in all cases. Digital area surveys may be able to attribute observations to species more frequently, but so far there are no peer-reviewed publications which document the reliability of this method. Vessel surveys, while occasionally better for attributing observations to species, are biased against species which sit on the water (sea ducks, waterbirds, alcids) and are more likely to flee from approaching vessels [Footnote 269: Henkel LA, Ford RG, Tyler WB, Davis JN. 2007. Comparison of aerial and boat-based survey methods for Marbled Murrelets *Brachyramphus marmoratus* and other marine birds: 8]. Because of these biases, it would be inappropriate to assess Atlantic Shores using raw data alone. It is also inappropriate to base an impact analysis on lumping the data together into species groups if species-specific extrapolations are available and statistically sound. The Draft EIS must not rely on the presentation of raw lumped data and instead rely on models produced from these standardized collection methods and by species when appropriate.

Currently the COP does not provide any adequate risk assessments for passerines and shorebirds. Except for phalarope, shorebirds and passerines do not spend a significant time in the offshore environment, but could potentially experience significant interactions with turbines during migration. Therefore, survey methods are not appropriate for evaluating risk to these species groups. While risk evaluations to loons, seaducks, and gannets incorporated distribution results from satellite transmitter studies, this type of evaluation was not extended to terns, gulls, cormorants, or other seabirds.

Flight height estimates from vessel surveys are generally biased low and should not be relied on to

estimate average flight height to assess collision risk [Footnote 270: Harwood AJP, Perrow MR, Berridge RJ. 2018. Use of an optical rangefinder to assess the reliability of seabird flight heights from boat-based surveyors: implications for collision risk at offshore wind farms. *Journal of Field Ornithology* 89:372–383]. Radar, LiDAR, and pressure sensor technologies should be relied upon in the Draft EIS and the limitations of each data collection method should be explicit within the Draft EIS.

Comment Number: BOEM-2021-0057-0119-96

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS must include information of avian distribution and occurrence for a minimum of 20 km surrounding the Project Area in order to completely understand which species may be impacted by developing Atlantic Shores. Annual and seasonal variations in avian movement are also not well captured during the limited survey period, and therefore BOEM should work with developers to continue surveys over the planning areas, including a 20 km buffer, to capture this variation, beginning as soon as possible. Surveys should be repeated frequently enough to cover within and between seasonal and annual variation in avian distribution, so that changes in distribution caused by offshore wind development can be discerned from other sources.

Comment Number: BOEM-2021-0057-0119-97

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

The Draft EIS should include a collision risk analysis, including risk to birds as they migrate through the Project, on species that occur within a 20 km radius of the WEA and that trigger conservation obligations: ESA-listed endangered and threatened species, state-listed threatened, endangered, and species of concern, and IUCN-listed endangered, threatened, and near threatened. These species include, but are not limited to, Roseate Tern, Piping Plover, Red Knot, Common Tern, Least Tern, American Oystercatcher, and Upland Sandpiper. The Draft EIS should include the most recently available scientific information.

Based on MDAT models, the Atlantic Shores project may not likely have consistent impacts to avian populations during operation. However, these MDAT distribution models have limited reliability across species, and better methods for predicting impacts have not yet been applied in the offshore environment in the United States. Additionally, while collision events during migration are likely to occur less frequently, these events have the potential to have large, population-level consequences during a short time period. All the current lease areas and call areas occur within migratory pathways for trans-Atlantic migratory songbirds and shorebirds. BOEM's EIS needs to evaluate this cumulative risk, as the likelihood of large migratory collision events will increase as the total offshore wind footprint increases.

Comment Number: BOEM-2021-0057-0119-98

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Collision risks to nocturnal migrants have not been properly accounted for in the COP. BOEM must sufficiently assess collision risks to nocturnal migrants in the Draft EIS. As addressed above, migration events are relatively infrequent, and, therefore, survey transects of the Project Area are not appropriate for characterizing collision risk to nocturnal migrants. The Draft EIS must consider migration timing, variations in flight height, and the distance from shore at which nocturnal migrants reach maximum migration height. The Draft EIS should contain a full analysis of these study results and not rely on a simple summary of the raw data to inform its collision risk analysis for nocturnal migrants. In general, efforts to understand these impacts should rely on a combination of radar, telemetry, survey, and acoustic monitoring, and should not be based on a single technology alone.

When incorporating radio telemetry methods, receiving stations need to be installed in the offshore environment in such a way that avian movement in and around the WEAs can be adequately assessed. BOEM should ensure the monitoring protocols for automated radio telemetry currently in development by NYSERDA and USFWS [Footnote 271: Gulka, J., E. Adams, A. Gilbert, P. Loring, and K.A. Williams. 2021. Stakeholder Workshop: Guidance Document for Deploying Automated Radio Telemetry Stations on Offshore Wind Turbines and Buoys. Report for New York Energy Research and Development Authority. 10 pp. Available at <https://briwildlife.org/offshore-motus-guidance/>; Gulka, J., E. Adams, A. Gilbert, E. Jenkins, P. Loring, and K.A. Williams. 2021. Stakeholder Workshop: Online Study Design Tool for Informing Offshore Deployment of Automated Radio Telemetry Stations. Report for New York Energy Research and Development Authority. 11 pp. Available at <https://briwildlife.org/offshore-motus-guidance/>] are followed. We applaud this interagency effort to develop robust, scientifically sound monitoring protocols and to test the feasibility of floating receiving stations. BOEM needs to help financially support the efforts to further this technology, adopt these methods into regional monitoring protocols for offshore wind development, and ensure the success of this technology moving forward. Data from these efforts should be incorporated into this Draft EIS and other impacts analyses into the future.

Acoustic monitoring is especially inappropriate on its own to characterize the community of nocturnal migrants within the Project Area. We recognize that BOEM is considering acoustic monitoring as a standardized monitoring method. However, evidence indicates that Empidonax flycatchers and vireos, two of the most abundant nocturnal migrant groups, do not emit nocturnal flight calls, and therefore, would not be accounted for using acoustic monitoring [Footnote 272: Evans WR, Rosenberg KV. 2000. Strategies for bird conservation: The Partners in Flight planning process; Proceedings of the 3rd Partners in Flight Workshop; 1995 October 1-5; Cape May, NJ:9]. Estimates of movement magnitude are confounded by the inability to distinguish between multiple birds calling or a single bird calling multiple times. Calling frequency appears to be condition dependent, that is, under certain environmental conditions birds tend to call more frequently, so understanding these relationships also would be necessary to quantify movement magnitude. Additionally, acoustic monitoring does not adequately assess flux—a necessary value for assessing collision risk and estimating population-level impacts.

La Sorte and Fink (2017) [Footnote 273: Sorte FAL, Fink D. 2017. Projected changes in prevailing winds for transatlantic migratory birds under global warming. *Journal of Animal Ecology* 86:273–284] document the flights of species of migratory birds that migrate over the Atlantic Ocean: American Golden-Plover, Bicknell’s Thrush, Blackpoll Warbler, Bobolink, Buff-breasted Sandpiper, Connecticut Warbler, Pectoral Sandpiper, Semipalmated Sandpiper, Solitary Sandpiper, and White-rumped Sandpiper.

Two species classified by USFWS as Birds of Conservation Concern, Upland Sandpiper and Whimbrel, also cross the Atlantic Ocean during migration. We do not currently know what Atlantic Shores' turbine specifications will be. While there is evidence to suggest that nocturnal migrants typically fly above the rotor swept zone for current wind turbines in operation, we also know that nocturnal migrants fly lower, potentially within the rotor swept zone, during inclement weather and cross winds [Footnote 274: Van Doren BM, Horton KG, Stepanian PM, Mizrahi DS, Farnsworth A. 2016. Wind drift explains the reoriented morning flights of songbirds. *Behavioral Ecology* 27:1122–1131. 262 COP Volume II, p. 19].

Many species of conservation obligation, including ESA-listed Red Knot and Piping Plover, migrate over the Atlantic Ocean. Relying on the current system of automated radio telemetry receivers to monitor risk is inappropriate, as the network of receivers has not been established offshore to the degree necessary. Additionally, automated radio telemetry does not adequately estimate flight height, though there are efforts underway to fill this information gap. Remote tracking studies that rely on the Motus passive very high frequency (VHF) radio tracking system do, however, provide that Piping Plovers migrate nocturnally over open water, “directly across the mid-Atlantic Bight, from breeding areas in southern New England to stopover sites spanning from New York to North Carolina...at altitudes of 288 m (range of model uncertainty: 36-1,031 m),” putting this ESA-listed species at high risk of collision with turbines, especially considering that individuals breeding in Massachusetts have known migratory routes through the Project Area.²⁷⁵ The current configuration of VHF receiving towers does not allow for detailed characterization of flight paths for this species or any protected avian species using this tracking technology, and therefore, BOEM should take a conservative approach in the Draft EIS when evaluating potential impacts (cumulative or otherwise) to Piping Plover, Red Knot, and other species which may fly through the Project Area and other wind development areas expected in the foreseeable future.

It is imperative that BOEM supports further tracking efforts and we recommend the construction and maintenance of a full network of telemetry receiving towers throughout the offshore environment to inform risk analyses. It is important to note that the VHF transmitters widely deployed along the coast have a limited lifespan. New solar-powered ultra-high frequency transmitters, which include on-board battery support for transmitting at night, should be the future focus for incorporating this technology.

The Draft EIS must produce a full picture of migratory pathways for songbirds and shorebirds. This could be realized with the addition of satellite tracking information from Movebank and the National Aeronautics and Space Administration's Icarus project for larger bodied shorebirds, additional research and tagging of priority bird species using radio and satellite telemetry technology as appropriate, and an expansion of the radio telemetry receiver network in the offshore environment. While we recognize the unlikelihood of implementing and completing new tracking studies prior to the publication of the Draft EIS, these knowledge gaps should be filled expeditiously to inform future offshore wind operation and siting processes. In addition, there should be a commitment to, and process outlined for, addressing unforeseen impacts through compensatory mitigation). The Draft EIS should use the data currently available to calculate the risk to these migratory birds, especially in regard to turbine height, and provide for tracking these migratory birds during the life of the project and cumulatively over all projects in the Atlantic OCS.

Additionally, the Draft EIS should explicitly outline the implementation of collision detection and minimization measures during the operation of Atlantic Shores and other planning areas. Under the ESA and MBTA, developers are responsible for any take of migratory birds and ESA-listed species. However, without appropriate monitoring for collision detection, large collision events could have serious population-level impacts to migratory songbirds and shorebirds without any recourse. This is not an acceptable outcome, and BOEM must require Atlantic Shores to create a plan to address this concern.

Comment Number: BOEM-2021-0057-0119-99

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Draft EIS must adequately assess collision risk to seabirds. This must include an analysis, using the most current available science, of flight heights (averages and ranges), avoidance rates, and other relevant avian flight behavior at the very least. The Draft EIS must also consider the range of turbine specifications that could influence collision risk, including air gap, total rotor swept zone, and turbine height.

The Draft EIS must also provide results from BOEM's own analysis of the vulnerability of 177 species of birds that could come into contact with the WTGs in the cumulative OCS Wind Development Areas (WDAs) in the foreseeable future and incorporate this analysis into the cumulative impacts conclusions within the Draft EIS [Footnote 276: Robinson Willmot J, Forcey G, Kent A. 2013. The Relative Vulnerability of Migratory Bird Species to Offshore Wind Energy Projects on the Atlantic Outer Continental Shelf: An Assessment Method and Database. Page 294. Final Report to the U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs OCS Study BOEM 2013-207]. In doing so, the Draft EIS must be transparent in presenting the high level of uncertainty in the results, including high and low estimates for population-level cumulative impacts. Much of the high uncertainty in these models is a result of highly variable concentrations of seabirds throughout the year. The Draft EIS needs to be explicit about these seasonally higher risks and not rely on annual averages. Many tubenoses, for example, congregate outside the breeding season near upwellings and other locations of high productivity. Such concentrated flocks, if occurring within the turbine array, could produce significantly large collision events, even if such events are relatively rare. The Draft EIS should consider this variability of large concentrations of birds even in short periods of time in its analysis of seasonal abundance when calculating risk to birds.

Comment Number: BOEM-2021-0057-0121-2

Commenter: Horatio (Ray) Nichols

Commenter Type: Individual

Comment Excerpt Text:

1. Re potential avifauna impacts:
 - a. conduct a thorough examination of all peer-reviewed published studies of windmill-avifauna collisions, on land as well as over water, to provide a basis for determining potential impacts. Consider studies conducted in other countries where there are far more existing offshore wind projects than in the US.
 - b. Given their distance off the NJ coast, what are the species of concern and when are they migrating?
 - c. Evaluate potentially effective mitigation measures, including: using real time radar to track migrations, and thus peak times for potential collisions; stopping the blades from turning during those times and orienting the blades parallel to the wind direction so as to minimize potential collisions; illuminating the towers at night during peak migrations.

Comment Number: BOEM-2021-0057-0122-16

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

(1) Displacement of Habitat

a. Behavioral responses to offshore wind farms may cause birds to avoid previously used habitats. This phenomenon has been dubbed displacement. At Robin Rigg offshore wind farm in Scotland, the monitoring program showed evidence of a decrease in the number of common scoter (*Melanitta nigra*) one year after construction.

(2) Risk of Collision

a. There is concern for birds colliding with wind turbines. This has been a big issue with onshore wind projects, specifically in the middle of the country.
b. Weather increases the risk of collision, and the ocean is an area with some of the harshest weather conditions, which will only increase due to climate change impacts.

(3) Migration Barriers

a. The barrier effect may have a negative impact of birds. The birds' behavioral avoidance response to the wind farm may lead to detours circumventing the structures, ultimately extending the total flying distance and energy use. This energy loss is critical for birds experiencing other stressing factors to their populations.
b. Furthermore, for species such as the common eider (*Somateria mollissima*) the reproductive success is related to the females' body reserves during the breeding period. By increasing the energy use for common eiders their body mass may drop, thus affecting the breeding output.
c. Results from the monitoring programs at Nysted and Horns Rev offshore wind farms in Europe showed that all birds generally avoid wind farms if they block migration pathways. The specific level of avoidance depends on the species with some going further out of their way to avoid the area. Over 50 percent of the birds avoided passing through the wind farms at half a mile to a mile.

Comment Number: BOEM-2021-0057-0128-2

Commenter: Margaret Collins

Commenter Type: Individual

Comment Excerpt Text:

The environmental disaster that would take place, birds would die because they have not developed environmentally to understand that they should not fly into these monstrosities that will be in their migratory path, the seagulls, the insect life we depend on for diversity in our crops and agriculture would be casualty, and this is something that's been a known fact in all communities that experience wind farms have complained about this.

Comment Number: BOEM-2021-0057-0135-3

Organization: TriCounty Sustainability

Commenter: Sean Mohen

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Also, two quickies, the Audubon Society, the foremost advocates of birds in this world, they support wind power. Also, with regard to cold weather, they have wind turbines in continuous use in the arctic circle.

Comment Number: BOEM-2021-0057-0142-3
Organization: Save Long Beach Island, Inc.
Commenter: Wendy Kouba
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The project will decimate the threatened piping plover bird population that we have worked very hard on Long Beach Island to restore as the plovers must cross the rotating turbine blades to nest on Long Beach Island, and because turbines remove energy from the wind, they will create a wind velocity deficit resulting in the creation of a microclimate on Long Beach Island and increased air temperatures at the shore.

Comment Number: BOEM-2021-0057-0208-3
Commenter: Joy Hudecz
Commenter Type: Individual

Comment Excerpt Text:

As far as the birds go by, we are pretty sure that there are going to be very few birds out there, so I am not worried about that and I think that the people shouldn't just, the speakers shouldn't just throw in the birds as a deterrent for building -- for building the windmills.

We have many more ways in our destruction of the planet that have harmed the birds and anything that would reduce climate change would definitely help them.

Comment Number: BOEM-2021-0057-0210-7
Organization: Save LBI
Commenter: Joanne Leichte
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The project will decimate the threatened piping plover bird population that must cross the rotating turbine blades to nest on Long Beach Island.

Comment Number: BOEM-2021-0057-0240-9
Commenter: Gregory Roberts
Commenter Type: Individual

Comment Excerpt Text:

Regarding the impact on birds, the wind farm sites are located directly in the Atlantic Flyway, an airspace that 500 bird species (both shore birds and sea birds) use for migration. Much of the Atlantic Flyway is

over or close to the Atlantic Waters of the East Coast. The Audubon Society and the US Fish & Wildlife Service acknowledge wind turbines already kill up to 500,000 birds per year.

A.3.6 Climate Change

Comment Number: BOEM-2021-0057-0014-2

Commenter: Sabrina Wilder

Commenter Type: Individual

Comment Excerpt Text:

These impacts may seem like a reason to not build the projects, however the energy produced from them would be much less harmful to the environment than fossil fuels and would be a great way to reduce CO2 emissions. The production of electricity accounts for 25% of the CO2 emissions and “62 percent of our electricity comes from burning fossil fuels, mostly coal and natural gas”, whereas wind power is a non-emitting energy source (EPA 2021). In the long run, the small amount of impact the constructure would cause is nothing compared to the impact of continued burning of fossil fuels.

In conclusion, I support the building of the offshore wind project because it would have a much less impact on the environment than the continuation of burning of fossil fuels.

Comment Number: BOEM-2021-0057-0016-1

Commenter: Anthony David

Commenter Type: Individual

Comment Excerpt Text:

As an environmental science and sustainability major at the Harrisburg University of Science and Technology, I personally agree with the proposed action to the construction and operation plan for the Atlantic Shores Offshore Wind Projects.

I understand that there was an Executive order issued by President Biden in January of 2021 to tackle the climate crises. This Project will do exactly that by creating two projects that will create wind energy for the Jersey area. I personally do not see any major negative environmental impacts that this project would have as this project would not be producing any waste that would affect the wildlife or ocean well being since. The offshore transmission cables would be buried below the seabed of New Jersey state waters.

In conclusion, if there were any environmental impacts it would be at the cost of clean renewable energy for the New Jersey area. This Project would contribute to New Jersey’s goal of 7.5 gigawatts of offshore wind energy.

Comment Number: BOEM-2021-0057-0023-1

Commenter: Ken Dolsky

Commenter Type: Individual

Comment Excerpt Text:

The most recent IEA (International Energy Association) report special edition of the *World Energy*

Outlook stated:

“For all the advances being made by renewables and electric mobility, 2021 is seeing a large rebound in coal and oil use. Largely for this reason, it is also seeing the second-largest annual increase in CO₂ emissions in history. Public spending on sustainable energy in economic recovery packages has only mobilised around one-third of the investment required to jolt the energy system onto a new set of rails. The direction of travel is a long way from alignment with the IEA’s landmark Net Zero Emissions by 2050 Scenario (NZE1), published in May 2021, which charts a narrow but achievable roadmap to a 1.5 °C stabilisation in rising global temperatures and the achievement of other energy-related sustainable development goals.”

“Today’s governmental pledges cover less than 20% of the gap in emissions reductions that needs to be closed by 2030 to keep a 1.5 °C path within reach.”

It goes on to say, “The energy sector is responsible for almost three-quarters of the emissions that have already pushed global average temperatures 1.1 °C higher since the pre-industrial age. The energy sector has to be at the heart of the solution to climate change.”

NJ is required to reduce GHGs by 80% by 2050 while the IPCC and the U.S. Climate Alliance have set an even more ambitious target of reducing GHGs by 50% by 2030 (a window that is rapidly closing). To date, NJ has barely moved the needle on GHG reductions based on new policies and meeting the IPCC goal will be an absolutely enormous challenge for us. Even as we speak there are forces at work to increase GHGs such as subsidies for logging in the Federal Infrastructure bills and plans to dramatically increase LNG exports. NJ is still allowing new fossil fuel projects to be built and is struggling to measure GHGs, not reduce them. [Without offshore wind, even achieving half of our goals in NJ for GHG reductions will be impossible.]

While no green/renewable energy technology is a panacea, offshore wind is as close as it gets. It has minimal environmental downsides while it has great economic upsides for jobs, growing the economy and helping NJ with its financial challenges, and, best of all, virtually no political foes. Given the enormous cost of not mitigating carbon emissions [we cannot afford to not proceed with as much offshore wind as possible.]

Climate change is the greatest existing threat to wildlife resulting in 1 million animal and plant species threatened with extinction due to a rapidly changing environment. While we need to develop offshore wind in a manner that minimizes local wildlife impacts, mitigating the overall threat to wildlife from global climate change is paramount and argues for moving forward as quickly as possible with offshore wind in NJ.

Comment Number: BOEM-2021-0057-0032-3

Commenter: Ryan R

Commenter Type: Individual

Comment Excerpt Text:

In terms of certain objections that wind farms may alter the scenic landscape of coastal cities, I would argue those many of those cities will cease to exist from rising sea levels if we don't take drastic action to transition to renewable energy (such as building wind farms).

Comment Number: BOEM-2021-0057-0036-3

Commenter: David Korfhage

Commenter Type: Individual

Comment Excerpt Text:

I have two sons, ages 21 and 19. It is of them I think when I think of climate change and the effects it will bring, and it is to address and reduce climate change that I urge you to approve offshore wind in New Jersey. I am sure I dont have to go on at length about the effects of climate change. Weve seen them all in the news: more extreme weather, leading to flooding, here in New Jersey but also in countries around the world; wildfires in California the size of whole states, and happening at an unprecedented rate; an extreme and unprecedented heat wave across the Pacific northwest, with beaches filled with wild shellfish that had been cooked alive; coral die offs in the Great Barrier Reef; droughts in countries around the world, including Afghanistan and Syria, where the effects of those droughts worsened the security problems our country has to deal with; sea level rise that is putting whole nations at risk and of course the Jersey shore itself. And thats at 1.1 degree of warming. What will happen at 1.5 degrees? 2 degrees? 4 degrees? We know enough to know that it wont be pretty. And thats why I think of my sons when I think about global warming I dont want to leave behind that world for them.

Stopping global warming is like stopping a moving freight train; it takes a while and you have to start early. And we know what we have to do to stop it: we have to stop burning fossil fuels. Its that simple. And if we want to stop burning fossil fuels we have to replace them with something else. Fortunately, here in New Jersey we have been blessed with powerful wind resources that can power millions of homes. It is a technology that has been in use in Europe for decades. It is well-tested and reliable. We are so lucky to have this resource, so easily exploitable, here in our state. We can be energy independent if we will just take the gift that has been given to us.

And it is the gift that keeps on giving. Not only will it help with global warming, it will help reduce air pollution generally, leaving everyone in New Jersey better off. It will create jobs, and with the new wind port being built in south Jersey, make us a hub for this new industry.

Comment Number: BOEM-2021-0057-0040-2

Commenter: Lauren Morse

Commenter Type: Individual

Comment Excerpt Text:

Climate change threatens our shores and the wildlife that relies upon this area.

Comment Number: BOEM-2021-0057-0047-4

Organization: Beach Haven Taxpayers Association

Commenter: John Hailperin

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BHTA has concluded however that BOEM should not entertain a myopic view of this issue at the expense of such issues as climate change and flooding. The major concerns of our membership are back bay flooding and beach erosion. Sea level rise and coastal flooding will have a greater impact on property values than the presence of WTGs 13.5 miles from the shoreline. It has been documented that New Jersey

is experiencing sea rise faster than other areas of the East Coast. When BHTA questioned BOEM on the scientific impact offshore wind has on climate change, BOEM's response was the reduction in emissions (carbon) in the atmosphere and thus, less reliance on greenhouse gases and its emissions will mitigate climate change. NJBPU documented from the US Energy Information Administration indicated that 14% of all emissions are avoided due to the Proposed Action. We believe climate change is the *real* threat to tourism and property values, our oceans, and our beaches and not the presence of WTGs. The New Jersey Audubon has been quoted as indicating that transitioning to clean renewable energy is critical to fighting climate change. The Executive Director of New Jersey Resource Project supported the movement to renewable energy to improve our infrastructure due to flooding.

Comment Number: BOEM-2021-0057-0047-8
Organization: Beach Haven Taxpayers Association
Commenter: John Hailperin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Not only does climate change impact property values as articulated above, but it also has a negative impact on our commercial and recreational fishing industries, and our ecological and environmental systems including marine life and birds. BHTA believes projects such as the Proposed Action is critical in combating climate change.

Comment Number: BOEM-2021-0057-0048-3
Commenter: James Binder
Commenter Type: Individual

Comment Excerpt Text:

In support of my comments on use of alternative carbon free technologies such as hydrogen and for use of carbon capture to reduce COemissions from fossil sources, please see attached, the first attachment documenting the Canadian government's plan to make hydrogen a key component of their energy future, supplying 30% of its energy needs by 2050. The second is a recent article documenting carbon capture projects operating in Saudi Arabia, as a key component of their greening of their economy. This is just an example of what is happening around the world. The future of these technologies is here and would allow us to reduce dependance on offshore wind energy, and its inherent environmental and socioeconomic impacts and high costs.

Comment Number: BOEM-2021-0057-0050-66
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The NOI alludes to climate change as a benefit from the project, and for New Jersey constraining sea level rise would be a major part of that. But in fact, as explained below, the proposal has virtually no effect on sea level rise.

- Sea level rise from greenhouse gases (GHG) is different than other air pollutants.

- GHG emissions raise the earth's surface temperature, predicted in 2100
- Subsequent heat transfer to ice caps and oceans causes the sea level rise,
- The height of the seas level rise depends on both the 2100 temperature rise and the time elapsed afterward.
- The earth is currently headed to a 3.3-degree Celsius rise in 2100
- In that regime, Exhibit H shows the effect of a lower temperature rise from a GHG reduction is to delay, not reduce or prevent, future seal level rise.
- A 90 percent reduction (41 billion metric tons) of annual global GHG emissions is required to go from 3.3 degrees to a desired 2 degrees.
- The Atlantic shores project offers a GHG reduction of 2.6 million metric tons
- Per NJ BPU press release distributed in June 2021
- Even accounting for an early reduction, the project will result only in a 0.00016-degree lower 2100 temperature rise.
- Exhibit H shows a 0.65-degree reduction is needed to delay a given sea level rise by 100 years.
- [bold: So, the only project impact is to lower the temperature rise by 0.00016 degrees and delay (not reduce) future sea level rise by about 9 days.]

A nine-day delay in sea level rise is hardly a benefit worth a multi-billion-dollar investment. If the BOEM claims climate change as a project benefit it needs to say what the benefit is.

Comment Number: BOEM-2021-0057-0050-67

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition, the EIS should explain how the 2.6 million metric ton GHG reduction was calculated. It does not appear to have considered GHG emissions created in the manufacture of, transport or installation of turbine components, or from the greater economic activity that the project claims.

This analysis is not to suggest that GHG reduction should not be pursued, but before claiming a project benefit BOEM should make clear to the public the global scope of this problem and the need to first get other countries aboard so the earth heads towards a temperature rise less than 2.5 degrees, which, as seen in Exhibit H would actually constrain sea level rise. By proposing more modest and practical GHG reductions (40% vs 90 %) the U.S. could get other countries to buy-in and overall global GHG reductions would actually be greater^{CC1}

Comment Number: BOEM-2021-0057-0051-16

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

EPA recognizes the long-term potential benefits of the proposed large-scale renewable energy project with respect to greenhouse gas (GHG) reductions and climate change mitigation. The COP briefly mentions reductions in annual GHG emissions (roughly 3.9 million tons of CO₂eq each year) associated with the Project. The EIS should expand upon this discussion and should provide detailed calculations in

support of these estimates.

We recommend that the EIS also directly discuss implications for climate change impacts (including benefits) associated with the proposed Project. Estimates of the Social Cost of Greenhouse Gases (SC-GHG) allow analysts to incorporate the societal value of changes in carbon dioxide and other GHG emissions into benefit-cost analyses (BCA) of actions that have small, or marginal, impacts on cumulative global emissions. When a BCA is conducted, it is appropriate to use estimates of the SC-GHG that reflect the best available science and methodologies to incorporate the value to society of [italics: net changes in direct and indirect GHG emissions] resulting from a proposed project (i.e., relative to a no action alternative). Where it is possible to develop a reasonable estimate of the net change in emissions due to the proposed project, then SC-GHG estimates may be useful for assessing the value to society of GHG changes in the BCA. Additional information on the SC-GHG can be found at: Technical Support Document Social Cost of Greenhouse Gases under E.O. 13990. [Footnote 6: https://www.whitehouse.gov/wpcontent/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf]

Additionally, EPA recommends that the EIS include information on the ongoing and long-term risks posed by climate change (such as sea level rise, storm surge, change in coastal currents, severe weather events, etc.) particularly with respect to the infrastructure associated with the Project. As many of the Project components are in potentially vulnerable locations (including floodplains), we recommend the EIS address considerations to increase the resiliency of infrastructure given potential elevated risk of damages due to climate change.

Comment Number: BOEM-2021-0057-0052-1
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Addressing climate change is important for oceans, wildlife, and our future. By shifting from fossil fuel energy to clean, renewable energy sources, the United States can help address this crisis.

Comment Number: BOEM-2021-0057-0085-1
Commenter: L Stevens
Commenter Type: Individual

Comment Excerpt Text:

I am FOR the Offshore Wind projects in NJ. I am advocating for more and quicker!

According to the science, we must reduce Greenhouse Gas emissions into the atmosphere by 50% on or before 2030. This is what the science is telling us across the globe. In NJ we have seen an increasing number and intensity of storms: from the devastation of Superstorm Sandy, to the terrible surprise of the tail-end of Hurricane Ida. In Somerset County we had NO power for 10 days with Sandy, and the toll from Ida was worse with 29 dead in NJ from flooding. We've had other heavy rainstorms, like the one yesterday.

Offshore wind is a top clean energy solution, helping NJ meet our state's major emissions reductions. We need to do our part move quickly off fossil fuels to stabilize the atmosphere, and to provide justice for all our citizens, instead of particle pollution and dirty emissions from fossil fuel power plants.

Offshore wind turbines off the coast of NJ, can take advantage of excellent natural conditions. Offshore wind blows harder and more uniformly than onshore wind, and therefore offshore wind produces more energy, and consistently.

The technology for offshore wind is mature; it has been used in Europe for about 30 years. When the projects are at the end of its useful life, offshore infrastructure is dismantled. About 85-90% of the structures can be recycled, and reuse is being carefully managed.

Comment Number: BOEM-2021-0057-0094-2
Organization: International Brotherhood of Electrical Workers (IBEW)
Commenter: Michael Welsh
Commenter Type: Other

Comment Excerpt Text:

The proposed project's positive environmental impacts are critical to achieve a meaningful reduction in harmful greenhouse gases, such as carbon, and to improve overall environmental health. It is estimated that Project 1 alone will reduce GHG's by 3.9 million Tons per year.

Comment Number: BOEM-2021-0057-0099-2
Organization: National Wildlife Federation, NJ Audubon, et al.
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 27

Comment Excerpt Text:

Driven by the urgency of climate change, our organizations are united in support of offshore wind power that is developed responsibly, in a manner that protects and benefits both people and wildlife. We applaud the Biden Administration's ambitious offshore wind commitments and the swift work underway to fulfill them.

With a goal of deploying 7,500 megawatts (MW) of offshore wind power by 2035, Governor Murphy has made New Jersey a national leader, centering a commitment to responsible development. New Jersey's Offshore Wind Strategic Plan states: "The successful realization of 7,500 MW of offshore wind energy (representing 50% of New Jersey's projected 2035 load) includes its implementation in a cost-effective manner, while developing the necessary infrastructure in a way that protects our natural resources." Getting offshore wind development right for communities and for coastal and marine wildlife is integral to New Jersey's vision, and BOEM is a key partner ensuring our success.

Comment Number: BOEM-2021-0057-0103-1
Organization: Sierra Club
Commenter: Richard Isaac
Commenter Type: Non-Governmental Organization
Other Sections: 27

Comment Excerpt Text:

The Sierra Club fully supports offshore wind that is done environmentally responsibly and, as the New Jersey Chapter sees that the proposed Atlantic Shores offshore wind project is being planned in an environmentally responsible way, we fully support the project.

In August of this year, the Intergovernmental Panel on Climate Change, a scientific body convened by the United Nations, released a major new report concluding that the world cannot avoid some of the devastating impacts of climate change, but that there is still a narrow window to keep the devastation from getting even worse.

In fact, the report shows that climate change is accelerating. There's already so much carbon dioxide in the air that, even if we stopped carbon emissions today, the climate will continue to get warmer, with resulting ocean acidification, warming of the ocean, and more intense weather. Clearly, we need to act to address climate change as quickly as possible.

While increasing both energy efficiency and the use of solar power are vitally important in addressing climate change, the fact is that large offshore wind projects can create substantial amounts of electricity and must be included as well. Each proposed offshore wind project will generate approximately the same amount of electricity currently created by each of New Jersey's existing fossil fuel power plants and will be able to make a substantial contribution in helping transition away from fossil fuel energy and to help New Jersey successfully fulfill its Energy Master Plan and achieve 100% clean energy by 2050.

Comment Number: BOEM-2021-0057-0105-1

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Climate change is one of the greatest challenges facing humanity in the 21st century. In order to achieve the carbon reduction goals necessary to mitigate the devastating effects of a changing climate, the United States' energy sector will need to supply twice as much electricity while simultaneously replacing almost all of the coal and gas-fired power plants with a new set of emissions free resources. The Conservancy recognizes that along the Atlantic coast of the U.S., offshore wind offers incredible potential to generate clean, renewable energy nearby to the cities and communities that need it most. The Conservancy believes that expansion of the nascent offshore wind industry in the U.S. is one of several essential actions needed to set us on the path toward attaining regional and national decarbonization goals. For its part, the Atlantic Shores Projects (Project 1 and Project 2) are intended to contribute to New Jersey's goal of 7.5 gigawatts (GW) of offshore wind energy generation by 2035, thereby contributing substantially to the region's electrical reliability and helping New Jersey achieve its renewable energy goals.

Comment Number: BOEM-2021-0057-0108-1

Organization: Jersey Renews et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The expeditious permitting of this project is critical to meet New Jersey's ambitious goal to deploy 7,500 megawatts of offshore wind by 2035 as well as the Biden Administration's commitment to reduce carbon emissions by more than 50% by 2030 and achieve 30 gigawatts from offshore wind in the next decade.[1]

We are strongly in favor of offshore wind off the coast of the New Jersey shore and the Atlantic Shores project. Governor Murphy has established aggressive offshore wind goals for the state of New Jersey which will help protect both the Shore and inland communities from the existential threat of climate change. The Jersey Shore is one of the most vulnerable parts of the country to sea-level rise and NJDEP projections, based on climate science from Rutgers, project sea-level rise up to 1 foot by the end of this decade, up to 2 feet by 2050 and up to 6 feet by 2100. The threat to the Jersey Shore from climate change couldn't be more real.

Comment Number: BOEM-2021-0057-0113-1
Organization: Waterspirit
Commenter: Rachel Dawn Davis Davis
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

By providing an alternative to fossil fuel after-effects, offshore wind energy will offset the related harmful health impacts to Earth and living beings. Offshore wind remains an untapped power source to help assist the most densely populated state where we must not engage in any further fossil fuel infrastructure projects, anywhere in the state.

Comment Number: BOEM-2021-0057-0114-4
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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.

Comment Number: BOEM-2021-0057-0114-7
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

BOEM Must Corroborate the Project's Purported Benefits

RODA unequivocally supports efforts to address climate change, there is little to no information from BOEM on the net GHG reductions and what mitigative benefits to climate change are offered by the proposed projects. Any such analysis should include all stages of an OSW project, from surveying to decommissioning of turbines. This should be specific to the materials used for a project as the larger projects would require more source materials, potentially having a greater environmental impact, and different materials carry their own ramifications. A simple approach to calculate net carbon dioxide emissions from OSW projects has been developed and concluded that OSW had lower net carbon dioxide emissions compared to fossil fuels but it was higher than that onshore wind. [Footnote 3: Wang & Sun.

2012. Life cycle assessment of CO2 emissions from wind power plants: Methodology and case studies. Renewable Energy. 43: 30-36.]

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.

Comment Number: BOEM-2021-0057-0114-9
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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. [Footnote 4: Peter Scarborough et al. 2014. Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK, Clim. Change 125(2): 179–192.] Carbon emissions associated with seafood production in countries with less stringent environmental regulations (i.e. outside the U.S.) are higher than those of domestic seafood; reduced availability or prohibitive pricing of products will drive consumers to replace sustainable U.S. seafood with higher-carbon proteins.

Comment Number: BOEM-2021-0057-0115-11
Commenter: Dorothy (Dottie) Reynolds
Commenter Type: Individual

Comment Excerpt Text:

The ocean is already helping to minimize the impact of climate change. Oceans have absorbed 90% of the heat that has been generated since 1950 and 25% of the CO2. On land a mature tree absorbs carbon dioxide at a rate of 48 pounds a year and produces and releases the byproduct oxygen by photosynthesis. Trees also provide shade which lowers the air temperature. By clearing forests and trees on our property, we are responsible for increases in CO2. By filling in wetlands which leaves less area to absorb excess water and over development along the coast, we are responsible for much flooding. By excessive use of energy, we are responsible for much of the need for more energy.

We all want to protect against the harm of global warming, but we must do it thoughtfully. Can we blame everything on climate change? Extreme weather is not growing more common. Climate change is real but not remotely the existential threat so many claim. Natural disasters of all kinds killed about half a million people a year a century ago. We can now handle disasters more effectively. This year the total is expected to be about 6,000 people. Is there proof that wind farms will reduce hurricanes and tornadoes, decrease flooding, all of which have been occurring for centuries? Sea levels fluctuated with climate change due to volcanic eruptions in prehistoric times, and ice ages have come and gone.

New Jersey's sea level rise is higher than most in part due to subsidence, a process caused by the retreat of the ice sheets from the last ice age. New Jersey was sitting on a bulge in the earth's crust caused by the weight of ice sheets to the west. As ice sheets retreated, the bulge started evening out causing the state to sink. The process takes thousands of years and is still occurring. The combination of sea level rise and the Earth's crust sinking lead to more frequent flooding and property damage. NASA warns in the journal of National Climate Change that every U.S. coast will start a decade of dramatic changes in flood numbers in the 2030's due to a "wobble" in the moon's orbit. High tides will get higher and low tides will get lower. We are responsible for increasing flooding by over development and the filling in of wetlands which leaves less area for excess water storage reserve. We are also responsible for using excessive amounts of energy.

While we can influence the amount of carbon emissions affecting climate change, there is much that is beyond our control and understanding. During the early 1970's scientists warned of a cooling trend with no end in sight, the consequence of a natural cyclic process and volcanic dust blocking some of the sun's energy from reaching the earth. By the end of the 20th century, talk of a coming ice age was replaced by global warming and rising oceans. It is difficult to distinguish year-to-year fluctuations with those spread over decades, centuries and thousands of years. All energy, even "clean energy" has environmental impacts which must be studied in the context of our overall power strategy. Protecting our air and climate is important, but so is protecting marine ecosystems and biodiversity. Offshore wind projects are among the lowest producing of any energy source and their use will permanently change marine ecosystems and threaten a strategic food supply.

Global warming does also have a benefit. Globally 1.7 million people die of cold each year, as opposed to heat deaths of 300,000. In the U.S. and Canada heat deaths kill about 2,500 people every year. Climate policies forcing the use of costlier and less effective energy sources such as wind power drive up energy costs which means fewer people will be able to properly heat their homes, increasing the hypothermia death rate. The poor suffer disproportionately for an increased price of energy. The wind is free, but harnessing it for electricity is expensive. By recklessly rushing ahead without the necessary environmental assessment, we will create harmful and unanticipated consequences.

Comment Number: BOEM-2021-0057-0118-5
Organization: Business Network for Offshore Wind
Commenter: Brandon Burke
Commenter Type: Other

Comment Excerpt Text:

The Atlantic Shores project would be a major step in reaching those greenhouse emission reduction goals, and it would help establish the infrastructure need to support development of multiple future offshore wind projects in parallel.

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.

New Jersey experienced a 3.5° F increase in the state's average temperature, which is faster than the rest of the Northeast region, according to the 2020 New Jersey Scientific Report on Climate Change produced by the New Jersey Department of Environmental Protection. New Jersey can also expect that by the

middle of the 21st century, 70% of summers will be hotter than the warmest summer experienced to date. Heat waves are expected to impact larger areas, with more frequency and longer durations resulting in reduced agricultural yields and power plant efficiency, increased energy use, air pollution, water use, and negative health effects, according to the report.

Flooding caused from more intense rain events and storms will be exacerbated in the coastal area by increases in sea level. In New Jersey, sea levels are rising faster than they are globally due to changes in the Gulf Stream, localized land subsidence, and continued geologic influences, the study states. In Atlantic City, Cape May, and Sandy Hook, sea level has risen at a rate of approximately 0.2 to 0.5 inches per year since the beginning of the 20th century, and this rate will continue to increase. Low-lying coastal areas are already experiencing tidal flooding, even on sunny days in the absence of precipitation. An increase in sea level will cause further issues. In Atlantic City, tidal flooding events have increased from happening less than once per year in the 1950s to an average of eight times per year between 2007 and 2016.

Mitigation of climate change results in avoided damages and the associated costs to homeowners, businesses, and the government. BOEM must account for these economic impacts from climate change as they weigh the overall social and economic benefits of offshore wind development, including the Atlantic Shores project.

Comment Number: BOEM-2021-0057-0119-122

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Climate change will result in a wide range of significant adverse environmental impacts in the Project Area. As identified by BOEM in a previous environmental analysis for an offshore wind project, these impacts include:

- “alter[ation of] ecological characteristics of benthic habitat, EFH [essential fish habitat], invertebrates, and finfish, primarily through increasing water temperatures [Footnote 388: E.g., SFWF DEIS at 3-15].”
- ocean acidification, contributing to “reduced growth or the decline of reefs and other habitats formed by shells” and to “the reduced growth or decline of invertebrates that have calcareous shells” and “lead to shifts in prey distribution and abundance [Footnote 389: E.g., Id. at E3-4, 3-15, E2-7.]”
- ocean warming, which affects coastal habitats and “influence[s] finfish and invertebrate
- migration and may increase the frequency or magnitude of disease [Footnote 390: E.g., Id. at 3-6].”

These climate impacts affect a broad range of species utilizing coastal and marine ecosystems including marine mammals, turtles, birds, and fish. A number of impact-producing factors (IPFs) in previous offshore wind environmental reviews are related to climate change. For instance, “increased storm frequency and severity during breeding season can reduce productivity of bird nesting colonies and kill

adults, eggs, and chicks [Footnote 391: E.g., Id. at E2-7].” These same IPFs may result in “changes in nesting and foraging habitat abundance and distribution, and changes to migration patterns and timing [Footnote 392: E.g., Id. at H-45].” For sea turtles, climate change is altering existing habitats, rendering some areas unsuitable for some species and more suitable for others [Footnote 393: E.g., Id. at H-68]. These IPFs also have the potential to “result in impacts on marine mammals” including physiological stress and behavioral changes [Footnote 394: E.g., Id. at E3-15, E3-17],” as well as “reduced breeding, and/or foraging habitat availability, and disruptions in migration [Footnote 395: E.g., Id. at E3-19].” These impacts must be accounted for in the Atlantic Shores Draft EIS.

Additionally, as BOEM noted in a prior analysis, offshore wind generation will likely directly displace fossil fuel generation. Due to offshore wind’s ability to displace more highly polluting fossil resources, the climate impacts of the proposed offshore wind buildout would be net climate beneficial. Consequently, cumulative effects of offshore wind development may result in long-term, low-intensity beneficial cumulative impacts on wildlife and long-term beneficial impacts on demographics, employment, and economics [Footnote 396: E.g., Id. at H-68, E3-25, E3-29].

The buildout of offshore wind is a key component of meeting the climate and clean energy goals of the Biden Administration. These benefits should be accounted for in the Atlantic Shores Draft EIS. As explained in prior comments to the agency, if 22 GW of offshore wind displaced coal generation, over a 30-year period this would result in a net reduction in carbon dioxide (CO₂) emissions of 2.89 billion tons [Footnote 397: Comments of National Wildlife Federation et al. Submitted in Response to the Bureau of Ocean Energy Management Draft Environmental Impact Statement for the Deepwater South Fork Wind Farm and South Fork Export Cable Project, 86 Fed. Reg. 1520 (January 8, 2021) (submitted Feb. 22, 2021) at 9-13]. If these 22 GW offshore wind energy were displacing gas, it would still be displacing nearly 1.5 billion tons of CO₂ emissions and significant methane emissions. The climate benefits would only increase with the new Biden Administration’s offshore wind goal of 30 GW, future development in the newly identified WEAs in the New York Bight, and North Carolina’s new commitment for 8 GW of offshore wind by 2040.

These climate benefits can also be monetized using the social cost of carbon to illustrate differences between the social benefits of a project and the relative social cost of the alternatives. The social and environmental costs of greenhouse gas emissions are readily quantifiable and BOEM should consider them in evaluating project impacts and impacts of alternatives. For example, the Interagency Working Group on Social Cost of Carbon has produced estimates for the social cost of carbon in order to “allow agencies to incorporate the social benefits of reducing CO₂ emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions [Footnote 398: Interagency Working Group on Social Cost of Carbon, United States Government, Technical Support Document: - Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866 at 2 (July 2015 revision), available at <https://www.whitehouse.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf>.]” The working group presents values for social costs from 2015 to 2030, assuming discount rates of 5%, 3%, 2.5% and the 95th percentile of the 3% discount rate {Footnote 399: Id.}. These values range from \$11 to \$212 (in 2007 dollars) per metric ton of CO₂. [Footnote 400: Id.] These values could be used to monetize the costs imposed by the net greenhouse gas emissions associated with failing to procure the full 22 GW of offshore wind. Using the working group values, annual climate costs of procuring electricity from 22 GW of coal rather than 22 GW of offshore wind range (assuming a 50% capacity factor in both cases) range from just over \$1 billion/year (in 2007\$) using a 5% discount rate and the 2020 social cost of carbon [Footnote 401: 23.9 million metric tons CO₂ * \$12/ton CO₂ * (22 GW/6 GW) = \$1.05 billion (2007\$).] to more than \$8.3 billion/year (in 2007\$) using a 2.5% discount rate and the 2050 social cost of carbon of \$95/ton [Footnote 402: 23.9 million metric tons CO₂ * \$95/ton CO₂ * (22 GW/6 GW) = \$8.3 billion (2007\$).]. These social benefits would increase when calculated for 30 GW of offshore wind.

Even absent direct quantification through the social cost of carbon, there are adverse economic impacts from climate change that exist and should be accounted for in the Atlantic Shores Draft EIS. These impacts include, as noted in previous BOEM analysis:

- Property or infrastructure damage and increased insurance costs and reduced economic viability of coastal communities resulting from sea level rise and increased storm severity/frequency;
- Damage to structures, infrastructures, beaches, and coastal land, with numerous economic impacts resulting from erosion and deposition of sediments;
- Adverse impacts on commercial and for-hire fishing, individual recreational fishing, and sightseeing resulting from ocean acidification, altered habitats, altered migration patterns, and increased disease frequency in marine species [Footnote 403: SFWF DEIS at E3-29].

Comment Number: BOEM-2021-0057-0119-27

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

As a general matter, BOEM should also take immediate measures to address data uncertainty related to the influence of climate change on coastal and marine species and habitats (e.g., range shifts). Acknowledging global climate change as a potential cumulative impact is not enough. BOEM should act expeditiously to obtain additional empirical data on current shifts in species and habitat distributions and work to improve its predictive modeling of future species distributions and factor this information into offshore wind project siting, construction, and operations to account for uncertainty related to climate-induced dynamic shifts in distribution (e.g., marine mammals, birds, forage fish, and sharks) [Footnote 67: 40 C.F.R. § 1502.21(b) (Explaining the propositions that the agency has an obligation to obtain information essential to a reasoned choice among alternatives, unless the cost of doing so is unreasonable)].

Comment Number: BOEM-2021-0057-0119-3

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition to these robust federal goals, many east coast states, including New Jersey, are rapidly mobilizing to tap into the booming offshore wind global industry and harness the abundant, clean energy available off their shores. As discussed above, the State of New Jersey has a goal of producing 7.5 GW of offshore wind energy by 2035 [Footnote 9: <https://www.nj.gov/dep/offshorewind/>]. Atlantic Shores Project 1 is expected to generate 1,510 MW to be delivered to New Jersey and this energy will be critical to New Jersey meeting its offshore wind target.

The Project, if responsibly developed to avoid, minimize, mitigate, and monitor potential environmental,

cultural, and economic impacts, will provide substantial benefits to society and the environment. It is part of the urgent transition away from dirty, climate-altering fossil fuels to the clean energy economy envisioned by the Biden Administration that is necessary to avoid catastrophic warming. This rapid transition to a clean energy economy is paramount to preserving wildlife and the environment. Absent a substantial shift from carbon intensive sources of energy to solutions like offshore wind, we face ever greater impacts from climate change, which is already threatening entire ecosystems. Protecting these complex ecosystems for future generations is vital to preserving the economic, social, and environmental well-being that our society relies on for our health and survival [Footnote 10: World Institute for Development Economics Research, *The Economics of Transnational Commons* 97-102, Clarendon Press, (1997)].

Comment Number: BOEM-2021-0057-0120-1

Commenter: Lynn Schambach

Commenter Type: Individual

Comment Excerpt Text:

I support offshore wind development as a viable alternative energy source to the burning of fossil fuels that are edging the planet to its tipping point. Humans, and particularly wealthy countries like ours, have contributed to the current disastrous environmental mess that is destroying land masses, water bodies and the atmosphere. A recent documentary on PBS revealed that if the environmental measures instituted by President Jimmy Carter's administration in the 1970's were not gutted by following administrations and if the citizenry made some sacrifice, we would not be witnessing and experiencing the extreme weather and destruction the planet is enduring on a regular basis. The dire straits of these impacts are certain to have greater and more threatening effects on our grandchildren, their children and all species.

While we face an environmental crisis on the land, rushing to sell off over 1.2 million acres of public open waters is unreasonable and irresponsible. The transformation of large tracks of the Outer Continental Shelf marine habitat with a technology that has many unanswered questions is a dangerous experiment. The speed and enormity of area within which the process for leasing and thereafter development is happening may lend to detrimental impacts of what truly is the final frontier on the planet. This is a new and uncertain industry that requires further investigation. To be true leaders in alternative energy strategies and combatting climate change, the United States of America's alternative energy plans and solutions must not harm or destroy marine habitat and the resource that naturally cools the planet. The US needs to do wind energy smart and right the first time.

Comment Number: BOEM-2021-0057-0126-2

Commenter: David Pringle

Commenter Type: Individual

Comment Excerpt Text:

Unfortunately, the science is damning. We are in the middle of an existential crisis, a climate emergency with massive stakes that not only has far reaching consequences for the environment but the economy, public health, justice, and democracy.

There is no greater threat to the environment than the climate emergency we are in now including for birds, marine mammals and reptiles, fish and the air we breathe that is literally killing people everyday.

Fortunately, the solutions to this crisis not only address the climate but also a lot of these other crises

from the public health threat of Covid to all the injustices exposed to the George Floyd killing and so many other tragedies of the January 11 insurrection and bringing back the American dream of good jobs and moving up in life.

New Jersey and the feds will fail in this effort if offshore wind isn't fast-tracked and is a massive contribution, and isn't a massive contribution to the climate response, we must have course do it responsibly but in President Biden's executive order and I quote, EO14008, it is the policy of the United States to organize and deploy the full capacities of its agencies to combat the climate crisis to implement a government wide approach that reduces climate pollution in every sector of the economy, increases resilience to the impacts of climate change, protects public health, conserves our land, waters and biodiversity, delivers environmental justice and spurs well-paying union jobs and economic growth especially through innovation, commercialization and deployment of clean energy technologies and infrastructure.

Comment Number: BOEM-2021-0057-0128-1

Commenter: Margaret Collins

Commenter Type: Individual

Comment Excerpt Text:

Hello, I am a resident of Long Beach Island, my family has lived there for two decades, and I'd like to say that the solution that's being offered to the climate crisis will not come from wind farms for three major reasons. One, for the environmental disaster that it would bring to the island; two, for the economic disaster it will bring to the island, and three, because it is not a true energy solution to the climate crisis, and I'd like to go over this briefly why these things are not true.

Comment Number: BOEM-2021-0057-0129-1

Commenter: Ken Dolsky

Commenter Type: Individual

Comment Excerpt Text:

The most recent international energy association report, special edition of the world energy outlook stated for all the advances being made by renewables and electric mobility 2021 is seeing a large rebound in coal and oil use. Largely for this reason, it is also seeing the second largest annual increase in CO2 emissions in history. Public spending on sustainable energy in the economic recovery packages has only mobilized around one-third of the investment required to jolt the energy system onto a new set of rails. The direction of travel is a long way from alignment with the IEA's landmark net zero emissions by 2050 scenario published back in May which charts a narrow but achievable road map to a one point five-degree stabilization in rising global temperatures and sustainable development goals.

Today's government pledges to cover less than 20 percent of the gap in emission reductions that needs to be closed by 2030 to keep the wind dot five centigrade path within reach. It goes on to say the energy sector is responsible for almost three quarters of the emissions that have already pushed global average temperatures one point one degrees centigrade higher since the preindustrial age. The energy sector has to be at the heart of the solution to climate change.

As you can tell from the previous comments, we are in deep deep trouble. We are not on a good path; we are not going to maintain one point five degree centigrade. We are headed into total disaster. And it is

very clear from anybody who looks at this situation to understand.

New Jersey is required to reduce greenhouse gases by 80 percent by 2050. While the IPCC in the US Climate Alliance have set a more ambitious target reducing greenhouse gases by 50 percent by 2030, a window that is rapidly closing.

To date, New Jersey has barely moved the needle on greenhouse gas reductions based on new policies and meeting the IPCC goal will be an absolutely enormous challenge for us. Even as we speak, there are forces at work to increase greenhouse gases not decrease them. Such as subsidies for logging in the federal infrastructure bills and plans to dramatically increase LNG exports.

New Jersey is still allowing new fossil fuel projects to be built and is struggling to measure greenhouse gases not reduce them. Without offshore wind, even achieving half of our goals in New Jersey for greenhouse gas reductions will be impossible.

While no green renewable technology is a panacea, offshore wind is as close as it gets, has minimal environmental downsides while it has great economic upsides for jobs, growing the economy and helping New Jersey with it's financial challenges and best of all, virtually no political foes.

Climate change is the greatest existing threat to wildlife resulting in 1,000,000 animal and plant species threatened with extinction due to our rapidly changing environment. While we need to develop offshore wind in a manner that minimizes local wildlife impacts, mitigating the overall threat to wildlife and global climate change is paramount and argues for moving forward as quickly as possible with offshore wind in New Jersey.

Comment Number: BOEM-2021-0057-0130-1

Commenter: Denise Brush

Commenter Type: Individual

Comment Excerpt Text:

Our time to fix this climate change issue is running out and renewable energy is a big part of the solution. For the past couple of years, I participated in the Empower New Jersey Coalition's Moratorium Mondays to write to our public officials urging them to impose a moratorium on new oil and gas infrastructure in the state. So, I am very happy today with the direction that the State is taking on developing offshore wind energy and I have followed the Atlantic City offshore wind projects with interest.

I believe it is critical for New Jersey and the United States to transition to renewable energy as rapidly as possible, so that climate change doesn't keep spawning worse and worse disasters. I testified in favor of the New Jersey Energy Master Plan in 2019 because I believe that Governor Murphy has an achievable plan to get us to 100 percent renewable energy by 2050.

I am delighted that the offshore wind is part of that plan, and I am very enthusiastic about its potential, in fact I think it is a game changer. I understand that the Atlantic coast states from Maine to Florida have the technical potential to produce almost four times as much power as those states used in 2019, and almost twice as much as they would use in 2050 if the country underwent maximal electrification based on estimates from the National Renewable Energy Laboratory.

Comment Number: BOEM-2021-0057-0132-1

Commenter: Zoe Leach
Commenter Type: Individual

Comment Excerpt Text:

I could talk about the mountains of data that support clean renewable and economically beneficial projects like these, some of -- many of which were touched on earlier, I could talk about the 83,000 jobs by 2030 and the \$25 billion in annual economic input by that same year, I could talk about the importance of reducing negative health impacts from burning fossil fuels, like asthma, heart disease and stroke, and there are many data that support this offshore wind energy.

What I really want to talk about is the larger existential threat of climate change and how this project impacts our larger vision of the future. I know that I am not alone in imagining and envisioning the future of the current track that we are on and our future as a species and the other species that we share the planet with.

So without green lighting projects like these, without massive investment and development of renewable energy, I don't see that it is possible to conceive of a future of life sustaining capabilities of our planet.

Comment Number: BOEM-2021-0057-0133-1
Commenter: Henry Gajda
Commenter Type: Individual

Comment Excerpt Text:

New Jersey is uniquely vulnerable to the impacts of climate change, especially our low-income communities of color, however, over the last four years, we have risen to the challenge of combatting the climate crisis in a variety of ways, none more so than efforts lead by Governor Murphy and legislative leaders to make New Jersey a regional, national, and global hub for responsibly developed offshore wind.

Bold climate action means jobs and economic development. New Jersey is a prime example of this where the emerging offshore wind industry represents the biggest economic development opportunity in more than a generation for our state.

Comment Number: BOEM-2021-0057-0135-1
Organization: TriCounty Sustainability
Commenter: Sean Mohen
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

On September 1, 30 of our neighbors lost their lives due to climate change induced storms. It's going to get worse. We ask that this project move forward swiftly, we are running out of time.

In addition to the climate benefits of this project, we are excited about the job opportunities that offshore wind will bring to our region, especially the new Paulsboro Tower assembly plant right here in South Jersey.

Comment Number: BOEM-2021-0057-0136-1

Commenter: Walter Clarke

Commenter Type: Individual

Other Sections: 1

Comment Excerpt Text:

I also have an asthmatic child and asthmatic wife and I'd like not to have their health exacerbated by the cars we drive and the gas that heats our house, et cetera, but we can't electrify everything in terms of our transportation, heating, and cooling unless that is done with renewable sources like wind.

And so, for me this is pretty much a no brainer of something that must be done, and we may as well do it and capitalize on it. Climate change, whether you think it's natural or man-made doesn't change the fact that we need to do everything we can to preserve a planet that human beings can live on, and I think this is a big step.

Comment Number: BOEM-2021-0057-0137-1

Organization: New Jersey Organizing Project

Commenter: Amy Williams

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

People who live, recreate, and enjoy the Jersey shore, they are people that come to a special unique environment that is critically being destroyed by climate change, and our communities are at high risk of sea level rise and coastal flooding. We see property values being threatened by these actions on a constant level every single year, we are also seeing our ecosystems, our plants and animals being affected as our climate is changing.

And one of the ways that we see is an important way to remove some of the risks of sea level rise and climate change is to start using clean energy. We see offshore wind as a source of clean energy that is -- can bring a lot of potential to our communities. We see that it can help fight climate change in terms of our social and financial impacts that we deal with everyday such as from severe weather or tidal flooding, these impacts effect our health, safety, and our property at the coastal communities.

We also see that we are affecting -- that offshore wind can help challenge the impacts of climate change on the environment to create a community that has a continuing dynamic environment where our shorelines can continue to grow and help us to have the community area that we want, and we also see it as a way to provide a social and economic aspect of to our communities.

Comment Number: BOEM-2021-0057-0139-2

Organization: New Jersey Organizing Project

Commenter: Alison Arne

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We are also clear that the trade-off for not doing this is worse. What are the results if we do nothing? Sea levels are already rising in New Jersey, more than double the global average. As the climate warms, rainfall and wind speeds are also likely to intensify during severe weather like those seen most recently in

Tropical Storm Ida, a direct threat to thousands of homes, roads and infrastructure.

Comment Number: BOEM-2021-0057-0140-1

Commenter: Holly Cox

Commenter Type: Individual

Other Sections: 11

Comment Excerpt Text:

I want to look at the big picture. We are in a climate emergency now. Evidence is all around us that we need to transition off fossil fuels. Global admissions are skyrocketing, putting earth on a path of becoming uninhabitable, heat waves are becoming more widespread and frequent in fact the last four years have been the hottest on record. Millions of tons of arctic ice are melting, and glaciers are disappearing. Out of control wildfires are burning here in the United States and all over the globe.

Stronger superstorms like Sandy and Ida are occurring more frequently leading to billions of dollars of damage. Something called a derecho storm tore through Iowa with 120 mile per hour winds destroying crops and homes. Catastrophic flooding is happening here and all over the world, deforestation is occurring at an alarming rate, ocean acidification and warming is destroying sea life and coral reefs.

Bird, insect, and bee populations are rapidly declining. Biodiversity loss is occurring on a massive scale, in fact we have lost 68 percent of our wildlife since the 1970s. Fossil fuels are killing our planet causing it to irreversibly warm and lead to the sixth mass extinction.

All of the effects are felt even more by communities on the frontline to have suffered from environmental racism. Our planet is on the brink of irreversible tipping points. It is against this background that I come to speak to you about the urgency of moving New Jersey towards a fossil free future clean renewable energy technology which includes offshore wind.

A United Nations' report and climate scientists tell us we have less than nine years left to reduce our carbon emissions to avoid irreversible tipping points from which earth can no longer recover. This climate crisis is leading to ocean level rise which could result in large well-known cities as New York City and cities and homes along the Jersey shore being under water and uninhabitable.

All of this illustrates the urgent need for offshore wind projects so we can transition off fossil fuels. Governor Murphy has stated a goal of 100 percent clean energy by 2050 and has directed state agencies to develop clean energy plans and shift away from dirty energy production that contributes to climate change.

Comment Number: BOEM-2021-0057-0140-2

Commenter: Holly Cox

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

Governor Murphy said New Jersey faces an imminent threat from climate change from rising seas that threaten our coastline to high asthma rates in some of our most vulnerable communities due to fossil fuel pollution.

Further, President Biden has committed to 100 percent net zero emissions by 2035 so it's important that we in New Jersey are building and developing infrastructure now that will get us to this goal and help save our planet for ourselves and future generations.

The cost of inaction is massive and not acceptable given the extreme weather events we saw this summer culminating with Hurricane Ida. Sea level rise at the Jersey shore which has faced flooding this week from normal tides will only get worse. Expanding offshore wind is one of the best ways to cut our climate pollutants and protect the property of those living along the Jersey Shore.

The technology is here, turbines that are fixed to the ocean floor have been deployed in Europe for three decades. Offshore wind has the capacity to produce twice the amount of electricity the US consumed in 2019 and has the promise of powering the entire State of New Jersey with clean renewable energy off the Jersey shore. If we don't start transitioning now to a greener future, it will be too late. The cost of renewable alternatives is declining and the side effects of having offshore wind as a source of energy are healthier citizens and communities, a healthier state and economy, a healthier environment and climate and a sustainable planet.

The world needs leaders now who can envision a greener and healthier world and do the hard work of transitioning us to clean and sustainable energy.

Please be those leaders and move forward with offshore wind energy projects in New Jersey.

Comment Number: BOEM-2021-0057-0141-2

Commenter: Jamie Klenetsky Faye

Commenter Type: Individual

Comment Excerpt Text:

That being said, you know, climate change can feel really abstract or distant, but it affects all of us now. Rising sea levels, dramatic wildlife loss and die off and flooding even up here away from the shore, crop losses and it's only going to get exponentially worse are the projections.

Comment Number: BOEM-2021-0057-0144-1

Organization: Anglers for Offshore Wind Power

Commenter: Paul Eidman

Commenter Type: Non-Governmental Organization

Other Sections: 8

Comment Excerpt Text:

Whether they admit it or not, there isn't a fisherman out there, either commercial or recreational, that doesn't see the effects of climate change on the water every single day. Hell, we don't even have to go out to sea to know this, we can all see how bad the storms are getting, how bad the streets flood now with just the slightest bit of rain, and we all know something is wrong and we really need to slow this progression down quickly.

There is a big cost of doing nothing and continuing to burn natural gas and coal all contributes to the pollution and this is affecting our game fish navigation systems, spawning habits, shellfish, lobsters and even some forms of plankton.

The overwhelming majority of anglers that I know and meet with, all see the fishing potential of the wind farms. It's not only the structure in the water but they all see the ecosystem benefits. They truly believe that it is possible for wind farms to peacefully coexist with and even improve fishing along the coast provided project developers like Atlantic Shores abide by three clear principles.

First of all, we have to have access and we need it in writing, we must be able to bring out our boats right up close to the bases of the towers so we can access the newly formed habitat below.

Also, public input, just this like this meeting we need to continue, and we need to be engaged early in the planning process so we can provide input on siting, permitting and other access so we can avoid future conflicts.

And science, we hope that Atlantic Shores does science and fisheries research before, during and after the wind farm is constructed. This is essential for monitoring impacts to species of interest to all of us and let's make sure that all of this data is publicly available.

Offshore wind energy is a big part of protecting our planet from the impacts of climate change and ocean acidification. All fishermen need a clearly defined seat at the table to make sure this project is developed as responsibly as possible.

Comment Number: BOEM-2021-0057-0145-1
Organization: Save LBI
Commenter: Bob Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

I would just like to address one issue that has been brought up many times by other people on the call and that is the concern with climate change and somehow the belief that these projects will fix the sea level rise problem which of course we want to see fixed but when you look at the data regarding how climate change functions, it's not like a normal air pollutant, where if you reduce the air pollutant, you get a benefit. It's much more complicated; it involves heat transfer and so on and the fact is and we have this on our website, that a project like this does not reduce future sea level rise at all, it only has a delaying effect on sea level rise and using some numbers from the International Panel on Climate Change reports, you can make some estimates based on how much greenhouse gas this project reduces and the delay is on the order of days, it's like eight or nine days so the only effect that a project this like this has is to delay whatever sea level rise is coming, 40, 50, 60 years from now by nine or ten days.

So look, we are not opposed to trying to fix the climate change problem, but at the same time we should be looking for effective solutions and solutions that don't trample on other environmental values and on the economics of other interests like tourism and like fishing.

So again, I would just like to encourage folks who are concerned with the climate change problem to go back to your proponents and ask them what exactly is the benefit of a project like this on climate change

Comment Number: BOEM-2021-0057-0153-1
Commenter: Dennis Yi
Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

The previous speakers have spoken as if we have time. We do not. The west is in mega draught, the heat dome has cooked people and wildlife on the Pacific coast of Canada and the Northwestern United States and in China, Germany, and in the UK we have seen floods previously to be calculated to be once in a thousand year events. The Hurricane that tracked all the way from Louisiana over land, there was a Tornado in New Jersey.

Fire, heat, flood and storm are setting new records daily and will only get worse in our current path. This is the world that creates my generation, or earth will be utterly destroyed.

I mention it now because as the state recovers from Hurricane Ida, we have a decision, we need to take action and reduce emissions of greenhouse gases in urgency. Climate pollution is causing these disasters and it is foolish to spend money on rebuilding, nearly coping while simultaneously creating future disasters. An ounce of prevention is worth a pound of cure; therefore I believe we must build this wind farm.

Comment Number: BOEM-2021-0057-0153-3

Commenter: Dennis Yi

Commenter Type: Individual

Comment Excerpt Text:

Dr. Drew Bunsheld (ph) at Duke University, 90,000 deaths per year would be prevented by even partial decarbonization minimally complying with power's agreement two degree target, not the one point five degree total warming target and I have not mentioned the wildlife because climate change is an existential threat to civilization, that it too would be better served by less pollution.

I do not need to also mention bringing this industry with its local jobs to New Jersey. Do not be distracted by these details. The necessity to act is not for charity, it's self preservation. The price of inaction will be paid by those now alive and by posterity in destroyed crops, wildfires and war, so we must build this wind farm so that we may retire current fossil fuel plants and cancel new polluting projects as we electrify the country's energies.

The time to act is now. As I brought up earlier, as an aside, tech improvements are wonderful, but we have no time to waste. We must now use what we have. On our current timeline as the U.N. has warned we have a mere nine years before irreversible damage to this earth occurs, if all goes to plan, these projects will be barely underway and just starting their 25 to 35 year life spans by that time in 2030. We will then see how much the seas have risen, how many acres of land have burned.

Comment Number: BOEM-2021-0057-0155-3

Commenter: Kent Fairfield

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

so I think part of the biggest dilemma these days we know just from national discussions that taking firm action on something as abstract and distant as climate change really means how do people act, how do

they regard the whole idea, making changes in their own lives and the lives of institutions and corporations and they relate, and everything we can do to plant those seeds for them to say huh, I guess it is time for a change, a big change, and fortunately this one won't affect my life, so I am all for it, it's going to lower my utility bill, huh, how about all of that.

Comment Number: BOEM-2021-0057-0156-4
Commenter: Sharon Quilter
Commenter Type: Individual

Comment Excerpt Text:

we don't have any more time, we are out of time. I agree with a couple of other speakers who said we really need to expedite this, we really do, we are running out of time as far as our marine life being impacted, yes, the animals that live in salt water aren't able, they are winding up in fresh water and the freshwater animals are winding up in salt water, nobody wants that situation, all the animals die.

Comment Number: BOEM-2021-0057-0160-1
Commenter: Pat Miller
Commenter Type: Individual
Other Sections: 27

Comment Excerpt Text:

I am strongly in favor of proceeding with the offshore wind projects. The recent IPPC report made it clear that global warming poses a threat to all life on earth during our lifetimes if carbon emissions are not reduced to near zero within three decades.

Already, 85 percent of the world's people have suffered from effects of warming such as fires, floods, drought and extreme heat. During Hurricane Ida last month, people in Louisiana died of extreme heat and people in New York City and New Jersey drowned in their basement apartments. During the fires on the west coast this summer, whole towns were destroyed.

We on the Atlantic coast have a wealth of clean wind energy just offshore. While onshore we have nearly one-third of the U.S. population consuming energy and precious little onshore land on which to build more wind or solar. It is imperative that we make use of our offshore clean energy resources and wean ourselves off fossil fuels before it is too late.

We owned a house on Long Beach Island in New Jersey for 30 years before we sold it a decade ago in 2011. We were then experiencing several days per month of sunny day flooding right down Long Beach Boulevard and knew it was just a matter of time before the whole island was under water unless we started to intervene. In the decade that has since past, there has been very little intervention and now the flooding is worse.

Comment Number: BOEM-2021-0057-0160-4
Commenter: Pat Miller
Commenter Type: Individual
Other Sections: 27

Comment Excerpt Text:

Another argument I have heard is turbines pose a threat to birds and marine life. Climate change poses a much larger threat. We have already lost massive amounts of coral reef and kelp forests that produce oxygen along with the marine life that they used to support due to warming and acidification of the oceans. Environmental studies off the coast have already been performed as we have been talking about today. Because these projects have been in progress for years, and they will certainly continue during the environmental review period.

Comment Number: BOEM-2021-0057-0168-1

Commenter: Ken Hammond

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

in favor of aggressively expanding offshore wind energy given the threats posed by the climate crisis to New Jersey, the United States and the world, we simply can't afford not to do it.

In August a report from the Intergovernmental Panel on Climate Change described the situation as a "code red for humanity." The report made it clear that we must immediately and aggressively reduce our carbon emissions if we want to avoid the worst potential effects of climate change.

Around Plainsboro where I live, the effects of climate change are already here. Last month, the remnants of Hurricane Ida led to deadly storms throughout the state. Tornadoes tore through peoples' homes in Mullica Hill, heavy rain fall caused rivers to overflow their banks and flood multiple cities including New Brunswick, Manville and Bound Brook.

This is the collateral damage of inaction. I don't want to couldn't sign my community and future generations to a world where these sorts of disasters increase uncontrollably especially since we know we have the tools to prevent this scenario.

Therefore, I think it is incumbent on us to take any and all possible opportunities to expand renewable energy to reduce our carbon emissions.

The offshore wind projects under discussion today present important opportunities to decrease the carbon emission of our electrical power sector and every renewable project that we pass over leads to more carbon getting emitted into the atmosphere.

We are long overdue to start treating the climate crisis like the emergency that it is, and that means expanding renewable energy like offshore wind as quickly and as extensively as possible.

Comment Number: BOEM-2021-0057-0170-1

Commenter: Erika Malinoski

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

Here in South Orange, we are already being impacted by climate change. This year it was Hurricane Ida with unexpected flooding, last year it was Hurricane Isais with weeklong power outage.

As climate change worsens, we are looking at more severe hurricanes, more days of heat where my kids can't play outdoors, and this year we had orange skies and unhealthy air from all the worsening fires out west and that's only going to get worse if we don't do something.

I know people are concerned about the impacts of the proposed program on views or habitat disruption or interfering with fishing, but the impacts of the turbines is nothing compared to the damages that are coming to those same interests from climate change, increased flooding and hurricanes, ocean acidification, heaven forbid we let things get to the point of dramatically altering the ocean currents themselves.

This isn't a situation where we are going to be able to preserve what is, something is going to change, and the question is how extreme it's going to be.

Climate change is the real threat to tourism, fishing, animals and the environment. Already the timelines for building this and other clean energy projects are long enough that we are not going to be able to avoid some of the negative changes we are already seeing. We need this project and a variety of others to move as quickly as possible so it comes on-line in time to make it so we can stick to coping with some problems instead of being flattened by catastrophe.

Comment Number: BOEM-2021-0057-0174-3

Commenter: Owen Bement

Commenter Type: Individual

Other Sections: 2.3

Comment Excerpt Text:

I have heard several comments about climate change and climate crisis and my only comment about that is if the Chinese and the people in India don't do their fair share, the little bit that we try to do off the coast of New Jersey isn't going to significantly impact whatever is happening in the climate, and I think we need to move it offshore farther so that it will impact less the present commercial fishing, the present marine life migration and the present bird migration.

Comment Number: BOEM-2021-0057-0177-1

Commenter: Jody Stewart

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

as a person who has lost their home once, I do not want to think we are going to slow this project down. I do not want to have the concern that because we did nothing, I may lose my community once again.

I may sound passionate about it because I am very passionate about making sure our communities thrive not barely survive. The State of New Jersey is on the verge of doing something wonderful here, we are on the leading of right now of creating offshore wind and we are not the only state doing this. Again, I ask that we do not slow down. Our communities are at risk. New Jersey is one of the most vulnerable states due to sea level rise. Tens of thousands of homes will be threatened by flooding and severe weather if we don't fight the climate change, if we don't slow down our carbon footprint and start with clean energy now.

Comment Number: BOEM-2021-0057-0178-1
Organization: New Jersey Audubon
Commenter: Drew Tompkins
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

climate change I think we all recognize is the biggest threat that we face both to humans as many people said today but also to wildlife especially birds.

We are seeing significant changes already and significant die off as a result of climate change that's causing habitat loss and other issues associated with warning and the only way we are going to reverse that or at least try to mitigate that is by transitioning to cleaner energy.

Comment Number: BOEM-2021-0057-0191-2
Organization: Environment New Jersey
Commenter: Doug OMalley
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

It is a clean energy gold mine but only if we are able to tap it. And I wanted to kind of put just an emphasis of what is at stake. We heard some of this during the presentation but Atlantic Shores, the Atlantic Shores project alone will reduce close to 3,000,000 tons of global warming pollution which is close to 15 percent of our total electric needs.

Comment Number: BOEM-2021-0057-0191-4
Organization: Environment New Jersey
Commenter: Doug OMalley
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

And the reason why this is so critical, why the Atlantic Shores project can be part of this solution, is that we really are playing catch up, we are playing catch up in the climate crisis and we are also playing catch up on this industry. Right now, there are more than 5,400 turbines of offshore wind off the coast of Europe, in the United States there is only seven.

We need to catch up because, you know, under executive order eight and now as well as executive order 92, New Jersey has a stringent goal of 7,500 megawatts by 2035. One of the great things the BP has done is create a solicitation schedule, we obviously need to move forward to be able to get turbines constructed.

Obviously, what we heard this evening is that's not going to be done willy-nilly, there is an extensive environmental review process which we obviously are in and will continue to be in, but offshore wind is the way we are going to reach New Jersey's 50 percent renewable energy mandate by 2030 as well.

I also wanted just to focus kind of what is at stake for the shore, because obviously not everyone is on

board with offshore wind, but I think it's a reminder that the Jersey Shore is perhaps the most vulnerable coastal community in the country right now. The Jersey Shore is sinking more than other coastal communities. We have seen sea level rise at the shore that is massively higher and the DEP, massively higher than other communities and the DEP is predicting a sea level rise compared to 2000 of a foot by the end of this decade, up to two feet by 2050 and up to six feet by 2100, that is a massively different coastal community than what we have right now. Some of this warming is already baked in, but we need to do everything we can to get New Jersey off fossil fuels and onto clean renewable energy and offshore wind is the best way to do that.

I wanted to note too that what is at stake here is obviously lives, it's peoples' homes, a union of concerned scientists study found that more than 250,000 New Jersey homes worth more than \$100 billion would be at risk from tidal flooding, that's a revenue of close to \$2 billion dollars in annual property tax. But it's also about peoples' lives, so many -- we lost close to 30 lives during Hurricane Ida. That unfortunately is the tip of the iceberg.

We are not going to be able to stop climate change alone with offshore wind, but we need offshore wind to be able to save the shore and to be able to save our coastal communities and inland communities and that's why we need to move forward with this project. Thank you so much.

Comment Number: BOEM-2021-0057-0194-7
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The ocean is a life sustaining force of the planet, in fact it has been taking one for the team for decades, buffering the effects of the impacts of climate change by absorbing heat and carbon, albeit to its own demise. Now it is being asked to become the sacrificial acre system, so we can grow a new industry and create jobs.

Comment Number: BOEM-2021-0057-0201-1
Organization: New Jersey Organizing Project
Commenter: Gabriel Franco
Commenter Type: Non-Governmental Organization
Other Sections: 27

Comment Excerpt Text:

the NJOP and the coastal property owners that we represent, supports the Atlantic Shores project.

We also would like to briefly explain to everyone why these projects are essential.

At this point, it is decidedly indisputable that human activity has fundamentally increased the concentration of greenhouse gas into the atmosphere, and this is in turn warming the planet. Scientists around the world along with the Intergovernmental Panel on Climate Change tell us that during the past 100 years, we have seen more than one degree rise in global average surface temperature and project that it will rise another seven degrees during the next century unless we act now.

Now, these numbers aren't very large but they are catastrophic in terms of our way of life and our natural

ecosystems, for example think of change in global precipitation, snow and ice melt, the rise in sea level, a more acidic ocean, a change in ocean currents, increase to severe weather events, these are just some of the very real effects we face if we don't engage in projects to reduce our reliance on fossil fuels which the proposed Atlantic Shores projects can and we think will do.

Honestly, it's probably too late to turn the dial backward on the global temperature rise but we can mitigate the damage and we believe this project is a significant step in the right direction, but time is of the essence.

Some critics claim that the proposed offshore wind projects threaten the shore, but I think that there is evidence that the reverse is true, if we don't stem sea level rise at a minimum, we won't have a shore. We believe that if we want to preserve the Jersey shore, we believe wind energy is a must.

Comment Number: BOEM-2021-0057-0204-1
Organization: Clean Water Action
Commenter: Janet Tauro
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

the Jersey Shore is an incredible treasure, it is a gem. But we want to still have a Jersey Shore.

Life has changed dramatically over these 30 years, during Sandy we went through Hell and back. But also just today, you know, there just doesn't seem to be anything like a gentle rainfall anymore. We are slammed with flooding, and I can tell you we are slammed with flooding even when it doesn't rain, even when it doesn't rain because of sea level rise, because we are in the midst of a climate emergency.

This is an emergency, and we need clean energy now. We are just running out of time. We are running out of time, and we are going under water.

The biggest threat to marine life, the biggest threat to the shore economy, to vacations, to second homes, to views, to private property is the climate emergency. Sea level rise, we are not going to have a Jersey Shore.

Wind energy is the solution not the problem. We support this project.

Comment Number: BOEM-2021-0057-0213-1
Commenter: Norah Langweiler
Commenter Type: Individual
Other Sections: 27

Comment Excerpt Text:

I am here tonight to speak in favor of the Atlantic Shores offshore wind project and the expansion of offshore wind is a necessary step for the liveable future for the Jersey Shore.

Climate change is the pivotal issue of our time. What we do today and what we haven't done in the past will impact us for generations. Climate change is not just a future hazard, it's already here. It has real consequences today in massive storms that flood both our coastal communities and inner cities which we just saw with Ida. And the fever heat that shrivels our beautiful Garden State.

To address these issues, we need to invest swiftly, significantly, and decisively in clean renewable energy.

We have already made some strong steps forward in the last few years, setting ambitious offshore wind goals and recently breaking ground at the site in Paulsboro. It is crucial that we have a clear path ensuring that development is fair by minimizing the impact on our wildlife of course and creating new opportunities for work or business which are needed more than ever amidst the devastation of Covid.

To maximize equitable economic benefits for the state, provisions in offshore wind projects should guarantee equity in hiring, contracting prevailing wage, support for domestic products, community benefits agreements and local hiring.

Comment Number: BOEM-2021-0057-0213-4

Commenter: Norah Langweiler

Commenter Type: Individual

Other Sections: 24

Comment Excerpt Text:

know there are many folks who are concerned that offshore wind will impact their quality of life specifically our gorgeous shore views, unfortunately it seems that the loudest voices against developing offshore wind in New Jersey are not the individuals who will be impacted by rising seas and flooding but big business and property owners who claim that the turbines will be too close to the shoreline.

But to me it seems that the issue isn't that the turbines might be seen from shore, the real issue is that unless New Jersey acts to combat climate change now, flooding from rising sea levels and increasingly severe weather will end the shore's beauty and value as we know it.

Sea levels are already rising in New Jersey, and we are more than double the global average. Our pristine shorelines are on the verge of being swallowed up by these raging tides and replaced with husks of our once thriving communities. If we want to preserve the shore for ourselves and future generations, we need offshore wind now.

Comment Number: BOEM-2021-0057-0214-1

Commenter: Peggy Middaugh

Commenter Type: Individual

Comment Excerpt Text:

When I first heard about the offshore wind projects being considered for New Jersey, I was thrilled. I am a strong proponent of renewable energy because, A, it's cleaner than fossil fuel alternatives; B, because I believe climate change is real; and C, New Jersey is likely to suffer more damaging impacts from some of the impacts of climate change particularly sea level rise than other parts of the country.

We need to do something big, and we need to do it now and stop releasing greenhouse gases into the atmosphere. We have already experienced some of the devastating effects of climate change and sea level rise here in New Jersey, saltwater intrusion has led to the destruction of some of our iconic white cedar forests. The life changing impacts for many of Hurricane Sandy nine years ago, a harbinger of things to come, are still felt throughout the region. Some of our shore towns like Seaside Heights are already experiencing sunny day flooding and recently a rainy-day flooding during Ida was catastrophic, causing

many drownings in the state.

I recognize any major development project whether onshore or off will have impacts on the surrounding community. In the case of offshore wind, that's the ocean community, fish and other wildlife that live there and the commerce that currently takes place there. But all of the other alternatives have impacts as well. Fossil fuels plants have profound impacts from particulates and other things on health and climate change is the greatest existing threat to wildlife resulting in one million animal and plant species threatened with extinction due to a rapidly changing environment.

Comment Number: BOEM-2021-0057-0219-1
Organization: New Jersey League of Conservation Voters
Commenter: Rebecca Hilbert
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

New Jersey is uniquely vulnerable to the impacts of climate change, especially our low-income or communities of color, as a speaker from Waterspirit before me highlighted. However, over the last four years, we have risen to the challenge of combatting the climate crisis in a variety of ways, specifically with the efforts lead by Governor Murphy and legislative leadership, to make New Jersey a regional, national and global hub for offshore wind.

Comment Number: BOEM-2021-0057-0226-1
Organization: Franciscan Response to Fossil Fuels
Commenter: Barbara Stomber
Commenter Type: Non-Governmental Organization
Other Sections: 27

Comment Excerpt Text:

I am echoing my support and that of the members of my organization for the Atlantic offshore wind power project.

Climate change has been at the core of our agenda since our organization's inception. Climate scientists have long warned that global warming would lead to extreme heat in many parts of the world but the 120 degree temperatures brought on by the heat wave in the pacific northwest this past June followed by intense flooding in Germany and Belgium killing more than 200, a massive wild fire in Oregon that grew by a thousand acres an hour, along with a year's rainfall in China in just than three days, were more than predicted so early in this century, shocking even some climate scientist.

While New Jersey has not been mentioned in this stream of events, New Jersey has its own unsettling statistics. Using tide gauges from Atlantic City and other parts of the coast, it is known the sea level in New Jersey has risen 17.6 inches in the last 100 years. Much of it due to the amount of carbon dioxide emissions that are warming the atmosphere and melting mountain glaciers in the Greenland and Arctic Ice Sheets.

By the way, New Jersey is the third highest -- has the third highest sea level in the United States followed only by Texas and Louisiana, being first and second.

Working to mitigate climate change is a key mission of Pope Francis, outlined in his encyclical *Laudato Si*, care for your common home, so combatting climate change with projects like these are a moral imperative for us.

As a life-long resident of New Jersey, I spent the first 21 years of my life in Jersey City. Where we breathed in the toxic fumes of factories and the smoke from garbage that burned constantly in what is now known as the Meadowlands but only known to us growing up as the dumps.

Today millions of people in our cities are subject to similar pollution and health problems. With New Jersey securing the second highest cancer rate in the nation.

As a suburban resident now for the past 50 years plus surrounded by open spaces and trees, I was fortunate to escape into an environment that provided me with some freedom from the day-to-day pollution experience by millions.

Those who live along the coast are similarly comforted by being able to experience the ocean breezes that cleans the air and refresh the soul. In response to those who are concerned about visibility, I believe that building wind turbines to offset the pollution caused by fossil fuels should be looked upon as a status symbol, a source of pride, of health and hope for the future. It is the least we can do, living in the most densely populated state in the Union, a state whose energy demands make it necessary for 90 percent of our citizens to live in urban areas often near power plants, industrial factories, and other fossil fuel emitters.

New Jersey citizens are the forward-thinking hope for the future. You are the -- you are more than providing clean energy, you are increasing the health of our fellow citizens. You are building the economy; you are increasing wildlife and marine life as well as combatting the effects of climate change that will continue to impact us and people across the globe.

Comment Number: BOEM-2021-0057-0227-1

Organization: Offshore Power LLC

Commenter: William O'Hearn

Commenter Type: Other

Other Sections: 27

Comment Excerpt Text:

Number one, and this is key, scientists and environmentalists all over the world agree that climate change is by far the biggest threat to oceans and coastal communities. As we have heard from other speakers, sea level rise alone, if it was unchecked would be devastating to coastal towns not only along the New Jersey shore but all over the world.

I want you to understand that, then the need for offshore wind and the rest of the clean energy transition becomes self-evident and extremely clear. Of course, it has to be done responsibly and impacts to fish and marine mammals must be studied, in fact the studies are already underway as we have heard, and we have to avoid and minimize the negative effects whenever possible but projects like Atlantic Shores need to move ahead as fast as they can to minimize the damage from climate change. We can't hit our state and national goals without them.

Comment Number: BOEM-2021-0057-0237-2

Commenter: Patricia Croisier
Commenter Type: Individual
Other Sections: 1

Comment Excerpt Text:

Americans need time to assimilate what the problems really are. We don't need wind turbines in the ocean to stop the CO2 in the atmosphere problem. Mostly, we just need to stop burning fossil fuels to create the energy we need. This was a mistake to build such energy dependence around coal, oil, and natural gas. It would seem that a place to start, would be to learn how to reduce our carbon footprint. Like money management, it would be a good idea if we learned to manage our energy consumption too. This to be done while inventors of creative ideas indeed all of us, come up with a variety of earth friendly options for renewable energy.

Comment Number: BOEM-2021-0057-0240-21
Commenter: Gregory Roberts
Commenter Type: Individual

Comment Excerpt Text:

The wind farms are unnecessary since there is no proven causal climate crisis. In his highly researched book, "Unsettled," Dr. Koonin makes these important points:

1. If we did nothing to address climate change, the global temperature would increase 1.5 degrees C by the end of this century. In comparison, global temperatures increased 1.0 degree C during the last century. This is not an existential threat, and we can deal with it with innovation - such as nuclear power.
2. The climate scientists have deliberately misrepresented the data. Dr. Koonin lists quotes from climate experts saying that they deliberately misrepresented the data because it was "doing the right thing" in their opinion (a "noble lie").
 - a. "It doesn't matter what is true, it only matters what people believe is true." - Paul Watson, cofounder of Greenpeace
 - b. "We've got to ride this global warming issue. Even if the theory of global warming is wrong, we will be doing the right thing in terms of economic and environmental policy." - Timothy Wirth, president of the UN Foundation
 - c. "Some colleagues who share some of my doubts argue that the only way to get our society to change is to frighten people with the possibility of a catastrophe, and that therefore it is all right and even necessary for scientists to exaggerate. They tell me that my belief in open and honest assessment is naive." - Daniel Botkin, former chair of Environmental Studies at the University of California at Santa Barbara
3. If the US reduced emissions to zero it would have minor impact on global emissions since China (currently 34% of global emissions, mostly from coal), India, and emerging nations will continue to grow their local fossil fuel energy generation to sustain their prosperity. In contrast, the US continues to reduce its carbon emissions at a faster pace than any other country in the world by transitioning to natural gas and other innovations.

4. In short, the science is insufficient to make useful projections about how the climate will change over the coming decades, much less what effect our actions will have on it.

Comment Number: BOEM-2021-0057-0240-22

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

Note that only the US has met the CO2 objectives in the 2019 Paris Climate Accord. The US was committed to lower greenhouse gas emissions by 26-28% below 2005 levels by 2025. The US lowered CO2 emissions by about 24% through 2020 while becoming energy independent - mostly by increased use of natural gas. Since wind energy is 8.4% of US energy generation, clearly wind energy had negligible impact on this reduction in greenhouse gasses.

A.3.7 Coastal Habitat and Fauna

Comment Number: BOEM-2021-0057-0066-5

Commenter: Peter Hartney

Commenter Type: Individual

Comment Excerpt Text:

the negative impact a large scale industrial wind farm has on the micro-climate of Long Beach Island as the windfarms as proposed have the real potential to reduce the consistent on-shore breeze which regulates the temperature both summer and winter leading to the strong possibility of an increase in the micro-climates temperature having a negative impact upon both residents and the regional barrier island ad ocean habitat.

Comment Number: BOEM-2021-0057-0074-3

Organization: Save Long Beach Island, Inc

Commenter: Christine Leichte

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

because of its proximity and the wind energy extraction, potentially alter other shore conditions, such as reducing wind speed and wave action, and increasing air temperatures, and

Comment Number: BOEM-2021-0057-0075-1

Commenter: Jillian Lawrence Lawrence

Commenter Type: Individual

Comment Excerpt Text:

I am overly concerned how the proposed wind turbines will impact the environment- wave action, specifically if the deep foundations will alter wave currents and patterns, the potential to cause rip currents, and cause disruption to normal coastal patterns and alter the beaches. will the owners of the wind farm be held responsible for beach replenishment, increased lifeguard staffing, and any potential

increased flooding impacts to the island.

Comment Number: BOEM-2021-0057-0083-2

Commenter: Hubert Streep

Commenter Type: Individual

Other Sections: 18.4

Comment Excerpt Text:

Another area of grave concern is waves and currents. Both of these are affected as wind is a direct contributor to these ocean phenomena. Less wind energy means less wave energy and smaller wave action. How will this affect our shoreline our sand bars, and our ocean currents? And how about the changing wave effects on swimming and surfing? We have zero studies on the effect to our natural wave actions and we are actually entertaining the largest wind farm of this type ever attempted? We also have a Gulf Stream that gets pushed by the prevailing winds into our shores so that our east coast waters are delightfully warmed for our vacationers to enjoy. How the reduced winds and produced eddies will affect the warmer waters of the Gulf Stream coming to our shores is another major area of research that has so far been largely ignored.

Comment Number: BOEM-2021-0057-0112-6

Organization: New York State Department of State

Commenter: Kisah Santiago-Martinez

Commenter Type: State Agency

Comment Excerpt Text:

Potential behavioral and physiological impacts to marine life from habitat loss, alteration, and/ or fundamental changes to habitat resulting from various influences (e.g., noise, altered water quality, foundation lighting, scour protection of manmade structures, altered currents, electromagnetic fields, new permanent offshore structures) may affect the composition and/ or areal distribution of marine communities and fragment important habitat or migratory corridors.

Comment Number: BOEM-2021-0057-0114-2

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

RODA's large body of comments discuss the major gaps in our knowledge of the impacts of OSW on our marine ecosystems.

Comment Number: BOEM-2021-0057-0119-76

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt 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 204: 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 205: 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 206: 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 207: 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 208: 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 recently acknowledged that large-scale build out of offshore wind energy in the Northeast region may cause local oceanographic changes that may affect the distribution of North Atlantic right whale prey [Footnote 209: State of the Ecosystem New England (Presentation to the New England Fishery Mgmt. Council), NMFS (Apr. 15, 2021)].

Comment Number: BOEM-2021-0057-0236-2

Organization: State of New Jersey Office of Permitting and Project Navigation

Commenter: Megan Brunatti

Commenter Type: State Agency

Comment Excerpt Text:

Based on NJDEP's review, it is noted that further coordination with the United State Army Corps of Engineers (USACE) regarding shore protection projects and sand borrow areas is necessary to ensure that ongoing and planned USACE projects are not adversely impacted and should include the NJDEP's Division of Coastal Engineering as well as representatives.

A.3.8 Commercial Fisheries and For-Hire Recreational Fishing

Comment Number: BOEM-2021-0057-0018-1

Organization: DJH Marketing Communications, Inc.

Commenter:

Commenter Type: Other

Comment Excerpt Text:

The offshore wind turbine structures are likely to provide significant financial benefit to the recreational

angling community in many ways. In general, we believe that recreational fishing impacts should be split out from commercial in the SEIS. While there are many overlapping issues, the impacts are not likely to be at the same level. For instance, gear entanglement, loss and damage are negligibly impactful to a for-hire recreational vessel. Given overall minimal, temporary impacts and likely benefits from the reef effect, recreational vessels will see little to no detrimental effects and some positive.

Comment Number: BOEM-2021-0057-0021-3

Commenter: jim wolf

Commenter Type: Individual

Comment Excerpt Text:

The other issue is the prime fishing grounds that would be affected.

Comment Number: BOEM-2021-0057-0031-13

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

The commercial fishing community needs time to get its act together to determine the possible consequences of the planned close-to-shore site

Comment Number: BOEM-2021-0057-0031-7

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

In addition, the fishing industry worries about destruction of rich catch areas

Comment Number: BOEM-2021-0057-0044-4

Commenter: Chuck Edwards

Commenter Type: Individual

Comment Excerpt Text:

It is impossible to construct these giants offshore without impacting fishing, migratory species and cargo shipping lanes.

Comment Number: BOEM-2021-0057-0052-3

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Oceana has engaged as a stakeholder in the management of U.S. fisheries and interactions with endangered species, with a particular interest in effective bycatch minimization and reduction, if not elimination, of fishing gear entanglement-related death, injury, and harm to protected species, including the NARW.

Comment Number: BOEM-2021-0057-0066-3

Commenter: Peter Hartney

Commenter Type: Individual

Comment Excerpt Text:

A further impact on the region as a result of Atlantic Shores proposal is both economic and historic. The proposal under review will place the windfarms in the midst of the fertile fishing grounds off Long Beach Island which for centuries have been economically, culturally and historically important not only to the region but beyond as a major seafood producing region in the United States.

(<https://activerain.com/blogsviw/5141625/barnegat-area-fishing-important-to-the-jersey-shore-economy>)

Comment Number: BOEM-2021-0057-0089-4

Commenter: Gina Cobianchi

Commenter Type: Individual

Comment Excerpt Text:

Commercial fisheries and for-hire recreational fishing could be impacted.

Comment Number: BOEM-2021-0057-0100-1

Commenter: David Wallace

Commenter Type: Individual

Other Sections: 20

Comment Excerpt Text:

From the clam fishery and for most of the other offshore fisheries, the facts are simple, there is going to be a larger disruption of fisheries, if Atlantic Shores wind farm is installed as stated. There are a large number of the troubling unknowns in this project. What is worse, all who have study this wind farm recognize there is a vast amount that is unknown. There is little scientific information to answer the many questions. The problems that will quickly appear but will be too late once the turbines and cables are installed. The unknown problems will be there for 30 plus years continuing to make the problem worse. With no knowledge of what the individual and cumulative impacts of this wind farm are and what the other phases of this lease will be, it is obvious that the ecology of both the ocean and atmosphere will be affected. While most experts know that these regional wind farms are going to have a major effect on the entire ecosystem and could be catastrophic, however once built it will be too late to fix the problems. Therefore, studies of the obvious questions should be done and analyzed Comments to BOEM on Atlantic Shores Wind Farm, from the surfclam and ocean quahog fishery, which before construction starts.

Comment Number: BOEM-2021-0057-0100-10

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

There is no indication that the wind farm developers are willing to move their turbine spacing to 2 X2 NM apart. The fishing industry has brought the subject up at every chance both verbally and in writing with no consideration with no consideration for the developers but they say we are not going to consider your proposed spacing. The fishing industry has also requested that BOEM, the states, and the grid operators require the developers to provide the fishing industry consideration with no action from any of the regulators. It is outrageous that the governments give no consideration to the United State's fishing industry and instead reward European corporations at the expense of the American seafood harvesters. The developers are unwilling to consider the needs of the off shore fishing industry then the fishing industry deserves compensation for loss of access to the fishing grounds, reimbursement for loss income and damaged or loss of their fishing gear. A fund must be set up with X dollars injected every year. This compensation must go to a independent association which is the arbitrator of the fishery claims. This association is provides a fixed amount every year to settle legitimate claims without any outside interference. The developers and federal and state regulators would not be the managers of the association or the staff which would cause an obvious conflicts of interest. The developers should think this is a great deal because it keeps them out of conflicts with fishermen, but they have shown no interest.

Comment Number: BOEM-2021-0057-0100-11

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

The transit lanes proposed by Atlantic Shores are a joke. They did not give anything. Their 1 X .6 NM layout gives then all the turbines they could fit on that part of their lease. It is crazy to think that a trans lane one mile wide with two way traffic. With bad weather, dark, fog, big seas just running in one mile line of turbines is bad enough but the spindling blades of the turbines blind the radar and the other factors make it much more dangers. Their design (or lack of) is unworkable and will kill people. This is not a plan but a con job.

The fishing industry is concerned about the hundreds of turbines that are planned for the east coast of the United States. It has become clear that the developers do not care about the negative impact on the other ocean users in U.S. waters. The developers believes that their lease and operation gives then the right to do only what is good for themselves with a complete disregard for the other users. The developers lease does not allow then control the ocean,. There rights is to build a wind farm and install cables. That does not give then complete control of their lease area. However, they act like they own the ocean.

Safety at sea is paramount and is being undermined by the federal, state governments and the developers so the developers can get the maximum number of turbines in their lease for maximum profits on the backs of the U.S. fishermen. What an unbelievable tradeoff, of safety and fishermen lively hood, for a few extra turbines.

Comment Number: BOEM-2021-0057-0100-3

Commenter: David Wallace

Commenter Type: Individual

Other Sections: 2.1

Comment Excerpt Text:

The large vessels, offshore seafood harvesters, have pushed to have the turbines spaced at, 2 X 2 natural miles (NM) apart in straight lines in both direction and set with the tide running straight through the arrays and following the bottom contours where possible. This is in line with the White House and most of the state houses stating that the wind developers and the fishing industry must coexist. The fishing industry attempted to propose solutions to this situation and in the case of Atlantic Shores and the other developers in the New York Bight, all of the developers have placed their turbines 1 X .6 NM apart making it dangers to fish within the wind farm. Which means the fishing industry will lose very productive fishing grounds. When talking to the developers they all say sorry but we do not want you fishing within the farms using large powerful fishing vessels. But these American owned and crewed fishing vessels have been fishing for generations in these waters. They are America waters, not European waters.

Comment Number: BOEM-2021-0057-0100-4
Commenter: David Wallace
Commenter Type: Individual

Comment Excerpt Text:

When BOEM first created wind farm leases, the size of the lease was estimated to provide 800 megawatt (MW) of power from each lease. However, as much larger turbines became certified the developers found that they could jam larger turbines, with much higher capacity, into their lease. The fishing industry pushed the lease holders for a 2 X 2 NM placement of their turbines to allow traditional fishing by large fishing vessels within the array. The developers rejected the idea because they could make so much more money from their lease than they originally planned, going from 800 MW to as much as 1200 MW from their lease for the same lease fee, that makes them, their bond holders and shareholders happy. However, it is disaster for the fishing industry.

Comment Number: BOEM-2021-0057-0100-5
Commenter: David Wallace
Commenter Type: Individual

Comment Excerpt Text:

The developers propose to bury the cable between 2 to 3 meters deep where the bottom permits and less when on hard bottom and crossing other cables. When going over hard bottom or other cables the developers propose to use mats on the surface that causes problems for the fishing industry. It is necessary that there be detailed electronic charts provided by the developer that show where the cables are buries and where the surface mats are located. The deeper the cables are, at least down to 2 meters to the top of the cable, the less chance there is that they will come in contacted with fishing gear. It is imperative that the cables depth must be checked on a regular basis and that after large storms they are checked to be sure they have not washed out.

When there is a problem with damage to an wind farm cable, about 70 percent of the time, it is caused by human interactions. Most of that is in interactions with fishing gear and the rest is mostly caused by a ship dragging its anchor.

In Europe it is common to place exclusion zones around the wind farm and cable. Some wind farm operators are monitoring their cables using satellites and AIS to contact the vessel to stay away from their cable. At this time, there is no rule that a fishing vessel cannot operate over a cable, but it is anticipated

that the developers will suggest an exclusion zone around the cables and maybe the entire wind farm in the near future. Any attempt to limit access to the wind farm will be strongly opposed by the fishing industry.

Comment Number: BOEM-2021-0057-0100-6

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

The commercial fishing industry has fished in these waters for hundreds of years. For the last 40 plus years, fishing in federal waters has been regulated under a comprehensive fisheries management law. These regulations require each fishery to be sustainable, as efficient as possible and hopefully profitable for the fishermen and community that they serve. There are areas closed to protect marine habitat, fish stocks or protected species and in some cases, only allow limited fishing under special situations. When the wind farm developers rejected spreading out their turbines so that fishing could safely take place within their array, they have artificially created a Marine Protected Area (MPA) outside of the fisheries management system. This is outrageous, the loss of access to high income fishing grounds, that creates hardships for the fishermen and their community and the consuming public. The actions of the wind developers, BOEM and states has done little to protect these federal managed fisheries. The fishing industry come out on the short end. The industry loses fishing grounds that are not closed under fisheries management and in reality closed to the fishing industry by European industrial corporations without consideration or compensation. As President and CEO of Vineyard Wind said publicly, the lease area is our bottom and the fishing needs to go somewhere else and get their own bottom. It is unbelievable that the government is willing to turn over management of thousands of square miles of ocean to on-U.S. companies at the expense of the fishing industry, federal mandated fisheries management and the consumer who must pay more for their seafood products.

It is impossible to know what these wind farms are going to do to the fish and shellfish stocks within and around the wind leases once they are in service. With the magnetic fields and the vibration created by the very large turbines, which have never been installed, there is no way that, any person can tell what the effect will be when thousands of the machines are in operation.

Comment Number: BOEM-2021-0057-0100-9

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

The federal and state government giving the European developers whatever they want at the expense of the fishing industry. That outrages to the fishery managers and fishing industry. The NMF's northeast fisheries science center and the fishery management council are left out of the policy decisions as BOEM allows the developers to do as they please.

The fishery management councils are not involved in the process, since they create the fishing regulations and habitat rules for the areas that they manage including wind-leased areas. Marine Protected Areas (MPA) are created by them to protect complex habitats and other conservation objectives. However, the areas that the councils propose to close have large amount of public input so that everyone understands what the project is about and why it is necessary. However, the wind leases are being developed in a way that only very small boats can operate within the wind farm. Therefore, the areas within the array mostly

become defacto MPA. This flies in the face of the U.S. fishery management system that is in charge of the fisheries and habitat in the EEZ but is being undermined by wind farms. If the developers get their way on their cable routs, and turbine lay outs. Wind farms will be off limits to most fishing and further undermine the fishing industry and the management system that oversees that marine resources. The developers would like to see no vessels in their arrays as they have in most European countries. This flies in the face of the federal fishery laws.

Comment Number: BOEM-2021-0057-0107-10

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 20

Comment Excerpt Text:

The EIS should describe the amount of scour protection that may be needed for the turbine and offshore substation foundations, as well as the amount of external cable armoring that may be required if sufficient cable burial depth cannot be achieved. Consideration should also be given to materials that reduce the potential for interference with existing fisheries in the area. It should be noted that there are different considerations for different fisheries. For example, the commercial fishing industry is concerned about the use of concrete mattresses due to the potential for hanging/snagging mobile gears. Some recreational fishery stakeholders have noted improved fishing opportunities around the scour protection materials used for the CVOW pilot project off Virginia. In addition, the turbine and substation foundations may create a wake effect. This could increase the amount of suspended sediment in the immediate area which could negatively impact filter feeding organisms, including commercially important species such as surfclams and scallops. It could also have impacts on the dispersal of pelagic larvae in the area. These impacts must be thoroughly considered in the EIS.

Comment Number: BOEM-2021-0057-0107-11

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 16

Comment Excerpt Text:

Commercial and recreational fishermen may not be able to take full advantage of any increased availability of target species due to concerns about safely maneuvering, drifting, or anchoring near turbines and offshore substations. The proposed 1 by 0.6 nautical mile grid layout of the projects will not eliminate all safety concerns. Safety considerations will vary based on weather, gear type, vessel size, and specific fishing practices which can vary by target species. Although some fishermen may have experience fishing near the five turbines off Block Island or the two CVOW pilot project turbines off Virginia, this may not prepare them for fishing safely within the Atlantic Shores Wind Projects 1 and 2, which could include up to 200 turbines. The EIS should evaluate these safety considerations and their potential variations across different fisheries. In addition, if fishermen 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.

Comment Number: BOEM-2021-0057-0107-12

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

Fishermen choose where to fish based on many factors including the location of target species and species they wish to avoid, where regulations allow, where they can fish the most efficiently, and where they plan to land their catch based on market and regulatory factors. For these reasons, fishermen cannot easily relocate to different areas to avoid a windfarm without socioeconomic impacts. Fishermen who choose to fish outside of this project area for safety, economic, or other reasons may not be able to recoup the loss of landings and revenue by shifting effort elsewhere.

Relocation of boulders and removal of sand bedforms, as described in the COP, will cause disruptions in fishing activity, including private and for-hire recreational fishing, as well as some types of commercial fishing (e.g., pot/trap fishing for black sea bass). Some boulders and sand bedforms are targeted by fishermen and it could take several trips to find their new locations. In addition, a loss of attached fauna is expected when boulders are moved. Recovery may take multiple years and the initial re-colonizing organisms may differ from those displaced during movement from the original location. [Footnote 7: For example, see Guarinello, M. L., & Carey, D. A. 2020. Multi-modal Approach for Benthic Impact Assessments in Moraine Habitats: a Case Study at the Block Island Wind Farm. *Estuaries and Coasts*. doi:10.1007/s12237-020-00818-w.] While the relocated boulders may eventually continue to attract fishery species, relocation is not a negligible impact on the fleet. If boulders are aggregated in new locations, this could result in potential hangs for commercial mobile bottom-tending gears. Detailed reporting on where boulders are moved to should be required as a mitigation strategy.

The likely extent of impacts to all types of fishing will be important to understand in the context of developing mitigation agreements for affected fishing industry members. Fishing effort can change based on management actions such as a change in access areas, or updated state-by-state quota allocations for a target species (e.g., black sea bass, summer flounder, bluefish). It is important to account for the dynamic nature of fishing effort over time when evaluating impacts to fisheries and fishing communities. This is an area of the EIS where cumulative considerations are especially critical and this project cannot be considered in a vacuum; many other wind farms are proposed throughout this region, and fishing will be affected over a large area if all these projects are installed.

BOEM should work with NOAA Fisheries to ensure that the most appropriate data (e.g., vessel trip reports for commercial and for-hire recreational fisheries) are used to identify catch that occurred in the vicinity of the project area and to describe the most impacted ports and communities based on where that catch was landed. Landings and revenues are both important metrics to consider.

Data on the precise locations of private recreational fishing effort are generally lacking; however, given the location of this specific project, it may be sufficient to rely on Marine Recreational Information Program (MRIP) data for private and for-hire recreational harvest in New Jersey. It is unlikely that a notable amount of fishing effort from private recreational fishing vessels based out of states other than New Jersey occurred in this project area. This may not be the case for for-hire fishing effort; however, vessel trip report data can be analyzed for for-hire vessels. MRIP data cannot provide information on recreational fishing effort within these project areas specifically; however, it can provide information on private and for-hire recreational fishing trips that occurred primarily in federal waters and returned to New Jersey docks.

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 which will be challenging to accurately quantify.

Comment Number: BOEM-2021-0057-0107-13

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 15

Comment Excerpt Text:

We found no reference in the COP or the Fisheries Communication Plan (Appendix II-R) to availability of mitigation funds if impacts such as fishing gear loss occur. Mitigation funds must be available to all affected vessels and ocean users who rely on this project area for revenue. The availability of such funds and their influence on impacts determinations should be explained in detail in the EIS.

Comment Number: BOEM-2021-0057-0107-14

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt 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 lower value species as bait for a higher value species, or a seasonally important fishery. In addition, the EIS must acknowledge that ex-vessel value does not account for impacts to fish processors and other fishery support businesses, nor does it address other sectors of the economy, consumer benefits, or the economic impacts of recreational fisheries.

Comment Number: BOEM-2021-0057-0107-15

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 2.2

Comment Excerpt Text:

As much of the cables as possible should be buried to avoid the concerns listed above regarding external cable armoring materials where they are unburied. The COP suggests a target burial depth of 5 to 6.6 feet for all cables (e.g., pages 4-38 and 4-41). We are concerned about potential for the cables to become unburied given the dynamic seafloor and the amount of dredge activity in the area. Burying the cables as

deep as possible will help to minimize these risks. It should also be considered that natural snags are already well known to fishermen, and in many cases are charted, but that it will take time for fishermen to learn the locations of the cable protection materials. The EIS should provide maps of benthic features so that readers can use these maps to evaluate conclusions reached regarding both habitat and fisheries effects of development.

Comment Number: BOEM-2021-0057-0107-18

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 19.5

Comment Excerpt Text:

Impacts of electromagnetic fields (EMF) on fishery species are a concern to the fishing community. For example, studies have suggested that EMF can result in changes in behavior, movement, and migration for some demersal and pelagic fish and shellfish species[Footnote 8: https://greenfinstudio.com/wp-content/uploads/2017/10/GreenFinStudio_EMF_MarineFishes.pdf]. The extent to which EMF may or may not impact marine species should be thoroughly described in the EIS. The EIS should acknowledge the limitations of the current scientific knowledge in this area and should provide justification, including supporting scientific studies, for all conclusions regarding EMF.

Comment Number: BOEM-2021-0057-0107-19

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 12 17

Comment Excerpt Text:

Through modeling work, the physical presence of turbines has been estimated to alter the near- surface and near-bottom temperatures, and thus, habitat conditions for marine species, as well as juvenile transport of commercially important species like sea scallop. [Footnote 9: https://s3.amazonaws.com/nefmc.org/Doc.14.a-UMASSD_WHOI_short_report_05_6_12_2021_revison.pdf] The EIS should acknowledge both the individual's project potential to materially affect oceanographic and hydrodynamic conditions based on ongoing research efforts and the project's contribution to cumulative effects from development of several wind farms on a regional scale. The EIS should also utilize the findings from ongoing research funded by BOEM in its impact assessment to understand how wind energy facilities will likely affect local and regional physical oceanographic processes.

Potential impacts to the Mid-Atlantic Cold Pool and resulting impacts on fishery species are of concern to the Councils and other fishery stakeholders. This is also an area of ongoing research. [Footnote 10: For example, two recent reports on potential impacts of offshore wind energy development on the Cold Pool which do not appear to be referenced in the draft EA are available at the following links:

<https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf>;

https://rucool.marine.rutgers.edu/wp-content/uploads/2020/10/PartnersWorkshop_WhitePaper_Final.pdf]

The EIS should clearly document what is known about potential impacts to the Cold Pool and resulting potential impacts to marine species and fisheries. The EIS should acknowledge data gaps and ongoing research and should consider potential impacts resulting from this project, as well as cumulative impacts from all planned wind energy projects in the Mid-Atlantic. We appreciate that the COP acknowledged this as an issue of concern and an area of ongoing research.

Comment Number: BOEM-2021-0057-0107-2

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt Text:

The PDF “posters” in the online virtual page[Footnote 2: <https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-scoping-virtual-meetings>] are very valuable for providing a summary of the project at a glance in a more easily accessible format than searching for the relevant sections of the over 900-page COP (not including appendices). We appreciate that posters on commercial fishing were included. Posters on recreational fishing should have also been provided as these project areas overlap with important recreational fishing areas, as described in the COP. We recommend consistency in the information provided in these posters across projects and we recommend that posters on both commercial and recreational fishing be provided moving forward.

Comment Number: BOEM-2021-0057-0107-20

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 15

Comment Excerpt Text:

Section 6.2 of the COP describes decommissioning and states that some components of the project will be fully removed, while other components may remain in place after decommissioning (e.g., piled foundations may be cut below the mudline, with only the portions above the mudline removed and some sections of offshore cables may be “retired in place”). These decisions will be made based on future environmental assessments and future consultations with various agencies. All project components should be removed from the offshore environment to the extent possible. 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-2021-0057-0107-8

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

Commercial, for-hire recreational, and private recreational fishing will all be impacted by this project in different ways. Therefore, they should be considered separately, but in the same or adjacent sections of the document. As we have stated in comment letters on other wind projects, the grouping of private recreational fishing with recreation and tourism (as is done in this COP), rather than with commercial and for-hire fisheries, is not intuitive and makes it challenging for readers to understand the full picture of potential impacts on all fishery sectors. These projects will affect both for-hire and private recreational fishing. Describing both types of recreational fishing in the same section of the document would make linkages between biological and fishery conditions easier to explain and understand.

The EIS should describe how all impacts may vary by target species, gear type, fishing location (e.g., from shore, mid-water, on different bottom types, near structures such as shipwrecks, other artificial reefs, or boulders) and commercial or recreational fishing (including recreational fishing from shore, private vessels, party/charter vessels, and tournaments).

Turbine and substation foundations, as well as materials used for scour protection and external cable armoring will create substrates for fouling organisms and create artificial reefs. These artificial reefs are expected to attract certain fishery species (e.g., black sea bass). However, the addition of new structured habitat in this area will replace existing habitat types and could displace other species which prefer soft sediments (e.g., flatfish, bivalves). The EIS should acknowledge that although the artificial reef effect will be beneficial for some species, it will not be universally beneficial for all species. The impacts of such changes should be analyzed. In addition, the EIS should evaluate the extent to which impacts may vary based on the characteristics of the materials used. These materials should mimic natural, nearby habitats where possible.

Comment Number: BOEM-2021-0057-0107-9

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 20

Comment Excerpt Text:

In addition, secondary cascading effects should be evaluated as community composition could change within and beyond the project area. For example, this project area includes habitat for surfclams and scallops. The addition of structured habitat may attract bivalve predators such as sea stars and moon snails, which could have negative impacts on species such as surfclams and could result in cascading ecological impacts.

Comment Number: BOEM-2021-0057-0109-5

Organization: BlueGreen Alliance

Commenter: Jason Walsh

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM's analysis should also account for impacts on fisheries and engage fishing industry stakeholders at all possible opportunities.

Comment Number: BOEM-2021-0057-0114-11

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt 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.

The continued reliance on Automated Identification System (AIS) data to characterize fishing activity in most OSW-related analyses, particularly those regarding at-sea safety and fishing behavior, is concerning. AIS is not required on commercial fishing vessels less than 65 feet in length. The large majority of fishing vessels operating in all existing OSW lease areas are smaller. Nor are AIS-equipped vessels required to utilize it past 12 nm from shore. Any analysis reliant on AIS data therefore suffers from the fatal flaws of entire size classes of vessels not included in the dataset and significant spatial limitations. RODA and the fishing industry as a whole have repeatedly raised this issue with BOEM, USCG, and directly to OSW developers, yet AIS continues to be utilized and promoted as the main dataset to describe fishing patterns.

Comment Number: BOEM-2021-0057-0114-19

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt 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-2021-0057-0114-22

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

Array design and spacing between turbines are important determinants of commercial fishing operations within wind development areas.

Comment Number: BOEM-2021-0057-0114-30

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

In particular, given the importance of the Atlantic Shores and Ocean Wind projects areas to the clam fishery, these projects must work together to provide relevant information for testing scientific hypotheses about the impacts of OSW to the clam resource and fishery. We strongly urge BOEM to require these developers to partner with the fishing industry and credible independent scientists to co-develop cooperative monitoring and research plans for the leases and ensure that each project's research is well coordinated with the other. This should be common practice for all wind development lease areas but particularly for abutting leases such as these.

Comment Number: BOEM-2021-0057-0114-34

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt 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: RODA and our members have repeatedly urged BOEM for years to coordinate, or at least require development of, an appropriate regional-scale fisheries compensatory mitigation plan. 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. [Bold: 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-2021-0057-0114-40

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

It is unclear whether developers and their contractors are required to disseminate notices to mariners describing survey activities for the development of a SAP, [Footnote 19: When notices do occur, they take the form of developers distributing "Notices to Mariners" via emailed PDFs to inform fishermen of on-the-water activity on a periodic basis. As RODA has informed BOEM in the past, this is simply not an effective means of notifying fishing vessel captains and crews as they do not access PDFs either while preparing for a trip or while underway. Repeatedly, fishermen have requested developers to improve the basic dissemination of this critical project information. There remains an urgent need to support RODA in working with developers and the regulatory community to improve these communication streams.] and currently are not required to develop mitigation and compensation plans for gear lost as a result of pre-

SAP surveys. U.S. commercial fishermen regularly report G&G survey vessels operating erratically, failing to adequately communicate with commercial fishing vessels operating on fishing grounds, failing to issue accurate notices describing their planned activity, and occasionally causing gear loss.

BOEM thus allows and even requires, without permitting, activities undertaken by OSW lessees and their contractors that cause significant financial harm to commercial fishing industry members in the form of lost or damaged fishing gear. Further, it allows the leasing of OSW project areas and permitting of activities that result in this destruction and loss without the establishment an adequate gear loss compensation program. Current approaches are piecemeal, administered poorly by developers, and often only developed long after survey operations begin, if at all. [Footnote 20: While there are instances in which our members have reported expedient processing of gear loss claims by certain developers, overall there remains significant confusion and consternation that OSW developers are unilaterally tasked with developing, arbitrating, and paying gear loss claims without any external, independent oversight or standardization.]

Comment Number: BOEM-2021-0057-0114-41
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

Atlantic Shores' Fisheries Communication Plan outlines the structure and members of Atlantic Shores' engagement with the fishing industry. Included in the Communication Team descriptions are Fisheries Industry Representative(s) (FIR) and yet no individuals or contact information is provided for this role. If Atlantic Shores plans to utilize FIRs to solicit specific information, disseminate information, or any of the other responsibilities outlined in Appendix D this information should be provided to the public. If Atlantic Shores plans to use other methods to gather this information or engage with fishing communities, this should be described in the Communication Plan. Currently, without FIRs in place it should not be assumed the responsibilities are being filled elsewhere without further explanation from the developer.

Comment Number: BOEM-2021-0057-0115-10
Commenter: Dorothy (Dottie) Reynolds
Commenter Type: Individual

Comment Excerpt Text:

As a community relying in great part on our prosperous Barnegat Light fishing industry, the proposed wind farms off the coast would have a huge negative financial impact on the local economy and jobs in the vital commercial fishing industry. Commercial fishermen fish in the areas where turbines are proposed and will be located too close together for fishing vessels to operate. Wind farm developers are investors, not environmentalists. When large turbines are installed in smaller areas it is more profitable for the developers. Fishermen will be excluded from traditional areas where they have fished for hundreds of years. If less seafood can be caught, there will be less food to ship to feed millions of people in the world and it will be more costly.

The Atlantic sea scallop industry is the most valuable federally managed fishery in the United States. According to the New England Fishery Management Council, Barnegat Light and Long Beach, New York combine for a total value of \$19.4 million in scallops landed between 2010 and 2017. Wind farm

turbines pose potential threats to the scallop marine ecosystem, including the assembly of turbines which displace large amounts of sediment on the sea floor creating scour and sediment plumes which can interfere with scallop growth and filter-feeding processes. Turbines can also disrupt ocean currents affecting the scallop larval flow and settlement.

Wind farms will disrupt fish and fishing. Fluke is an important commercial species and the most important recreational species. Fluke winter in canyons 50 to 60 miles offshore, migrating toward shore in the summer. It was found in Europe that fluke (summer flounder) and similar fish exhibit avoidance characteristics and would not cross charged electromagnetic fields created by miles of buried cable that run from the turbines to the shore. With several hundred turbines installed along the coast of LBI, there is the additional danger of ocean vessels colliding with each other and with the turbine towers.

Comment Number: BOEM-2021-0057-0121-9

Commenter: Horatio (Ray) Nichols

Commenter Type: Individual

Comment Excerpt Text:

6. Re potential impacts to commercial (and recreational) fisheries: place the potential area of impact due to the construction of the proposed wind farms into the total area available for harvesting fish, taking into account both the mobility of the fish and the mobility of the fishing fleets. Consider both short-term and long term impacts. Also, take into account the over-fishing of various species that has occurred, history of attempts to regulate fishing limits, and changes to migrating fish populations due to ocean warming and climate change.

Comment Number: BOEM-2021-0057-0125-4

Organization: Garden State Seafood Association

Commenter: Scott Mackey

Commenter Type: Other

Comment Excerpt Text:

By nature of their reliance on the ocean for their way of life, fishermen must be good stewards of the environment. Any proposed opening of fishing grounds or increase in allowable catch requires years of intensive scientific study. This scientific work falls in part to the National Marine Fisheries Service and their annual trawl survey. This survey is the foundation for fish population estimates and the basis for quota allocation and stock assessment.

Comment Number: BOEM-2021-0057-0125-7

Organization: Garden State Seafood Association

Commenter: Scott Mackey

Commenter Type: Other

Comment Excerpt Text:

It is also nearly impossible for us to inform BOEM regarding this COP and the possible impacts on commercial fishermen when there are so many variables in possible foundation type. The true and full design of the projects must be provided so interested parties can provide true input. This request for our input on the NOI with so many unresolved design issues is unjust to the impacted and concerned entities.

Comment Number: BOEM-2021-0057-0127-1

Commenter: Nancy Solomon

Commenter Type: Individual

Comment Excerpt Text:

In reviewing the NHPA compliance documents prepared by the project team, I come to the conclusion that there needs to be an impact study for impacts to offshore fisherman, local bay men and local shellfish beds in New Jersey. One way to do this would be through a traditional NEPA or NHPA study using the criteria established by the traditional cultural properties assessment designed by the national park service and the national register. Intangible cultural resources are critical to our regional identity both in New York and New Jersey.

Comment Number: BOEM-2021-0057-0127-3

Commenter: Nancy Solomon

Commenter Type: Individual

Comment Excerpt Text:

After a thorough EIS survey is completed and should there be a positive declaration of an impact, we would ask that Shell New Energies and EDF Renewables North America establish a mitigation fund for the impacted fisherman, bay men and people in these coastal communities who have shared family traditions that date back well over 100 years. Thank you.

Comment Number: BOEM-2021-0057-0128-6

Commenter: Margaret Collins

Commenter Type: Individual

Comment Excerpt Text:

Now I want to talk about the economic disaster to the fishing industry which will be destroyed, absolutely destroyed by a move like this. The fisherman and the fishing families of the Long Beach Island have stood by Long Beach in good times and bad times for generations. They will be absolutely destroyed.

Comment Number: BOEM-2021-0057-0138-1

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

I represent the fishing industry that operates off of New Jersey and New York. We have been working or at least communicating with the developers of all of these wind farms over the last number of years and we are finding ourselves very frustrated in that we do not -- we give, make suggestions and we get no response except thank you for your comment.

The real problem that we have is we fish in the areas where they are going to build these wind farms. They are putting them extremely close together, one mile by point six miles which is so close that our

vessels cannot operate within the wind arrays for fear of damage and danger to our crews and to our vessels and so therefore, we are being excluded from the areas we traditionally fish and, you know, with no compensation whatsoever just too bad, you are -- you just have to find someplace else to catch your fish.

Comment Number: BOEM-2021-0057-0143-1

Commenter: Brian Williams

Commenter Type: Individual

Comment Excerpt Text:

I, myself, am looking forward to this project, it will create a lot of good fish habitat and hopefully some good fishing.

We definitely need the cleaner energy; we are already facing a 300-mile shift northward in various fish species as well as birds and I am even hearing that some plants that are making their way north now.

One of the important things though I think we need to make sure we will be able to fish them and be very transparent in the processes of everything and work with all the fisherman about this.

I also think with this project going in, I think that the people putting the project together should consider funding more for enforcement basically for the DEP and everybody else to better accommodate the influx of new visitors that will be coming to fish our region and also help fund some of the habitat restoration for different shellfish beds and grass beds and things like that.

Comment Number: BOEM-2021-0057-0144-1

Organization: Anglers for Offshore Wind Power

Commenter: Paul Eidman

Commenter Type: Non-Governmental Organization

Other Sections: 6

Comment Excerpt Text:

Whether they admit it or not, there isn't a fisherman out there, either commercial or recreational, that doesn't see the effects of climate change on the water every single day. Hell, we don't even have to go out to sea to know this, we can all see how bad the storms are getting, how bad the streets flood now with just the slightest bit of rain, and we all know something is wrong and we really need to slow this progression down quickly.

There is a big cost of doing nothing and continuing to burn natural gas and coal all contributes to the pollution and this is affecting our game fish navigation systems, spawning habits, shellfish, lobsters and even some forms of plankton.

The overwhelming majority of anglers that I know and meet with, all see the fishing potential of the wind farms. It's not only the structure in the water but they all see the ecosystem benefits. They truly believe that it is possible for wind farms to peacefully coexist with and even improve fishing along the coast provided project developers like Atlantic Shores abide by three clear principles.

First of all, we have to have access and we need it in writing, we must be able to bring out our boats right up close to the bases of the towers so we can access the newly formed habitat below.

Also, public input, just this like this meeting we need to continue, and we need to be engaged early in the planning process so we can provide input on siting, permitting and other access so we can avoid future conflicts.

And science, we hope that Atlantic Shores does science and fisheries research before, during and after the wind farm is constructed. This is essential for monitoring impacts to species of interest to all of us and let's make sure that all of this data is publicly available.

Offshore wind energy is a big part of protecting our planet from the impacts of climate change and ocean acidification. All fishermen need a clearly defined seat at the table to make sure this project is developed as responsibly as possible.

Comment Number: BOEM-2021-0057-0144-2
Organization: Anglers for Offshore Wind Power
Commenter: Paul Eidman
Commenter Type: Non-Governmental Organization
Other Sections: 19.2 15

Comment Excerpt Text:

Fisheries impacts from noise primarily pile driving are likely to be localized and temporary. Operational noise and vibration impacts are minimal, and we are hoping that developers like Atlantic Shores implement underwater noise mitigation measures during installation like bubble curtains and other devices to reduce noise levels for not only game fish but marine mammals as well.

Comment Number: BOEM-2021-0057-0144-3
Organization: Anglers for Offshore Wind Power
Commenter: Paul Eidman
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Given overall minimal temporary impacts and likely benefits from the reef effect, recreational vessels will see little to no detrimental effects and certainly some positive. Many anglers have requested that the turbine foundations not be removed at the end of the 25-year lease period, we'd like to see the same procedure that is used down in the Gulf of Mexico called rigs to reefs employed here. Also, we'd like the opportunity to add concrete reef balls and other man-made habitat fishing attracting devices at each foundation site. Thank you very much for allowing me to speak.

Comment Number: BOEM-2021-0057-0144-4
Organization: Anglers for Offshore Wind Power
Commenter: Paul Eidman
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Just a couple of points of some commonly used terms that I'd like to just straighten out. In addition, these

offshore wind turbine structures are likely to become fishing hot spots due to the artificial reef effect just as they have up at the Block Island wind farm in Rhode Island and down on the two turbines that were just built very recently at -- in Virginia as the term -- excuse me, by the Dominion Company.

Comment Number: BOEM-2021-0057-0147-3
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization
Other Sections: 10.3

Comment Excerpt Text:

We are concerned with the socioeconomic impacts on the inland coastal communities and particularly the impacts with the fishing communities and families as well.

Comment Number: BOEM-2021-0057-0156-5
Commenter: Sharon Quilter
Commenter Type: Individual

Comment Excerpt Text:

Now wind turbines themselves create a marine environment that attracts filter feeders, not just clams, oysters and that creates a whole marine lifecycle which attracts the fish that fisherman want, the commercial fisherman want to catch. One oyster filters 50 gallons of water every day. So, if you are attracting and growing millions of them, you are filtering the water at an astronomical rate.

Comment Number: BOEM-2021-0057-0157-1
Commenter: Rick Bushnell
Commenter Type: Individual
Other Sections: 17

Comment Excerpt Text:

But my comment today really is more about matching up things that are well minded, well intentioned people have put together in the solicitation that the power providers, wind power providers are responding to. My concern is with the complexity of all of these documents, I believe that we need kind of cliff's notes, if any of you remember that, of where -- how do we match up the items in the solicitation with the items that are covered in the documents and the responses to the solicitations.

So I believe that we need to have a point for point match up, especially in two areas, one is the environmental impact which in that solicitation is section 3.9, it's found on about page 20 and the fishery protection plan which is section 310 and that's found on page 22.

One of the things that's really important about that is that if we match up all those requirements with what is being presented, we have some level of assurance that things will go forward.

Most importantly is the last paragraph, at least for me and my commercial buddies, is the last paragraph section 3.10, it says they are to provide the application is to provide a plan for addressing lost or damage of fishing gear or vessels from interactions with offshore wind structures, arrays or export cables, survey

activities, concrete mattresses or other project related infrastructure and equipment, and there is also a paragraph about change in species availability.

So I want to make sure that those things are matched up

Comment Number: BOEM-2021-0057-0171-1

Commenter: Daniel LaVecchia

Commenter Type: Individual

Comment Excerpt Text:

Commercial fisherman witness first hand on the ocean on a daily basis how climate change is effecting the marine environment, the resources we harvest and how it will impact our future livelihoods and the fragile food supply of the USA.

Commercial fishermen are hard working individuals that function in a very dangerous occupation in order to provide millions of pounds of sustainable seafood daily to the general public. Speaking specifically for my company and the surf clam industry, we have been engaged in outreach meetings on offshore wind energy development held by BOEM, the east coast states and the wind energy companies themselves over the course of the last five years at least. These outreach meetings have always included the discussions on how the commercial fishing industry can continue to function in the future when offshore wind farms will likely be constructed.

The surf clam industry has consistently stated that the biggest threat to our continued existence the spacing requirements of turbines within a wind farm array. Our vessels cannot safely access a wind farm array and operate a mobile bottom tending dredge unless the wind turbine vertical structures are spaced a minimum of two nautical miles apart and transmission cables are buried at least two meters in depth. Wind turbines based only one nautical mile apart or even less than that has been proposed to date essentially create a fishery exclusion zone within which we cannot safely operate.

Two of most important surf clam harvesting areas along the entire east coast are sited within one of the Atlantic Shores offshore wind energy areas proposed for development. Our income from those two key clamming areas is well documented and our financial losses will be highly significant if we cannot continue our clamming fishery in those areas.

Comment Number: BOEM-2021-0057-0171-2

Commenter: Daniel LaVecchia

Commenter Type: Individual

Comment Excerpt Text:

To be clear, commercial fisherman don't want a buyout for lost access, they would rather have a continued access to their historical fishing grounds in order to make a living and supply food to the American people.

Unfortunately, in the event that an exclusion is created and we are denied safe access to clam, no one has discussed any financial compensation program, how it should be developed and how it should be administered. We feel that our losses will just be considered an incidental negative impact in the development of offshore wind.

Due to the probable loss of our historical clamming grounds, my company and the industry will have to rely and concentrate its effort on surf clam resource that exist in deeper and more northerly waters. Since many offshore wind facilities are being proposed for the entire east coast from Maine to North Carolina, the prospects for clamming are nil and other surf clamming grounds are also in peril. Our future operations as a viable New Jersey seafood company is in jeopardy, as well as those of many other natural seafood proteins.

We recommend that offshore wind energy development proceed in an organized fashion, first monitoring the marine resources and habitats as they currently exist and then researching how the construction of wind energy facilities cumulative impacts on the marine environment and resources might be mitigated.

While we do not necessarily see how thousands of wind turbines being planned for the east coast will reverse climate change to the extent that most subscribe to, we do not want to stand in its way. Our future coexistence with offshore wind energy must be guaranteed and the commercial fishing industry does not believe that it's recommendations are being considered in the process.

Comment Number: BOEM-2021-0057-0175-1

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

The fishing industry has been highly involved with the wind developers since this all was initially planned and proposed. We have met with every developer including the Atlantic Shores, and we have been paid a lot of lip service, but when shove comes to pass, we end up on the wrong end of the stick.

We are very concerned about their spacing of the turbines at one mile by point six miles because that is so close together that we will not be able to operate bottom tending mobile gear within the array.

We have proposed on hundreds of occasions to separate those wind turbines out two by two nautical miles apart. That was a guess when they were planning on using eight megawatt turbines. Today they are planning on using 15 megawatt turbines which is almost twice as much but -- and not spreading them out so they can then generate twice as much, almost twice as much revenue from the lease than they had originally planned and unfortunately at our expense.

So is this fair?

Comment Number: BOEM-2021-0057-0175-4

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

And we need to have a real discussion about how do they either spread out their turbines so that we can work or how are they going to compensate us for the loss of our revenue.

Comment Number: BOEM-2021-0057-0182-1

Commenter: Ron Meischker
Commenter Type: Individual
Other Sections: 10.2

Comment Excerpt Text:

I hear concerns out of fellow watermen about how it's going to impact or potentially impact commercial fishing. And I'd like to say that, you know, as a commercial waterman, we are some of the most resourceful people on the face of the planet. You know, fish are here today, or crabs are here today, or clam beds are full today, and then tomorrow they are not.

You know, after reading through the Block Island reports, didn't seem there was any impact at all whatsoever, but even in the worst-case scenario where a fisherman might have to move off of some grounds that he's used to fishing, you know, we can adapt and overcome that because the benefits are far too great to allow some personal fishing grounds to get in the way of progress, you know, we need this sustainable energy. We need this clean energy. New Jersey needs these jobs especially coming out of the Covid epidemic where so many jobs were lost.

These construction jobs are needed, the ongoing maintenance jobs are needed and this -- this project has nothing but positives. So, for my brothers and sisters who are out there in the commercial fishing industry, let's adapt and overcome but let's not go down the road of imaginary horrors thinking there is a problem when there really isn't any proof that there may be a problem.

Adapt to overcome and if you have to find new grounds, that's what we do every day, every week, every year when we are out there on the water. This should be no different and it will benefit all New Jerseyans, not just a select few.

Comment Number: BOEM-2021-0057-0198-1

Commenter: David Wallace
Commenter Type: Individual

Comment Excerpt Text:

We operate large vessels offshore with bottom tending mobile gear and we have suggested and demanded that the turbines be spaced at two-by-two miles apart so that we can operate within the array without danger to the turbines, the vessels, or the crews.

The developers have proposed one point six miles which is unacceptable as far as being able to fish within the array and these arrays are being built right on top of our fishing grounds. The State of New Jersey has said we have to coexist with the developers, the developers have not taken that very seriously, they pay us lip service.

A CEO of one of the developers, who is a European, said that their lease was their property and that we should go find other properties where we are in control of our own destiny, the problem is that they - their property is where we have been fishing for years and they are then saying we have no rights to fish there, and they are going to work hard to prevent us from doing that. And on top of that, they are unwilling to compensate the fishing industry for the loss of ground, loss of revenue and possibly loss of gear or gear damage, and so this is a one-way street that has been very difficult for us to deal with.

Comment Number: BOEM-2021-0057-0198-3

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

if nothing can be arranged with the developers to compensate the fishing industry, than this COP should be rejected and sent back for them to redo it.

Comment Number: BOEM-2021-0057-0199-1

Commenter: Daniel LaVecchia

Commenter Type: Individual

Comment Excerpt Text:

Commercial fishermen witness firsthand on the ocean on a daily basis how climate change is affecting the marine environment, the resources we harvest and how it will impact our future livelihood and the fragile food supply of the United States of America.

Commercial fishermen are hardworking individuals that function in a very dangerous occupation in order to provide millions of pounds of sustainable seafood daily to the general public.

Speaking specifically for my company who has been engaged in outreach meetings of offshore wind development held by BOEM, the east coast states and the wind energy companies themselves over the course of the last five years at least.

These outreach meetings have always included the discussions on how the commercial fishing industry can continue to function in the future when offshore wind farms will likely be constructed. Knowing that Atlantic Shores or any other agency has addressed the food supply issue.

After decades of clean air oceans, you almost know that millions of pounds of sustainable seafood including clams, scallops, squid, finfish are taken from the Atlantic Ocean from Maine to North Carolina on a daily basis. These healthy proteins which many of us enjoy for life and pleasure will be endangered once the windmills start installation and become a permanent fixture in our ocean floor.

We have heard for years how bad dredging is for the ocean. Since big ones started a few years ago, since big ones started a few years ago tearing up the ocean floor for thousands of miles has now become acceptable.

All this is being done with no long-term studies.

Comment Number: BOEM-2021-0057-0199-5

Commenter: Daniel LaVecchia

Commenter Type: Individual

Comment Excerpt Text:

To say that fishing can move, well, so can the windmills. We have asked them to move, to open up the spaces so we can fish, work and feed people. This is serious business and yet it is being ignored. We

recommend that offshore wind energy development proceed in an organized fashion, first monitoring the marine resources and habitats as they currently exist and then researching how the construction of wind energy facilities, cumulative impacts on the marine environment and resources might be mitigated.

No windmills should be planted in the ocean until a test model is done in our region. There are just too many unknowns.

Comment Number: BOEM-2021-0057-0200-3

Commenter: Greg Cudnik

Commenter Type: Individual

Comment Excerpt Text:

Pro wind groups such as Anglers for Offshore Wind boast of the reef effect and that arguably that could help the \$1.3 billion recreational fishing community, however, they look to catastrophic risk of larvae distribution, and cold pool disruption and negative sides of the reef effect, I have yet to see any sides of the topic of attracting New Jersey's prize game fish, the striped bass to a lease site essentially eliminating access, because striped bass are a federally protected species. That may go over the heads of most, but outside of three nautical miles, striped bass are protected, you are only allowed to target them in state waters.

Comment Number: BOEM-2021-0057-0216-1

Commenter: Paul Eidman

Commenter Type: Individual

Comment Excerpt Text:

The offshore wind turbines structures are likely to become fishing hot spots due to the artificial reef effect just like they have up north in the Block Island wind farm. The anglers that I meet with have concerns that vary wildlife to birds and turtles, the recreational angling community will benefit in many ways from offshore wind but want reassurance that the projects will be installed responsibly, and we will have guaranteed access the entire life of each turbine location.

Fisheries impacts from noise, primarily pile driving are likely to be localized and temporary operational noise and vibration impacts are minimal. Similarly geological and geophysical survey noise and impacts are not likely to rise to fishery level impacts and are also temporary and highly local.

Comment Number: BOEM-2021-0057-0216-5

Commenter: Paul Eidman

Commenter Type: Individual

Comment Excerpt Text:

Because of the reef effect referred to in BOEM's studies, it's highly likely that migrating, highly migratory species, think mahi mahi or tuna will be attracted to the turbine foundations. This was witnessed first-hand with mahi mahi present at Block Island wind farm when the turbines were placed, and Block Island more resembles the near shore fish species and habitat.

BOEM and the Atlantic Shores should consider guaranteed recreational fishing access outside of

construction and maintenance as a permanent condition. Many developers have assured anglers that this will in fact be the case, but a permitted condition will ensure it is guaranteed, this guarantee is essential to ensuring that recreational anglers can benefit from the reef effect of the turbine structures.

Many anglers have requested that the turbine foundations not be removed at the end of the 25-year lease period, in fact, anglers would like BOEM to adopt the same rigs to reefs procedure that is currently used in the Gulf of Mexico on the oil rigs. Towers are cut down to a navigable depth and the ecosystem that has taken 25 years to form at the base of these towers will be preserved and the location data will be distributed to the fishing community.

Many anglers have also suggested that programs be implemented to supplement the foundations by adding reef balls and other manmade habitat and other fish attracting devices at each foundation site.

Comment Number: BOEM-2021-0057-0231-3

Commenter: Peter Himchak

Commenter Type: Individual

Comment Excerpt Text:

And as far as surf clams, they need two nautical miles to -- it's a very hazardous towing operation and they got gear on the bottom and they need that spacing to operate safely.

Comment Number: BOEM-2021-0057-0234-13

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

Our offshore wind socioeconomic impacts page (available at: https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm_medium=email&utm_source=govdelivery) can help identify important commercial and recreational fisheries, while the status of many species can be found on our individual species pages (available at: <https://www.fisheries.noaa.gov/find-species>), and recent trends can be found on our Stock SMART page (available at: <https://www.st.nmfs.noaa.gov/stocksmart?app=homepage>). Information that can help characterize communities engaged in fishing activity can be found on our website describing social indicators for coastal communities (available at: <https://www.fisheries.noaa.gov/national/socioeconomics/social-indicators-coastal-communities>) and should be integrated into the EIS. Please note that our socioeconomic impacts reports represent historic fishing operations in the full lease area (0499) and not the Project areas described in the latest version of the COP. A more focused data request specific to the proposed Projects should be submitted to nmfs.gar.data.requests@noaa.gov to develop the "Affected Environment" section of the EIS.

Comment Number: BOEM-2021-0057-0234-22

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency
Other Sections: 20

Comment Excerpt 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. The EIS should consider the socio-economic impacts on fishing entities and communities that cannot easily 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 permits and associated regulations. 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-2021-0057-0234-28
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency

Comment Excerpt Text:

The EIS should also consider how any proposed wind farm may displace or alter fishing or existing vessel activity that may change the risk to protected species from interactions with fisheries or vessels either within or outside the lease area, including potential risks of interactions with recreational fishing activity around foundations and entanglement in marine debris that may become ensnared on the foundations.

Comment Number: BOEM-2021-0057-0234-36
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency
Other Sections: 12

Comment Excerpt Text:

our FWCA recommendations must be given full consideration by federal action agencies. Your consultation with us under the FWCA may occur concurrently with the EFH consultation under the MSA.

Under the FWCA, our authority extends to numerous other aquatic resources in the area of the proposed

projects, including, but not limited to, the following species and their habitats: 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.asafc.org>.

We anticipate all of these species will be included in your impact assessments, both in the EFH assessment and NEPA document. We also expect the assessment to include impacts to the recreational and commercial fishing communities that rely on these species. 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 Projects' impacts to organisms or populations associated with the various trophic levels and life history strategies exhibited by FWCA species known to occupy the Projects' 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 impacts of the Projects.

Comment Number: BOEM-2021-0057-0234-37

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

Species important to both commercial and recreational interests are found within the Projects' area and associated cable corridors. The COP adequately identifies most species and commercial and recreational fisheries that may be affected by the proposed operations, including private recreational vessel operations and those targeting highly migratory species. However, additional detail regarding menhaden landings and revenue should be included in the EIS. Our commercial and party/charter socioeconomic impact summary reports (available at https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm_medium=email&utm_source=govdelivery) provide an overview of the landings, revenues, gear types, and ports that would be affected by individual leases/projects, along with vessel dependency upon this area and species catch within such areas relative to total regional landings and revenue. However, our reports currently only evaluate the entire Atlantic Shores lease area (lease 0499) and not the Project areas identified in the COP. A data request, including updated shapefiles for the Project areas, should be submitted to nmfs.gar.data.requests@noaa.gov for us to provide you with updated information specific to the areas to be evaluated in the EIS.

Atlantic surfclams, Atlantic menhaden, and black sea bass are the primary species caught within the lease area that are managed directly or indirectly within federal waters. The surfclam fishery is by far the primary commercial fishery affected in terms of landing amounts and fishing revenue, recognizing that menhaden are periodically caught in larger volumes. Other managed species such as Atlantic sea scallops, longfin squid, and summer flounder are routinely caught within the lease area, but at lower volumes. According to our socioeconomic impact summaries, surfclam vessels landed an average of 1.7 million lbs. each year, earning an average of \$1.2 million from the lease area mainly based out of Atlantic City, NJ, with landings from the lease area representing nearly 10 percent of landings coast wide in 2008.

Between 1,300-2,700 commercial fishing trips are taken in the lease area each year by 142-360 individual vessels. Although a majority of commercial vessels derive a small portion of yearly fishing revenue from the lease area, several entities depend upon this area for over 20 percent of their yearly revenue, with a few entities dependent upon this area for over 50 percent most years and even over 60 percent in one year. Black sea bass was by far the most dominant species caught by party/charter vessels operating in the lease area, with up to 3,000 party/charter fishing trips earning up to \$288,000 in sales during certain years.

Some fishery operations are not fully captured in available VTR data and are underrepresented in our commercial socioeconomic impact summary report. For example, vessels targeting lobsters and Jonah crabs are only required to submit vessel trip reports (VTRs) if they are issued a Federal permit for another species (many are not). Further, because this report is based on modeled vessel trip report data of individual reported fishing locations, it addresses the inherent imprecision in available location data, but does not precisely represent individual fishery or fishing vessel impacts. Information on highly migratory species catch are only partially captured in VTRs available from the Greater Atlantic Regional Fisheries Office and are instead found in VTRs available from our Southeast Regional Office and the large pelagics survey (available at <https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads>). Such sources should be consulted when preparing the EIS. Private angler recreational catch data are not collected with sufficient area precision to determine the amount of catch inside a particular wind project area. Despite this limitation, the Projects' area is likely to affect important regional recreational fisheries, and a discussion of private angler catch should be included in the EIS comparable to a similar discussion already included in the COP. As noted in the COP, fishing tournaments, particularly for highly migratory species such as tunas and marlin, are an important component of the fishery that may be affected by these projects and should be discussed in the EIS. BOEM should use information from all available and appropriate sources to characterize fishing operations and evaluate the potential impacts of the proposed projects 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 2 years, is necessary to reflect both recent operations and annual fluctuations in fishing operations due to changing environmental conditions, market price, and management measures. As such, the COP and future EIS should include the most recent information available and reflect the past 10 years of fishing, not the 5-year period assessed in the COP. In evaluating the use of existing data sources, please refer to the list of data limitations provided in our January 2021 fisheries socioeconomic information needs checklist. Despite the acknowledged limitations, we rely on VTRs as the best available source of area-based data for all federally-managed commercial and party/charter fisheries. Both vessel monitoring system (VMS) and automatic identification system (AIS) data provide higher resolution spatial data, but such sources are not adequate to provide information on all commercial fisheries or fishing vessels. When using these data to analyze the impacts of the proposed projects, 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 analyses to avoid mischaracterizing fishing operations and potential impacts associated with the proposed projects.

A quantitative analysis of the potential biological, social, and economic costs of the Projects 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 these projects. 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 Projects. 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, although the proposed WTG layout and orientation seems

consistent with operational patterns documented by VMS data. Opportunity costs such as revenue lost by fishing effort that is displaced into less productive areas, including vessels displaced out of the Projects' area and those already fishing in an area into which displaced vessels move, and the potential for poor recruitment resulting from construction activities should be assessed. 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 <https://media.fisheries.noaa.gov/dam-migration/01-111-02.pdf> and Practitioner's Handbook https://spo.nmfs.noaa.gov/sites/default/files/TM212_0.pdf). 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. Consistent with our comments on other projects, we recommend BOEM avoid/minimize impacts to fishery resources and existing and anticipated future fishing operations from these projects, particularly the commercial surfclam fishery - the primary commercial fishery within the lease area. As noted above, these projects could convert soft bottom to artificial hard bottom, affecting the habitats used by certain species, while construction activities could negatively impact adult fish/invertebrates and bury or harm eggs and larvae. Specifically, construction and operational activities produce noise, sedimentation, and vibration which can increase stress and reduce feeding behavior. This may result in adverse impacts to bivalve species, such as surfclams, if subject to these factors for prolonged periods of time or during the spawning season. As noted in the COP, WTGs may attract structure-oriented species such as black sea bass, indicating that the Projects also have the potential to alter predator/prey relationships and sources of natural mortality, while attracting recreational fishing effort and increasing potential commercial/recreational fishing conflicts. These effects could have short- and potentially long-term impacts to vulnerable resources and potential consequences to fisheries and associated fishing communities that target them.

Comment Number: BOEM-2021-0057-0234-41

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt Text:

Although some information contained in the COP provides a good overall discussion of commercial and recreational (party/charter and private angler) fisheries affected, the EIS should more comprehensively assess historic and recent 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 (., shoreside support services such as dealers, processors, distributors, suppliers, etc.); and coastal communities dependent on fishing. Specifically, the COP only evaluates five years of data through 2018 and does not include the most recent data available. As noted further below, the EIS should consider a longer time series (at least 10 years) to more accurately capture annual variability in fishery operations and evaluate potential future impacts.

Comment Number: BOEM-2021-0057-0239-1

Organization: LaMonica Fine Foods

Commenter: Daniel LaVecchia

Commenter Type: Other

Comment Excerpt Text:

This extravagant development of offshore wind energy in a lease site that includes two of the most productive surfclam fishing grounds in the Mid-Atlantic will cripple the surfclam industry and the port of Atlantic City, NJ where most of these surfclams are landed. LFF strongly supports a no action alternative at this time until the many fishery impacts and scientific uncertainties that will result for this offshore wind energy project are explored, analyzed, and quantified.

LFF is not opposed to the offshore development of renewable energy through the construction and operations of wind energy facilities. Commercial fishermen witness, first-hand, on the ocean, every day, how climate change is affecting the marine environment, the resources they harvest, and how it will impact their future livelihoods and the fragile food supply of the USA. Commercial fishermen are hard-working individuals that function in a very dangerous occupation in order to provide millions of pounds of sustainable seafood, daily, to the general public.

Speaking specifically for LFF, we have been engaged in Outreach Meetings on offshore wind energy development, held by BOEM, the East Coast States, and the wind energy companies themselves over the course of the last 5 years, at least. These outreach meetings have always included the discussions on how the commercial fishing industry must continue to function in the future when offshore wind farms would likely be constructed. No one at BOEM, Atlantic Shores or any other agency has addressed the food supply issue.

After decades of understanding our oceans, BOEM and the offshore wind energy companies must know that millions of pounds of sustainable seafood, including clams, scallops, squid, and finfish are taken from the Atlantic Ocean from Maine to North Carolina every day. These healthy proteins, which many of us enjoy for life and pleasure, will be in danger once the wind energy companies start installation of all their thousands of turbines that will become a permanent fixture in our ocean floor. Commercial fishermen have heard for years how dredging is bad for the ocean bottom habitat. Now, tearing up the ocean floor for many thousands of miles is becoming acceptable under offshore wind energy Construction and Operations Plans (COP). All this is being done with no long-term environmental studies.

Comment Number: BOEM-2021-0057-0239-5

Organization: LaMonica Fine Foods

Commenter: Daniel LaVecchia

Commenter Type: Other

Other Sections: 20

Comment Excerpt Text:

LFF personnel serve as a commercial fishery Board member to the Responsible Offshore Science Alliance, called ROSA, and from what has been observed, to date, through the ROSA Board and its Advisory Council activities is that the COPS are running too far ahead of the science.

The desire for the rapid development of offshore wind energy must evaluate the risks to the marine environment and commercial fisheries and slow down immediately. The law of unintended consequences may well rear its ugly head on many fronts. For example, I have heard that the many thousands of hard structured scour pads, one placed around each wind turbine, will create essentially habitats that will attract many species of structure oriented fish and create wonderful new fishing opportunities for species such as black sea bass and tautog.

Comment Number: BOEM-2021-0057-0240-12

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

During construction of bases and cabling, suspended sediment will impact local fisheries. The construction process will take many years to complete.

A.3.9 Cultural, Historical, and Archaeological Resources

Comment Number: BOEM-2021-0057-0127-2

Commenter: Nancy Solomon

Commenter Type: Individual

Comment Excerpt Text:

The current evaluation documents prepared for historic resource do not include any analysis of these intangible cultural resources. We all know that this region is rich in maritime heritage and occupational traditions.

Comment Number: BOEM-2021-0057-0230-1

Organization: Cape May County, New Jersey

Commenter:

Commenter Type: Local Agency

Comment Excerpt Text:

During this phase of the Project, in addition to assessing all impacts to the natural environment, it is critically important that BOEM fully assess and consider impacts upon all cultural and historic resources that may be impacted, whether directly or indirectly. The COP, as drafted, falls short of the NHPA's mandates that require consideration of all adverse effects.

The County concurs in the COP's assessment that Cape May County falls within the Area of Potential Effect for identifying and assessing adverse effects to historic properties for purposes of NEPA and NHPA review and that their integrity will be adversely affected.

However, the County requests that the DEIS include a full assessment of effects on all properties within the County listed or eligible for listing in the National Register of Historic Places that are likely to experience adverse visual effects so that the County's residents can understand the nature and extent of those effects. At present, it is impossible for the County to comment fully on adverse effects without access to this information. Therefore, we ask that BOEM require revisions to the COP on all aspects of visual impacts to historic properties so that meaningful consultation with BOEM can occur as required by federal law.

Comment Number: BOEM-2021-0057-0230-2

Organization: Cape May County, New Jersey

Commenter:

Commenter Type: Local Agency

Comment Excerpt Text:

The COP’s Visual Impact Assessment is too limited in scope and does not provide enough information for consulting parties to adequately assess potential impacts. Atlantic Shores two projects are expected to have up to 200 total wind turbines, supporting tower structures, up to ten offshore substations, one meteorological tower, as well as associated support and access structures. All of this proposed construction is expected to cause significant adverse effects to historic properties within the Project Area and Area of Potential Effect. Although the information provided in the COP is helpful in determining what area may be affected, we are unable to understand the full extent of visual impacts to all of Cape May County’s historic properties. Visual assessments that are this limited in nature are not only unreasonable, but also arbitrary, capricious, and contrary to federal law.

The current visual assessment is inadequate to show the actual impact of the wind turbines and associated infrastructure and must be amended 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, as well as all properties listed or eligible for listing in the National Register, and any National Historic Landmarks. In addition, vantage points for revised simulations should include additional points in Cape May County, including Cape May Historic District—a National Historic Landmark—which has provided countless people with a place for solitude, access to nature, and an uninterrupted seascape for centuries. Atlantic Shores will irreparably alter this setting, as well as for all historic properties along Cape May’s coastline.

Furthermore, the COP does not discuss how Atlantic Shores will adequately address potential lighting impacts, other than noting that Aircraft Detection Lighting Systems “may” be deployed. The County is especially concerned about lighting impacts to the dark night sky both during and after construction, and urges BOEM to take a hard look at these impacts and mandate ADLS. In addition, BOEM should also consider visual impacts of lighting at each proposed turbine’s base.

It is uncontroverted that Atlantic Shores’ 200 wind turbine generators will have a significant impact on the viewshed and, consequently, the historic maritime setting of Cape May County. Under NEPA, 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).] BOEM must carefully consider the impacts on the County’s unique character, which qualifies as a “resource” under NEPA’s definition. Spoliation of the County’s historic landscape may lower property values or tourism revenue. Negative impacts on the County—as well as other New Jersey communities—may be quite significant and these potential adverse effects must be carefully considered.

Due to the high potential for Atlantic Shores to adversely impact cultural sites, historic properties, the viewshed, property values, and tourism, BOEM should conduct additional visual assessments, and provide consulting parties and the public with adequate and easily accessible information that informs all parties of potential impacts.

Comment Number: BOEM-2021-0057-0232-2
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

NPS has program responsibilities for National Historic Landmarks (NHLs) under the National Historic

Preservation Act (NHPA), and historic lighthouses under the National Historic Lighthouse Preservation Act (NHLPA) in or near the project Area of Potential Effect (APE) identified pursuant to the NHPA, including, but not limited to Atlantic City Convention Hall, NHL and Lucy the Elephant, NHL, and three National Register listed lighthouses: Barnegat Lighthouse, Absecon Lighthouse, and Hereford Inlet Lighthouse. NPS has provided information below, which may be useful to incorporate into your baseline environmental information. We look forward to future discussions as more information is developed and shared with the cooperating and participating agencies through the NEPA process and the consulting parties through the Section 106 process. We will review and offer additional comments as appropriate.

We have an initial request we hope you will consider while the draft and final Environmental Impact Statements (EISs) are prepared that would aid NPS in our role and the public overall in reviewing and commenting on materials for the projects. NHLs, historic lighthouses under NHLPA, as well as historic properties eligible and listed on the National Register of Historic Places should be identified on all the project maps that show the study area.

Comment Number: BOEM-2021-0057-0232-3
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

National Historic Landmarks are historic properties that illustrate the heritage of the United States. The NPS has specific responsibilities with regards to administration of the NHL Program. The over 2,600 NHLs found in the U.S. today come in many forms: historic buildings, sites, structures, objects, and districts. Each NHL represents an outstanding aspect of American history and culture. Of note, federal funding or licensing of activities that affect historic properties are regulated principally by Section 106 and Section 110(f) of the NHPA. Other federal effects are listed in 36 CFR § 65.2. 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 State Historic Preservation Officer (SHPO) and the ACHP leading, in most instances, to agreement on how the undertaking will proceed. 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-2021-0057-0232-5
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

Coastal NHLs, NHLPA historic lighthouses, and National Register listed and eligible properties can be adversely affected by the presence of wind turbine generators (WTGs) and the associated infrastructure

contained in a wind farm project. NPS appreciates BOEM's efforts to analyze and disclose impacts and effects to historic properties, including the evaluation of impacts on both the physical elements and features that make up a landscape or seascape as well as the aesthetic and experiential aspects of the seascape or landscape that make it distinctive as viewed from the key observation points (KOPs).

Comment Number: BOEM-2021-0057-0232-8
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

Night skies can also be an important resource for NHLs, NHLPA historic lighthouses, and National Register listed and eligible properties, affecting aspects such as cultural properties, the historic setting, and the visitor experience and enjoyment. NPS encourages BOEM to assess the potential effects of the undertaking on NHLs and other National Register listed and eligible properties and resolve any adverse effects when possible through avoidance, minimization, and mitigation measures. In the case of the Atlantic Shores Wind Projects, NPS encourages measures to protect the night sky.

Comment Number: BOEM-2021-0057-0233-3
Organization: Department of the Army
Commenter: Todd Hoernemann
Commenter Type: Federal Agency

Comment Excerpt Text:

Collective federal responsibilities under Section 106 of the National Historic Preservation Act and related statutes should accommodate requirements specified at 36 CFR 800. NAP's cultural resource specialist is available to work with the Bureau of Ocean Energy Managements designated official to accomplish this.

Comment Number: BOEM-2021-0057-0236-4
Organization: State of New Jersey Office of Permitting and Project Navigation
Commenter: Megan Brunatti
Commenter Type: State Agency

Comment Excerpt Text:

BOEM has chosen to utilize the National Environmental Policy Act (NEPA) substitution process to fulfill its obligations under the National Historic Preservation Act (NHPA), in accordance with 36 CFR 800.8. The NJDEP and the New Jersey Historic Preservation Office look forward to further consultation with BOEM regarding the identification, evaluation, and treatment of historic properties in accordance with the coordination of the NEPA provisions of Section 106 of the NHPA, as amended.

A.3.10 Demographics, Employment, and Economics

Comments associated with this issue appear in the sub-issues below.

A.3.10.1. Recreation and Tourism

Comment Number: BOEM-2021-0057-0009-12

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

Visual impacts will forever change the unobstructed views from the beach, changing the character of Jersey Shore communities from tourist based pristine areas to industrial energy facilities. A loss of associated tourism will mean a loss of Mom and Pop businesses that support the tourist industry- restaurants, bars, gyms, beauty salons, recreational fishing, hotels, motels, everything that is here now. Why are we putting at risk the multibillion dollar Jersey Shore tourist industry, commercial and recreational fishing, migrating birds, fish and mammals, and the character, well being and soul of our communities? In the end, we may lose more tourist based local jobs than President Biden and Governor Murphy claim will be generated by the development of offshore wind. Property values will also be at risk.

Comment Number: BOEM-2021-0057-0017-2

Commenter: Nicholas Palmisano

Commenter Type: Individual

Other Sections: 24

Comment Excerpt Text:

As for the tourism aspect, I feel that for a project that aims to protect nature, it sure disrupts nature quite a bit. People travel to the shore to enjoy the views and simplicity of looking out over an ocean horizon. In my opinion, looking at a wind farm or oil rigs will have the same effect; humans ruining the natural landscape in the name of progress. I travel to the mountains of Vermont frequently, and what used to be a pristine and natural view from mountain tops is now permanently marred by the hubris of humans believing that we are somehow improving our natural world by building 300 foot tall turbines across mountain tops, with all of the tree destruction and access roads that need to be created to build these structures.

Comment Number: BOEM-2021-0057-0026-1

Commenter: Robert Van Norman

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

I would like to state as a jersey shore resident all my life I am completely against this wind project. The NJ shoreline should be protected not overbuilt with unproven technology that will only increase the expense for all taxpayers and electric users. The wind turbines are a bad idea and very costly. They will affect the sea life in the area, the birds, increase pollution since oil is used as a lubricant, as well as hurt the shore towns with tourism. At the end of the day no one wants to look at something hideous when there is a wonderful ocean in front of them. The jersey shore should be kept natural and alternative means should be looked at for green energy. This is an unfair burden to our shore towns and tourism / tax dollars will suffer.

Comment Number: BOEM-2021-0057-0027-1

Commenter: Kevin Kernan

Commenter Type: Individual

Comment Excerpt Text:

Sun and moonrises are a big part of the charm here on LBI. This would destroy this activity for residents and vacationers considering a vacation on LBI. Several surveys along the Eastern Seaboard indicate vacationers who do not like the site of wind turbines will go elsewhere crushing property values, causing property foreclosures and bankrupting businesses that rely on tourism.

Comment Number: BOEM-2021-0057-0030-1

Commenter: Liza Wolf

Commenter Type: Individual

Comment Excerpt Text:

This project is completely unreasonable and should be withdrawn for many environmental and economic reasons. For example, Starting at just 9 miles offshore with turbines three football fields high, the wind complex will create the closest, most visible modern turbine wind complex on earth, with severe impacts on tourism, vacation rentals and property values.

Comment Number: BOEM-2021-0057-0045-3

Commenter: Lynn Petrulio

Commenter Type: Individual

Comment Excerpt Text:

Ocean city is a beautiful, tourist town that will suffer greater if these ugly turbines are allowed to ruin our coastone

Comment Number: BOEM-2021-0057-0047-3

Organization: Beach Haven Taxpayers Association

Commenter: John Hailperin

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

U.S. communities have limited experience in evaluating impacts on tourism or real estate values, as no other offshore wind project in the United States is being faced with this combination of turbine size and proximity to shore. A 2020 BOEM-funded University of Delaware study surveying tourists found the distance wind turbines are from the beach has an “indifferent” impact on how they feel about them for 67% of those surveyed. For those surveyed, 15 miles out was the “breakeven” point. There is no current scientific peer review study that would definitively conclude there would be a negative financial impact of tourism in New Jersey especially since BOEM will be implementing offshore wind projects up and down the east coast.

A 2017 study by economists at North Carolina State University offers results of 484 people who had recently rented homes. However, while the study was not a scientific peer review study and was based upon opinions of those studied, it concluded turbines 12 miles or further from shore would not impact this

group's rental decisions. BHTA found no current scientific peer review study concluding definitively that offshore wind results in a reduction in property values and tourism. This is an area of further study by BOEM based upon the science. Given the minimal visual impact as evidenced by studies and simulations in the COP, BHTA believes this is not a major concern. BOEM orally found said studies credible and accurate.

Comment Number: BOEM-2021-0057-0050-3
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

(4) scar the prized Jersey shore by creating the closest, most visible modern turbine wind complex in the world, significantly reducing tourism, rentals and local employment, and

Comment Number: BOEM-2021-0057-0050-49
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Tourism and Rental Impact:

. Based on the Global Insight Study^(V1) an expected loss of several hundred million dollars in annual revenue to LBI is predicted.

- Based on a University of Delaware Study^(V2) sponsored by BOEM
- Using study results for smaller, closer turbines comparable to larger LBI turbines at 10 miles
- 44% of those surveyed saying they would have a worse shore experience, and
- 19% would not visit that shore again
- Based on a North Carolina State University Study^(V3)
- Again, using turbine sizes and distances visually comparable to the LBI project,
- 54% of prior oceanfront and ocean view renters would not return even with a rent discount

Property Values: Significant impact based on Global Insight Study^(V1)

- Global Insight conducted a study of 584 ocean view homes in Ocean County, NJ
- It estimated property loss under two economic assumptions
- By dividing the results by the 584 properties surveyed (Figs 5.3 and 5.4), using smaller turbines at 4.5 miles as visually comparable, it found,
- Significant losses in property value for ocean view properties, which has major implications for all other property owners on LBI.

The EIS should present the results of these prior survey studies using that same approach, i.e., the data points in them for the smaller turbines and closer distances that are visually comparable to what will be seen off of LBI.

In addition, since the visible impact of these turbines on LBI residents, renters and those who frequent the island is a critical impact issue it should be addressed in the EIS with a more current, independent analysis by the BOEM.

The BOEM cannot simply cite conflicting conclusions of prior studies which may have no strength or even relevance to the current proposal. It should engage an independent contractor to do a survey of residents, renters and visitors to the island, show them representative visual renditions of the turbines proposed here, assess their reactions, and then based on that predict the impact on rentals, tourism visits and revenues, property values and tax revenues. That study should also include the impact of night aviation warning lights.

Considering conflicts of interest and past misleading representations, it cannot rely on the applicant to do an objective analysis here, see also the discussion under visible turbine renditions (I.10).

Comment Number: BOEM-2021-0057-0050-72
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS should also estimate the economic costs to the local communities such as the impacts on tourism, rentals, and property values (as noted above in section I.8 Visual Turbine Impact) and to the commercial and recreational fisheries.

Comment Number: BOEM-2021-0057-0066-2
Commenter: Peter Hartney
Commenter Type: Individual

Comment Excerpt Text:

In addition to the negative visual impact caused by the windfarms Atlantic Shores proposal fails to address the negative economic impact the proposal will have on the Borough of Surf City and Long Beach Island where the major economic engine for the region is tourism. Studies suggest (<https://cenrep.ncsu.edu/2016/04/03/offshore-wind-tourism/>) that the presence of windfarms will impact the regions economy negatively with a conservative estimate of at least an 18% to 20% loss in revenue directly associated with a reduction in tourism due to the close proximity of offshore windfarms. This economic impact does not take into consideration of the loss of property value as a result of the proposed windfarms location - an impact yet to be studied.

Comment Number: BOEM-2021-0057-0068-3
Commenter: Nancy Pino
Commenter Type: Individual

Comment Excerpt Text:

They will also impact our fishing tourism. THIS IS A BIG MISTAKE.

Comment Number: BOEM-2021-0057-0070-1
Commenter: Timothy Feeney
Commenter Type: Individual
Other Sections: 24

Comment Excerpt Text:

I was stunned after reading the COP for this project. Originally the public was led to believe the location of the wind farm would be no closer than 9.5 miles to the coast and the turbines would be no higher than 850 feet. The details in the COP reveal that the turbines could be as close as 8.7 miles and as high as 1,043 feet. This will create a harsh visual impact to one of the most popular tourist destinations on the east coast, one that is critical to the economic health of the state. The simulated renderings within the COP were shocking. Studies done at the Universities of Delaware and North Carolina have shown negative impacts on local tourist economies because of visible wind farms

Comment Number: BOEM-2021-0057-0071-1
Organization: Vacation Rentals Jersey Shore, LLC
Commenter: Duane Watlington
Commenter Type: Other

Comment Excerpt Text:

I am writing you this letter to be included as part of the request for public comments for the notice of intent (NOI) for the Atlantic Shores Offshore Wind Projects. We provide these comments in the hope that the Bureau of Ocean Energy Management (BOEM) will change course with regard to these ill-conceived projects and the inadequate economic review accompanying them. We therefore [bold: strongly oppose the project as currently proposed as the visual pollution of the turbines will have a negative effect on shore rentals.]

VRJS is a local, NJ based company that advertises and markets over 1800 vacation rentals along the Jersey Shore from Long Beach Island to Wildwood. Over the last 4 years we have helped arrange over 100,000 "stays" for the owners who advertise with us.

The Atlantic Shores Offshore Wind Projects, as currently proposed, with the wind turbines visible from shore, [bold: WILL have a negative impact on tourism.] Not only is it common sense, but there are a number of studies and surveys of persons shown images of turbines, including several sponsored by the BOEM, that have concluded significant reductions in rental and tourism revenues, and property values will occur from visible turbines. I bring you attention to the following studies:

New Jersey Global Insight Report, 2008 North Carolina State University Study, 2017 BOEM/University of Delaware Study, 2018 BOEM Viewshed Analysis. 2015 New York State Turbine Exclusion Distance, 2018

Of these studies mentioned above, the North Carolina study found that 55 percent of those surveyed [bold: would not re-rent that property if turbines were visible] regardless of the degree of visibility or any rental discount offered. It also found that the negative reaction to wind turbines was primarily due to the offshore distance as opposed to the number of turbines. So even just a few visible turbines WILL have a negative effect on tourism.

What does this equate to? New Jersey visitor spending in 2019 was 46.4 Billion, which contributed over 5 Billion in taxes to the State of NJ and 540,500 jobs making it the 6th largest employer in the state (Source: NJ Economic impact of Tourism in NJ 2019) with lodging being the #1 revenue sector.

Breaking out the 4 shore counties from the above figures, the Jersey Shore contributes 22.3 Billion to the overall tourism economy or about half. If the North Carolina study is correct, that 55% of shore

vacationers would not return, that would equal a 12.3 Billion dollar ANNUAL loss in tourism revenue and a 1.4 Billion dollar loss of annual tax revenue for the state of New Jersey! We cannot afford or accept this!

Comment Number: BOEM-2021-0057-0128-7
Commenter: Margaret Collins
Commenter Type: Individual

Comment Excerpt Text:

Tourism will become decimated; polls were taken and tourists by a massive percentage said they would not come into a community where they had to experience these eyesores. Homes would be subjected to constant noise and light pollution.

Comment Number: BOEM-2021-0057-0160-3
Commenter: Pat Miller
Commenter Type: Individual

Comment Excerpt Text:

Besides there is the example of Block Island, Rhode Island where their offshore wind farm is actually a tourist attraction, tourists flock there to see the turbines up coast via boat tour.

Comment Number: BOEM-2021-0057-0185-2
Commenter: Anthony Capelli
Commenter Type: Individual

Comment Excerpt Text:

I am also an avid fisherman and surfer, so, you know, the clean energy moving forward is a big deal.

Comment Number: BOEM-2021-0057-0195-4
Organization: New Jersey Work Environment Council
Commenter: Debra Coyle
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

also in Block Island, wind turbines are the tourist attraction. I have heard tonight that this could potentially impact tourism and just want to point out if you look at the economic studies, it's actually increased tourism,

Comment Number: BOEM-2021-0057-0208-2
Commenter: Joy Hudecz
Commenter Type: Individual

Comment Excerpt Text:

I think the people who are worried about tourism should worry about the fact that you can't drive from one end of Long Beach Island to the other during high tide on any given day. This -- this was never true until the last few years.

Comment Number: BOEM-2021-0057-0227-2

Organization: Offshore Power LLC

Commenter: William O'Hearn

Commenter Type: Other

Other Sections: 24

Comment Excerpt Text:

Now, number two, regarding the view shed issue, I actually have some good news, my extended family of 45 or so relatives has been holding our annual family reunion on Long Beach Island for 40 years and a few distant smudges on the horizon will not stop us from our weekly rentals in North Beach, Harvey Cedars, Love Ladies and Barnegat Light for many many years to come. I believe many renters feel the same way. In fact, my aunts, uncles, cousins and their kids will be the first ones to sign up for any tours of the Atlantic Shores wind farm that may be available once the turbines are up and running. Just as people are doing for the five turbines installed off of Block Island, Rhode Island and some of us will be eager to jump on any recreational fishing charters headed out to the artificial reefs formed by offshore wind foundations that will be offered on the docks of Barnegat Light and fish for black sea bass, fluke and any other game fish that may be attracted to the turbines.

Comment Number: BOEM-2021-0057-0241-2

Commenter: George Thayer

Commenter Type: Individual

Comment Excerpt Text:

The turbines are only to be located 9 miles off the coast. This will mean NJ has the "distinction" of having the closest, most visible wind turbines in existence, a distinction we do not want as it will severely impact our tourism, rentals and property values. At a bare minimum, these turbines should be move out to at least 12 miles.

A.3.10.2. Employment and Job Creation

Comment Number: BOEM-2021-0057-0009-11

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

In regard to the jobs that are reported to be produced by offshore wind, consider the following. Recognize that manufacture of the wind turbines is done overseas, not in the U.S. Support facilities will be required in the U.S., but mainly for the construction period only, not long term operations. Further long-term operations and maintenance will be highly automated in the future to reduce costs, thereby limiting the number of long term jobs and need for support facilities. One day in the not too distant future you will see

a robot climbing and maintaining that offshore tower and turbine.

Comment Number: BOEM-2021-0057-0020-2

Commenter: Tamar Kieval Brill

Commenter Type: Individual

Comment Excerpt Text:

From an economic perspective, the project is expected to create about 1,000 construction jobs per year during the construction phase and about 69 full-time jobs at its operation and maintenance hub in Atlantic City for the 25-35 years lifespan of the project. The project will also require a network of domestic suppliers and specialized marine transport vessels, and in some cases, an overhaul to the current ports and onshore facilities. Beyond construction and maintenance, there can be more jobs in ports and manufacturing. The project developer, rsted, has committed to spending \$695 million in New Jersey for port development, job training, supply chain, and other infrastructure needed to build this project.

This project can also make significant addition to NJ residents health. According to the National Institute of Health, the medical cost and lost job productivity resulting from asthma alone costs New Jersey \$450 million annually.

Comment Number: BOEM-2021-0057-0022-1

Commenter: Thomas Cole

Commenter Type: Individual

Comment Excerpt Text:

I am submitting this comment of support for Atlantic Shores Offshore Wind Construction Operations Plan as I believe in the opportunities this project will give New Jersey residents primarily the opportunities that will be provided to veterans.

As a labor leader, I support of Volume I, Project Information, Section 2.0 BENEFITS OF THE PROJECT (page 71-76). Not only am I a labor leader, but I am also a veteran of the United States Airforce. The Eastern Millwright Regional Council participates in a program called the UBC MVP (Military Veteran Program). This program is a free 8-week training program specially designed to take military experience matched with innovative millwrights and carpenters training for a rewarding career with exceptional pay and benefits. We also participate in the Helmets2Hardhats program which connects transitioning active-duty military service members, veterans, National Guard and Reservists with skilled training and quality career opportunities in the construction industry. As you can see, recruitment of veterans is extremely important to our Council and we see an opportunity for veterans in the Atlantic Shores offshore Wind project as well. Atlantic Shores has developed an MOU with Helmets2Hardhats to provide opportunities for employment, education, and training to veterans. This agreement shows Atlantic Shores commitment to provide Veterans with a living wage and great benefits the chance that all veterans rightfully deserve.

To summarize, I believe Atlantic Shores Offshore Wind should be approved to fully develop their lease area as outlines in their COP. The opportunities they will be giving to veterans us invaluable and should not be overlooked by the Bureau or state of New Jersey.

Comment Number: BOEM-2021-0057-0031-6

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

There are also objections that few jobs and fewer permanent jobs will result from the project and that off-shore wind, in contrast to land-based wind, offers only expensive power due to high maintenance costs that outstrip the benefits of steady ocean wind.

Comment Number: BOEM-2021-0057-0033-2

Commenter: Brenna Fallows

Commenter Type: Individual

Comment Excerpt Text:

The economic impact of the shore community businesses, already devastated by COVID, will be far too great.

Comment Number: BOEM-2021-0057-0047-5

Organization: Beach Haven Taxpayers Association

Commenter: John Hailperin

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The New Jersey Board of Public Utilities has stated the Proposed Action guarantees an annual average of 88 full time equivalent operations jobs over 20 years. The COP goes further by stating that the Proposed Action will create more than 22,290 full time equivalent (FTE) jobs throughout their lifecycle including the development and construction period and operations and maintenance, and decommissioning. Job creation benefits all taxpayers by keeping the dollars in the local community, supporting local businesses, and contributing to our nonprofit charitable organizations

Comment Number: BOEM-2021-0057-0050-69

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

There has also been considerable misinformation provided regarding project benefits that should be clarified. For example, thousands of jobs created have been claimed without pointing out that many are short-lived. There has been no assessment of jobs lost because of higher electric rates, which according to one study by the Beacon Hill Institute ^{CB1} would outweigh the jobs created (Exhibit I).

The NOI speaks to substantial job gains from the project. But the New Jersey BPU projects only 289 full time equivalent jobs created if contracts are selected on a least-cost basis, up to 859 full-time jobs created if selected otherwise ^{CB2}. All this should be analyzed and clarified in the EIS, including the jobs created overseas and out-of-state for perspective.

Comment Number: BOEM-2021-0057-0053-1
Organization: Carpenter Contractor Trust
Commenter: Cyndie Williams
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

As a labor leader I support Volume I, Project Information, Section 2.0 BENEFITS OF THE PROJECT (page 71-76). Atlantic Shores partners will be a meaningful contributor to the region's economy by creating thousands of well-paying jobs in the growing renewable energy sector.

Comment Number: BOEM-2021-0057-0067-1
Commenter: Mark Hale
Commenter Type: Individual

Comment Excerpt Text:

Today I am writing to submit my letter of support for Atlantic Shores Offshore Wind Construction Operations Plan as I support the jobs this project will create, both indirect and direct. As a labor member, I support of Volume I, Project Information, Section 2.0 BENEFITS OF THE PROJECT (page 71-76). Atlantic Shores Projects are expected to create more than 11,810 indirect full time equivalent jobs and over 14,820 induced full time equivalent jobs, for a total of more than 48,920 direct, indirect, and induced full time equivalent jobs. The importance of job creation can not be overlooked, especially during a time of great uncertainty like we are experiencing now. The more jobs available to the hard-working residents of New Jersey and the United States, the bigger boost our economy sees so that we can continue to thrive in the face of unprecedented times.

I believe Atlantic Shores Offshore Wind should be approved to fully develop their lease area as outlines in their COP. Their dedication to job creation and bolstering the economy will help New Jersey lead the way in the urgent need to build a sustainable energy future for our nation.

Comment Number: BOEM-2021-0057-0077-1
Organization: Siemens Gamesa Renewable Energy
Commenter: Steve Dayney
Commenter Type: Other

Comment Excerpt Text:

As an industry leader, SGRE is investing significant resources in the United States to support the growth of offshore wind, creating well-paying permanent jobs through innovative workforce development programs and growing local supply chain networks across multiple states for the economic benefit not only of our company, but also our nation. SGRE is building factories and adding to our workforce in multiple locations across America, with more planned if Atlantic Shores is approved and subsequently built and commissioned.

To summarize, I believe Atlantic Shores Offshore Wind should be approved to fully develop their lease area as outlines in their COP. In doing so, they will be a key partner in helping New Jersey lead the way in the urgent need to build a sustainable energy future for our nation.

Comment Number: BOEM-2021-0057-0085-2

Commenter: L Stevens

Commenter Type: Individual

Comment Excerpt Text:

As many noted at the 10/25 session that I attended, a big benefit for NJ is the number of jobs that will be created for this new offshore industry. Thousands of jobs will go to building the 5-million pound monopile foundations, the massive wind towers, turbines and blades. From the Paulsboro Marine Terminal on the NJ side of the Delaware, these wind turbines will be shipped to sea from Gloucester and Salem counties. Additionally, South Jersey will be the offshore wind industry not just for wind farms off the Jersey Shore, but for the entire Atlantic seaboard from Maine to North Carolina.[Footnote 1: A vision is becoming reality: South Jersey is mastering the wind industry | Opinion Published: Oct. 03, 2021]

Comment Number: BOEM-2021-0057-0090-3

Organization: South NJ Development Council

Commenter: Jane M. Asselta

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We envision a whole new workforce of construction and maintenance jobs, work for engineers of all types, computer and telecommunications, transportation, legal, accounting, banking and financial services. The list of services, products and materials needed for contracting is in the hundreds. Atlantic Shores plans to use local suppliers and manufacturing facilities providing opportunities to support existing jobs, and creating new jobs at companies across South Jersey.

Comment Number: BOEM-2021-0057-0090-4

Organization: South NJ Development Council

Commenter: Jane M. Asselta

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Atlantic Shores will be a meaningful contributor to our regions economy by creating thousands of well-paying jobs in the growing renewable energy sector. Atlantic Shores Projects are expected to directly create more than 22,000 full time equivalent jobs throughout their lifecycle including those at a new Operations and Maintenance facility in Atlantic City.

Comment Number: BOEM-2021-0057-0091-1

Organization: Vestas-American Wind Technology Inc

Commenter: Jon Chase

Commenter Type: Other

Comment Excerpt Text:

As an industry leader in offshore wind, Vestas fully supports the Atlantic Shores COP, particularly Volume 1, Project Information, Section 2.0 BENEFITS OF THE PROJECT (page 71-76). The Biden Administration has placed a clear goal of installing 30 GW of offshore wind by 2030, and this project

would deliver enough clean energy to power over 706,000 New Jersey homes, helping to reach the White Houses offshore wind goals, reduce our carbon emissions, and create good, high-paying jobs in the region.

Comment Number: BOEM-2021-0057-0091-2
Organization: Vestas-American Wind Technology Inc
Commenter: Jon Chase
Commenter Type: Other

Comment Excerpt Text:

Furthermore, in order to foster local manufacturing in the United States, Tier 1 suppliers such as Vestas need a stable pipeline of offshore wind projects. Atlantic Shores project will help to grow this pipeline. Job creation is a key benefit of offshore wind, and it should be an important part of BOEMs evaluation criteria for this project.

We stand at a pivotal moment in history, one in which we can take strong action to prevent the worst impacts of climate change while also creating jobs for those in communities that have traditionally been pushed aside. We have the opportunity to build a new industry the right way, and that is a vision Atlantic Shores shares fully. On behalf of Vestas, I urge you to approve the Atlantic Shores project to fully develop their lease areas as outlined in their COP. In doing so, they will help New Jersey and the nation build a sustainable and just transition to our clean energy future.

Comment Number: BOEM-2021-0057-0094-3
Organization: International Brotherhood of Electrical Workers (IBEW)
Commenter: Michael Welsh
Commenter Type: Other

Comment Excerpt Text:

The IBEW strongly believes that Americans should not have to choose between a good job and a clean environment—we can and must have both. The Atlantic Shores Offshore Wind Projects are an opportunity to not only drive the nation’s clean energy future, but can help create quality, family-sustaining union jobs at the same time.

Atlantic Shores has committed to working with local union labor, via the signed Memorandum of Understanding, Women, Minorities and Veterans. Direct jobs are estimated to be more than 22,000 over the projects’ lifecycle with many more thousands of indirect and induced jobs due to Atlantic Shores commitment to use local suppliers and facilities to the maximum extent practical.

I urge BOEM to move forward with the permitting process while prioritizing the creation of good union jobs while taking a significant step towards a clean economy and environment.

Comment Number: BOEM-2021-0057-0096-1
Commenter: Philip Diaz
Commenter Type: Individual

Comment Excerpt Text:

I am submitting this letter in support of Atlantic Shores Offshore Wind Construction Operations Plan

(COP). This project will benefit New Jersey and the people living there, giving them a jump to recover from the effects that the COVID Pandemic has caused them economically and socially.

As a Union member for over 20 years and with having the experience as a Training Director for our local members, I can see how bringing this new industry to us will be a great advantage for the state, the people, and the future. New Jersey will benefit from the millions of investment monies that will be coming in from the idea and the people of New Jersey will have over 1,000 new union jobs available to them. For those who are not at the "working" age yet, they will have the choice to train in the installation and maintenance of the turbines, which in a few years will equip New Jersey with a mass number of tradesmen and tradeswoman who are skilled in this area.

To summarize, I believe Atlantic Shores Offshore Wind should be approved to fully develop their lease area as outlines in their COP. In doing so, they will be a key partner in helping New Jersey lead the way in the urgent need to build a sustainable energy future for our nation.

Comment Number: BOEM-2021-0057-0097-1

Commenter: Andrew Bulakowski

Commenter Type: Individual

Comment Excerpt Text:

why I continue to advocate for development plans that provide skilled workers and military families opportunity to succeed. That is why I support the Atlantic Shores Offshore Wind Construction Operations Plan (COP).

As a union leader, South Jersey resident, and advocate for the military, I support of Volume I, Project Information, Section 2.0 BENEFITS OF THE PROJECT (page 71-76). This plan will need the assistance of skilled and disciplined workers to ensure safe and responsible development . The offshore wind industry will be a major boost to the New Jersey economy and provide years of good paying jobs to workers in New Jersey. Union carpenters and returning veterans are perfectly suited for this type of work. Through investment by Atlantic Shores and the State of New Jersey we will see direct investment in these workers and provide families with what they need to succeed.

Atlantic Shores Offshore Wind should receive approval to fully develop their lease area as outlines in their COP. In doing so, they will be a key partner in helping New Jersey lead the way in the urgent need to provide work opportunities and new energy sources for New Jersey.

Comment Number: BOEM-2021-0057-0098-2

Organization: Local Union 255

Commenter: John Robinson

Commenter Type: Other

Comment Excerpt Text:

As a union leader and New Jersey resident, I support Volume I Project Information, Section 2.0 BENEFITS OF THE PROJECT (page 71-76). This plan is a step in the right direction in diversifying the local economy and providing skilled union labor the opportunity it needs to prove that this work can be built by Americans for Americans. The offshore wind industry is a new venture in our country and will be able to provide more energy production for the working-class families of New Jersey. Local workers who

are trained and ready to get to work will help make this new industry a success that not only provides energy needs to New Jersey, but also the good pay and benefits New Jersey needs. The health and economic recovery New Jersey needs after the unprecedented COVID-19 Pandemic cannot happen without job opportunity. This new industry lead by the Atlantic Shores Offshore Wind Construction Operations Plan (COP) will help in this recovery through the real jobs it will provide.

Comment Number: BOEM-2021-0057-0102-1
Organization: Engineers Labor-Employer Cooperative
Commenter:
Commenter Type: Other

Comment Excerpt Text:

The Engineers Labor-Employer Cooperative is a labor-management trust that represents the combined interests of the nearly 8,200 members of International Union of Operating Engineers Local 825, and the signatory union contractors who employ them. As multi-state organizations, ELEC and IUOE focus on promoting economic development and advocating for investments in infrastructure -- not only to provide work opportunities, but to ensure that our members, contractors and their families, have the quality of life they deserve as residents of New Jersey.

[bold: We submit these comments in support of Atlantic Shores Offshore Wind to fully develop their lease area as outlined in their COP – this approval we urge immediately.]

Whether installing the newest gas pipeline, or setting the foundation for an offshore wind turbine, Operating Engineers view the energy transition from a unique perch of working on all projects. A diverse energy portfolio, like a diverse financial portfolio will grow our economy and smooth the transition to a sustainable energy future.

Projects like the one proposed by Atlantic Shores Offshore Wind will put hundreds of Operating Engineer women and men to work, help support middle-class families and strengthen the regional economy through supporting suppliers and local businesses. As a trade with the first in-the-nation technical training school, this project will further bolster the ability to expand career path opportunities to minority and disenfranchised communities around the state and will hopefully serve as a model for future projects.

Comment Number: BOEM-2021-0057-0108-2
Organization: Jersey Renews et al.
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The offshore wind industry could create 83,000 jobs by 2035 and deliver \$25 billion in annual economic input. This project is an important step forward not just for New Jersey, but for the industry nationally.

Offshore wind represents a clear win for both NJ workers and our environment because the massive wind turbines can create a supply chain of good green jobs and union labor through the construction, delivery, installation, interconnection, manufacturing, and long-term maintenance of these units.

Comment Number: BOEM-2021-0057-0108-3
Organization: Jersey Renews et al.
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The [Underline: Atlantic Shores] project at 1,510 MW will power 700,000 homes and is projected to deliver \$848 million in economic benefits to New Jersey. The project will require a network of domestic suppliers and specialized marine transport vessels, and in some cases, an overhaul to the current ports and onshore facilities, all representing millions of dollars in investment in New Jersey and thousands of local jobs. On average, a wind farm off the coast of New Jersey's shore is projected to generate more than 4,000 jobs.

The National Environmental Policy Act (“NEPA”) is intended to ensure large-scale development projects “create... 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.” [Bold: We can create a high-road offshore wind industry that maximizes the creation of quality jobs, delivers community benefits, expands domestic manufacturing, and develops a robust local supply chain.] Offshore wind jobs should be union, pay family-sustaining wages, have good benefits, strong worker protections, provide opportunities for career advancement, and job access for disadvantaged populations who are at greater risk of being left behind.

Comment Number: BOEM-2021-0057-0109-4
Organization: BlueGreen Alliance
Commenter: Jason Walsh
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

To achieve the Biden Administration’s vision for maximizing union job creation and comply with NEPA’s requirement that federal projects “fulfill the social, economic, and other requirements of present and future generations of Americans,” the EIS should include a robust analysis of socioeconomic impacts associated with Atlantic Shores COP.

In particular, BOEM’s analysis of socioeconomic impacts should include consideration of and incentives to ensure Atlantic Shores’ commitments around use of domestic content; Project Labor Agreements (PLAs), Labor Peace Agreements (LPA’s), Community Benefits Agreement (CBAs); utilization of registered apprentices and other labor-management training programs, protection against worker misclassification and wage theft, neutrality agreements, local hire, and prevailing wage.

Comment Number: BOEM-2021-0057-0109-7
Organization: BlueGreen Alliance
Commenter: Jason Walsh
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Plans to support utilization and growth of a domestic supply chain should be analyzed and evaluated to maximize U.S. employment for the projected life cycle of the project. A recent study by researchers at

Princeton University found that increasing domestic content in renewable energy projects can create tens of thousands of American jobs without significantly increasing capital costs. [Footnote 4: Erin N. Mayfield and Jesse D. Jenkins, Working Paper: Influence of High Road Labor Policies and Practices on Renewable Energy Costs, Decarbonization Pathways, and Labor Outcomes, April 13, 2021. Available online: https://www.dropbox.com/sh/ad9pzifo9w1a49u/AAC2milGD44MlwXo1Sk7EAgsa?dl=0&preview=Working_Paper-High_Road_Labor_and_Renewable_Energy-PUBLIC_RELEASE-4-13-21.pdf]

Comment Number: BOEM-2021-0057-0109-8
Organization: BlueGreen Alliance
Commenter: Jason Walsh
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS should also evaluate the programs necessary for training and expanding the domestic workforce with an emphasis on ensuring opportunities for displaced energy workers, as well as fostering equitable access to career pathways in the industry. Particular attention should be paid to creating jobs in construction as well as operations and maintenance for residents of the impacted region.

Comment Number: BOEM-2021-0057-0109-9
Organization: BlueGreen Alliance
Commenter: Jason Walsh
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

When done right, offshore wind power will create thousands of high-quality, family-sustaining jobs in manufacturing, construction, operations and maintenance, and in the development of port facilities, transmission, and other associated infrastructure. We appreciate your work to prepare an EIS, informed by early-stakeholder input, and to conduct a diligent socioeconomic review of this project so that we may realize the thousands of jobs and millions of dollars in economic benefits that will be provided by offshore wind.

Comment Number: BOEM-2021-0057-0113-3
Organization: Waterspirit
Commenter: Rachel Dawn Davis Davis
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We understand this is not a matter of if but where and how.]We urge that the jobs created are family sustaining, with worker protections. We agree with the prioritization of a unionized workforce to help achieve this. We urge there to be a clearly marketed and funded training of people who have lost jobs in fossil fuel industries to help transition toward careers in renewable energy resources. There are already developers making national commitments to work with national trades unions to support consistent workforce development.

Comment Number: BOEM-2021-0057-0118-2
Organization: Business Network for Offshore Wind
Commenter: Brandon Burke
Commenter Type: Other

Comment Excerpt Text:

Atlantic Shores is positioned to be a crucial stimulator of the evolution of New Jersey's offshore wind program as the state is positioned to be a hub of this new, highly valuable American industry, which will generate high-paying jobs for New Jerseyans. New Jersey's Offshore Wind Strategic Plan estimates that the offshore wind industry will create between 6,000 and 8,000 jobs per year in New Jersey from 2028 to 2034. Cumulatively, 68,340 job years will be created from 2020 to 2035. In 2020, Governor Murphy announced plans to develop the New Jersey Wind Port, an infrastructure project designed to be used for staging, assembly, and manufacturing activities related to offshore wind projects on the East Coast. The facility's usage is not intended to be limited to serving just New Jersey offshore wind projects, and can capitalize on offshore wind development taking place in other states. Atlantic Shores has also agreed to invest over \$35 million in the New Jersey Wind Port. The facility could potentially create up to 1,500 manufacturing, assembly, and operations jobs. New Jersey officials estimate the Wind Port will cost between \$300-\$400 million to build. This activity will help New Jersey become a major player in the development of a U.S. domestic offshore wind supply chain, which researchers concluded will exceed \$100 billion for capital expenditures alone.

Comment Number: BOEM-2021-0057-0119-121
Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM must accurately estimate the economic impacts associated with the Project. A March 2020 study by the American Wind Energy Association, which analyzed the economic impacts from offshore wind, found that the industry is expected to invest \$57 billion in offshore wind energy development, which is expected to contribute \$25.4 billion in annual economic output and approximately 82,500 jobs by 2030 based on a high estimate of a 30 GW offshore wind build out [Footnote 387: American Wind Energy Ass'n, U.S. Offshore Wind Power Economic Impact Assessment (March 2020) at 1, https://supportoffshorewind.org/wp-content/uploads/sites/6/2020/03/AWEA_Offshore-Wind-Economic-ImpactsV3.pdf]. We urge BOEM to closely examine the cumulative impact on demographics, employment, and economics to ensure that it properly reflects the vast potential of offshore wind to create jobs and economic opportunity while generating clean, renewable energy.

Comment Number: BOEM-2021-0057-0130-3
Commenter: Denise Brush
Commenter Type: Individual

Comment Excerpt Text:

Offshore wind would also be a source of many new direct and indirect jobs in our state which would be good for the economically depressed Atlantic City area.

Comment Number: BOEM-2021-0057-0133-3

Commenter: Henry Gajda

Commenter Type: Individual

Comment Excerpt Text:

Clean energy is the biggest job creator across America's energy sector. Wind energy turbine technicians for example earn a median wage nationwide of \$27 an hour, the highest in the industry. Ocean Wind, a project off south New Jersey shore that will power more than 500,000 homes, will create over 4,000 jobs over the project's 25-year life span and generate \$1.2 billion in economic growth.

Atlantic Shores, at 1,510 megawatts, will power 700,000 and deliver \$848 million in economic benefits to New Jersey and the job benefits aren't limited to the shore. Recently, ground was recently broken for a 250,200-acre New Jersey Wind Port in Salem County, it's projected to create 1,500 permanent jobs and generate \$500 million a year in economic activity.

Comment Number: BOEM-2021-0057-0133-4

Commenter: Henry Gajda

Commenter Type: Individual

Comment Excerpt Text:

The planned offshore wind manufacturing operation in Paulsboro in Gloucester County will bring hundreds of permanent jobs and make New Jersey a hub for a major new industry.

Comment Number: BOEM-2021-0057-0133-5

Commenter: Henry Gajda

Commenter Type: Individual

Comment Excerpt Text:

Furthermore, there are job creation opportunities throughout the domestic supply chain ranging from manufacturing offshore wind turbines and installing foundations to operating the onshore manufacturing port facilities. Major infrastructure upgrades will be needed onshore to connect wind energy to the power grid and New Jersey Union straits people have the skill to construct this infrastructure.

Comment Number: BOEM-2021-0057-0137-2

Organization: New Jersey Organizing Project

Commenter: Amy Williams

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In order to bring clean energy into our communities, there is going to need to be a source of employers and employees that are working, and this is an opportunity for people in our areas who have lost jobs due to other impacts to have a new source of financial advantages.

Comment Number: BOEM-2021-0057-0142-6
Organization: Save Long Beach Island, Inc.
Commenter: Wendy Kouba
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The project will provide only a few hundred full time local jobs and it will primarily enrich two European corporations and the French government which happens to own 83 percent of the stock in one of those companies through your tax subsidies and guaranteed purchase of its power.

Comment Number: BOEM-2021-0057-0154-1
Commenter: Don Krevetski
Commenter Type: Individual

Comment Excerpt Text:

Supporting Atlantic Shores offshore wind construction operations plan and preparation for the Bureau's notice of intent to prepare an environmental impact statement is important to me because, well, quite frankly, we need to replace man hours lost from recently closed fossil fueled power plants, for example, Beasley's Point operated by BL England in Atlantic County and Duck Island operated by Public Service Electric & Gas up in Mercer County. These hours are desperately needed for our membership.

Our Union local workers out of local 715 have mentioned many times they want to take some pride in building something new, something for a responsible future, a green future and as a labor leader I support that thought. I support volume one, project information section 2.0, benefits of the project pages 71 through 76 for a plethora of reasons, primarily the opportunity for workforce development that this will give to our Union members and the working people of New Jersey by providing training and education opportunities for our members and the other workers not only will they get the chance to further develop their skills but free training will allow minorities, women, veterans and underserved communities a better chance to better their lives with a living wage. The training provided is invaluable to the working men and women and will create a productive work force with a specialized skill set.

This specialized skill set is something our members pride themselves in and whenever we can give them the chance to learn a new skill or receive a new certification, we try to jump all over that opportunity. In turn, the training they receive prepares them to work safely, productively and complete the projects on time which contributes in a positive way to New Jersey's economy.

In summary, I believe Atlantic Shores offshore wind should be approved to fully develop their lease area as outlined in their COP. In doing so, they will be able to provide indispensable opportunities to the hard-working people of New Jersey.

Comment Number: BOEM-2021-0057-0174-2
Commenter: Owen Bement
Commenter Type: Individual

Comment Excerpt Text:

I also have enough of a history in New Jersey that I remember when they wanted to bring in the casinos in Atlantic City, and people were promised well-paying jobs, and they were telling us how much the

community would benefit economically and so I am a little skeptical about the numbers I have heard this afternoon, about the number of jobs that will be created and the economic positive impact predicted for offshore in New Jersey.

Comment Number: BOEM-2021-0057-0175-2

Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

They talk about all the jobs, the jobs will be done by Europeans, all the steer is made in Europe, there is not a ship owned by an American company that installs these turbines. All of those turbines, most of the turbines at least in the beginning will be installed by European ships with European crews and all we are going to do is get to watch as they clutter up our ocean with wind turbines.

Comment Number: BOEM-2021-0057-0179-1

Commenter: Jon Young

Commenter Type: Individual

Comment Excerpt Text:

In New Jersey, we need clean renewable reliable resources of energy as well as ways to grow good paying jobs for our workforce. Clean energy jobs are a central pillar of President Biden's build back better and economic recovery plan. President Biden, the presidential executive order, 14008 which is tackling the climate crisis at home and abroad, addresses the construction, manufacturing, engineering and skilled training jobs needed to build a clean energy economy that would bring opportunity to communities that have suffered in result of economic shifts and places them -- and places that have suffered the most from persistent pollution including low income, urban communities, communities of color and native communities. By allowing Atlantic Shores to make the most use of the entire area covered underneath the first construction operation plan, it will support the president's executive order each installed when in turn by -- will generate \$18 million in direct and indirect and economic benefits over the lifetime of the project.

As identified in offshore wind strategies plan, the development of offshore wind energy such as Atlantic Shores project is critical to addressing climate change and the building of the state's clean energy economy.

Atlantic Shores projects are expected to directly create more than 22,290 full-time equivalent jobs throughout their lifecycle. During the operations and the maintenance, or O&M, and decommissioning, direct jobs would include jobs, operations and maintenance, wind turbines generator technicians and will - - and as well as professional services.

So, I urge BOEM to approve Atlantic Shores project and not only help build a greater more resilient New Jersey but also would create thousands of good paying jobs for families, family-sustaining jobs.

Comment Number: BOEM-2021-0057-0181-1

Commenter: Olaf Olsen

Commenter Type: Individual

Comment Excerpt Text:

I am calling today to express my enthusiastic support for the Atlantic Shores offshore wind construction operations plan, the COP, and provide insight into how advantageous this will be for the construction industry, the local economy, our community, our country, and our environment.

As a labor leader and large proponent of driving the offshore wind industry to success, I am in support of volume one project section two all benefits of the project. The offshore wind industry has been a prominent force for decades in Europe and Asia; however, the industry has just begun to sprout in the United States thanks to the investment from leaders and the government, private sector and the construction industry which has paved the way for potentially huge economic engine in New Jersey.

In two to four years, I anticipate thousands of job opportunities coming to New Jersey, Maryland and Virginia, the dramatic boost in local economy, in the local economy in cleaner renewable energy sources.

In preparation, the Eastern Atlantic States Regional Council of Carpenters has been focused on getting our members trained to the global wind organization, GWO, offshore safety standards and recruiting new members in pile driving, drilling, and foundation construction. Union pile drivers and divers are highly trained in these fields, and I am confident that will be New Jersey pile drivers and divers that will be leading the way ensuring these offshore wind projects are built safely, professionally and at the highest level of production.

The effects of Superstorm Sandy are still being felt by the residents of New Jersey's coastal communities. Investing in offshore wind has not only shown to benefit the local economy but will aid in the urgent need to combat climate change and sea level rise.

It's paramount these projects continue to develop in New Jersey as it's only a matter of time until these shores are completely wiped away. I strongly believe the Atlantic Shores offshore wind project should be approved to fully develop their lease area as outlined in their construction operation plan, COP.

Following an agreement, immediate effects would ensure for the betterment of our nation. The economy suffered due to the unprecedented Covid-19 pandemic and it's imperative that we do all our part in building it back better. This starts with supporting the offshore wind industry with the most highly skilled and trained workforce in the world.

Comment Number: BOEM-2021-0057-0182-1

Commenter: Ron Meischker

Commenter Type: Individual

Other Sections: 8

Comment Excerpt Text:

I hear concerns out of fellow watermen about how it's going to impact or potentially impact commercial fishing. And I'd like to say that, you know, as a commercial waterman, we are some of the most resourceful people on the face of the planet. You know, fish are here today, or crabs are here today, or clam beds are full today, and then tomorrow they are not.

You know, after reading through the Block Island reports, didn't seem there was any impact at all whatsoever, but even in the worst-case scenario where a fisherman might have to move off of some grounds that he's used to fishing, you know, we can adapt and overcome that because the benefits are far

too great to allow some personal fishing grounds to get in the way of progress, you know, we need this sustainable energy. We need this clean energy. New Jersey needs these jobs especially coming out of the Covid epidemic where so many jobs were lost.

These construction jobs are needed, the ongoing maintenance jobs are needed and this -- this project has nothing but positives. So, for my brothers and sisters who are out there in the commercial fishing industry, let's adapt and overcome but let's not go down the road of imaginary horrors thinking there is a problem when there really isn't any proof that there may be a problem.

Adapt to overcome and if you have to find new grounds, that's what we do every day, every week, every year when we are out there on the water. This should be no different and it will benefit all New Jerseyans, not just a select few.

Comment Number: BOEM-2021-0057-0183-1

Commenter: Andrew Bulakowski

Commenter Type: Individual

Comment Excerpt Text:

continue to advocate for the development plans that provide skilled workers and military families opportunities to succeed. This is why I support the Atlantic Shores offshore wind construction operations plan, COP.

As a union leader, South Jersey resident, and advocate for the military, I support volume one project information section 2.0, benefits of the project, page 71 to 76. This plan will need the assistance of skilled and disciplined workers to ensure safe and responsible development.

The offshore wind industry will be a major boost to the New Jersey economy and provide years of good paying jobs to workers in New Jersey. Union carpenters and returning veterans are perfectly skilled for this type of work.

Through investment by Atlantic Shores and the State of New Jersey, we will see direct investment and those workers and provide families with what they need to succeed. Atlantic Shores offshore wind should receive full approval to fully develop their lease area as outlined in their COP. In doing so, they will be a key partner in helping New Jersey lead the way in urgent need to provide work opportunities and new energy sources for New Jersey.

Comment Number: BOEM-2021-0057-0184-1

Commenter: Richard Rivera

Commenter Type: Individual

Comment Excerpt Text:

the Atlantic Shores has proposals for major end suppliers for local manufacturers that would bring hundreds of jobs to New Jersey. And more broadly, the northeastern U.S.

Atlantic Shores is also seeking ways to maximize the use of organized union labor and employers wherever feasible. To demonstrate the commitment, Atlantic Shores has signed a first of its kind memorandum of understanding with six local unions, carpenters, dock builders, pile drivers, laborers,

electricians, iron workers and so on.

I just want to say that as a union member, I believe that this contract will bring millions of jobs into New Jersey, and I think we will all benefit from it.

Comment Number: BOEM-2021-0057-0185-1

Commenter: Anthony Capelli

Commenter Type: Individual

Comment Excerpt Text:

You know, clean energy, it's a big deal, I think that there is plenty of jobs to be had like the other reps have said before me. The projects will create more than 11,000 indirect full-time equivalent jobs and over 14,000 induced full-time equivalent jobs for a total of about 48,000 direct, indirect, and induced full-time equivalent jobs.

As identified in New Jersey's offshore wind strategic plan, the development of offshore wind energy such as the Atlantic Shores project is critical to addressing climate change and to building the state's clean energy economy.

Offshore wind, I mean it's renewable energy, they don't consume water, they provide domestic energy source, they create jobs, I mean what more can we ask for.

Comment Number: BOEM-2021-0057-0187-1

Commenter: Bruce Garganio

Commenter Type: Individual

Comment Excerpt Text:

We need clean reliable energy to move our state forward and this project accomplishes that task. The Atlantic Shores project will create 48,000 jobs, these jobs will allow our neighbors to work and raise their families and improve their lives. The MOU that was signed will supply the work that will allow the Eastern Atlantic States Regional Council of Carpenters to supply apprenticeships for the next generation of construction workers, clean renewable energy and a new industry that will supply training and careers for our residents. It doesn't get much better than that. I would ask for your approval of this project, thank you.

Comment Number: BOEM-2021-0057-0190-1

Commenter: Gino Zilocchi

Commenter Type: Individual

Comment Excerpt Text:

I am a 22-year union member of the Eastern Atlantic States Regional Council of Carpenters. Clean energy is very important to our country and is very important to our state.

As the years go by more and more people keep leaving our state for other states and this is something that could be a draw to have the people and the companies come back to us. The carpenters are qualified and

prepared. We are the best trained to do this work and we will be ready when the call is placed for us to supply manpower for this job.

Please pass this project to bring good paying jobs back to New Jersey and make our state proud again.

Comment Number: BOEM-2021-0057-0195-2
Organization: New Jersey Work Environment Council
Commenter: Debra Coyle
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The average wind farm off the coast of New Jersey's shore is expected to generate 4,300 jobs and add \$702 million to the state's economy, and up and down the Atlantic coast we are seeing projects advancing.

Nationally the offshore wind industry could create 83,000 jobs by 2035 and deliver \$25 billion in annual economic impact. And the New Jersey wind port, the first purposeful wind port in the country is expected to bring in \$500 million annually just on its own.

We can and must create a high road offshore wind industry. We can and we must maximize domestic job content that delivers community benefits, we must expand manufacturing and develop a robust local supply chain all with an attention to environmental justice impacts, and improving access to low income, black, brown, indigenous people of color. And, of course, build these projects with skilled work and union labor.

Comment Number: BOEM-2021-0057-0195-3
Organization: New Jersey Work Environment Council
Commenter: Debra Coyle
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition to environmental impacts, the EIS should analyze socioeconomic impacts associated with Atlantic Shores plan to create good paying jobs, for example local hiring, union neutrality agreements, POAs, community benefit agreements, diversity, equity and inclusion and prevailing wage.

The EIS should also evaluate the programs necessary for training and domestic workforce with an emphasis on health, safety and alleviation of historic disparities for environmental justice and by pop communities.

Related to this, plans of systems of support a low carbon domestic supply chain should be required and evaluated, both to maximize U.S. employment and to avoid, minimize and mitigate impacts of environmental justice and by pop communities that have historically faced the worst impacts from industrialization and energy production.

Comment Number: BOEM-2021-0057-0197-1
Commenter: Daniel Ortega

Commenter Type: Individual

Comment Excerpt Text:

In New Jersey, we need clean reliable energy resources as well as we have to grow good paying jobs for our workforce. Wind is an option that will best provide jobs to skilled labor and at the same time will help the region achieve its renewable energy goal by allowing Atlantic Shores to make the most use of the entire area cover under their first construction and operation plans, it will be generate \$18 million in direct and indirect economic benefit over the lifetime of the project. Estimate 500,000 more towards the CO2 will be eliminated into the air. Like removing 102,000 vehicles off the roads and it will generate over 1,000,000 megawatts hours of clean energy produced over the lifetime of the project which will power 96,000 homes with renewable energy.

In order for New Jersey to remain economically competitive and great place to live, we must have responsible energy infrastructure development. This infrastructure should be built by the very same people who will benefit from its long-term success. However, we are not solely about construction jobs. Commercial and manufacturing businesses seek areas to settle with dependable transportation and energy construction. This project offers the ample and reliable energy resources that are essential to our economic growth.

We need more jobs here in New Jersey and this is an integral step for that. Atlantic Shores has proposal -- has proposals from main suppliers, from local manufacturing that will bring hundreds of jobs to New Jersey. The company is also seeking ways to maximize the use of organized labor and employees whenever it's feasible. To demonstrate its commitment, the Atlantic Shores has signed a first of its kind memorandum of understanding with six local unions including operating engineers local 825 to help train and employ productive, safe, skilled, and local workforce.

This agreement is very important to the future of our union workforce and demonstrates a commitment to good paying jobs as well as a high safety standards that comes with union contractors. When we say infrastructure, we mean more than waterways and bridges, clean water and more efficient energy infrastructure. We get a real return on our investment and that means more money in our pockets and for our members who are New Jersey residents.

This project is a perfect example of the type of construction project investment in infrastructure and current redevelopment that is important to our organization and members. BOEM should approve Atlantic Shores project and help move them forward.

Comment Number: BOEM-2021-0057-0202-1

Commenter: Frank Mahoney

Commenter Type: Individual

Comment Excerpt Text:

I am supporting the Atlantic Shores construction operations plan because of the work and training that we have done to meet the needs of a clean energy industry that really will give a boost to New Jersey, specifically south Jersey which has been a need for economic development for some time.

Our Union has put in the work, put in the training to make sure that when this industry does come, which it will, we will be on the front line making sure the safest most professional work done in the country.

Comment Number: BOEM-2021-0057-0203-1

Commenter: Jeffrey Johnson

Commenter Type: Individual

Comment Excerpt Text:

was born and raised right here in South Jersey. Still here today, in fact my home was just miles away from the tornadoes that touched down this summer, so the effect of climate change is very real to me.

It is why we need to address this crisis now and in New Jersey, while we also create clean reliable renewable sources of energy as well as ways to grow good paying jobs for our workforce.

As a minority-owned Union local contract, I was excited to learn that Atlantic Shores plans to use local supply chains and they prioritize using local suppliers for a significant amount of development activities including construction. Supporting local minority-owned businesses like mine would provide an unprecedented level of access to work. Atlantic Shores commitment to using skilled labor will not only support existing jobs but potentially create thousands of additional jobs in New Jersey but also more broadly throughout the northeastern U.S.

By allowing Atlantic Shores to make the most use of the entire area covered their first construction and operation plan, it will also support the presidential executive order, each installed wind turbine generator as said before will generate \$18 million direct and indirect economic benefits over the lifetime of the project. All while utilizing a Union trade workforce employed by employers like myself, minority contractors, it's a win for both.

This is why I urge BOEM to approve Atlantic Shores projects, not only to help us build a greener more resilient New Jersey but to also create thousands of good paying family sustaining jobs. Thank you for your time.

Comment Number: BOEM-2021-0057-0205-1

Commenter: Jason Friedman

Commenter Type: Individual

Comment Excerpt Text:

and I signed on tonight to encourage BOEM to approve this plan.

New Jersey needs clean renewable energy, New Jersey continues to lead and see the benefit of creating good well-paying jobs for trades people and businessmen that make their home here, this project provides both, it's a big win.

Comment Number: BOEM-2021-0057-0206-1

Commenter: Jamie Serritella

Commenter Type: Individual

Comment Excerpt Text:

I am a 33-year member of the Carpenter's Union, Local 253. I am also a senior counsel rep for the Eastern Atlantic States Regional Council of Carpenters, and I am in favor of this project going, are not just for the good paying jobs, a boost in our economy, a boost in this sector. It's good for New Jersey, it's good for

our members, it's good for our residents and it's good for our environment. So, I am in favor of this project.

Comment Number: BOEM-2021-0057-0207-1

Commenter: John Hagaman

Commenter Type: Individual

Comment Excerpt Text:

I have been a member of the Carpenter's Union for 24 years and spent those years working in the Atlantic City area. I have been involved in this project since inception and I am looking forward to seeing it through.

The number of jobs for local people and the increase of business this project will bring to the local businesses will be a huge shot in the arm for our economy locally as its been through a rough year and a half as we all know with Covid, in regards to South Jersey and the economy.

A project of this magnitude is both exciting and refreshing and we ask for your consideration to push this through.

Comment Number: BOEM-2021-0057-0213-2

Commenter: Norah Langweiler

Commenter Type: Individual

Comment Excerpt Text:

Personally, I am thrilled to see that so much of this will be built by Union workers and also hope that this is an opportunity to get more people trained and on pathways to secure Union jobs.

Comment Number: BOEM-2021-0057-0218-4

Organization: Waterspirit

Commenter: Rachel Dawn Davis

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We urge that jobs created are family sustaining with worker protections, we agree with the prioritization of a Unionized workforce to help achieve this. There are already developers making national commitments to work with national trades, trade Unions to help support consistent development.

Comment Number: BOEM-2021-0057-0219-2

Organization: New Jersey League of Conservation Voters

Commenter: Rebecca Hilbert

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Bold climate action means job and economic development. New Jersey is a prime example of this where the offshore wind industry represents the biggest economic development opportunity in more than a generation for our state.

Clean energy is the biggest job creator across America's energy sector and wind turbine energy technicians for example earn the highest salary in the entire energy industry. We are seeing these economic and job benefits with the development of New Jersey projects we are talking about tonight, especially in communities who need it. Many of the people on the call have already outlined those benefits for us so I won't get into those specifics, but we need to be bold with climate change action.

Comment Number: BOEM-2021-0057-0220-1
Organization: New Jersey Sustainable Business Council
Commenter: Richard Lawton
Commenter Type: Non-Governmental Organization
Other Sections: 27

Comment Excerpt Text:

Economists have called climate change the greatest market failure in history, market failure whose risk and cost to our businesses, communities and natural environment continue to escalate and accumulate. New Jersey is especially vulnerable to climate change effects such as frequent flooding of residential areas and local economies because of its long flat coastline and higher temperatures because of its dense population centers.

Developing offshore wind will help New Jersey transition from fossil fuels that contribute to climate change and will protect the state especially coastal areas from the impact of extreme weather events.

New Jersey is in the vanguard of developing a new clean renewable energy industry that will generate thousands of jobs, create prosperity for our communities, improve our health and help protect our coast lines.

Offshore wind is key to creating a more equitable clean energy economy and New Jersey is poised to become a national leader. Ground recently was broken for a \$250,000 200-acre New Jersey wind port in Salem County, it's projected to create 1,500 permanent jobs and generate \$500 million a year in economic activity. The planned offshore wind manufacturing operation at Paulsboro in Gloucester County will bring hundreds of permanent jobs and make New Jersey a hub for major new industry.

Ocean Wind will create over 4,000 jobs over its 25-year life span and generate \$1.2 billion in economic growth. Atlantic Shores, at over 15 megawatts will power 700,000 and deliver \$848 million in economic benefits to New Jersey.

So, in order to remedy the market failure of climate change, we need to rapidly decarbonize our economy and in order to reshape the market to create a more vibrant, sustainable and equitable economy. We need policy and regulatory efforts that fully leverage technological advancements and capital investment to actualize a tremendous upside potential of renewable energy sources like offshore wind in New Jersey.

NJSBC supports moving forward with this project without delay.

Comment Number: BOEM-2021-0057-0224-1
Commenter: Steve Stokes

Commenter Type: Individual

Comment Excerpt Text:

I truly feel that the economic impact of this project will have an incredibly positive effect on our members and their families. As a Union member, it's great to see the Atlantic Shores has signed a Memorandum of Understanding with six local Unions. Atlantic Shores commitment to local labor suppliers is a testament to its commitment to our membership.

This project will create more than 40,000 jobs, they will provide good paying jobs for our children and help diversify our economy. It will also produce clean energy which will help preserve our environment for the next generation.

I spent a fair amount of my summertime at either the beach or fishing offshore. After listening to the presentation, it's evident that you have placed an emphasis on minimizing environmental impact. An added bonus to this project is the artificial reef it will bring, which will really enhance sport and recreational fishing. This will also help boost the economy of the surrounding area.

Again, I am in support of this project, and I urge BOEM to help Atlantic Shore's offshore wind project to move forward. Thank you for facilitating the presentation and thank you for the positive economic environmental impact you will bring to my community.

Comment Number: BOEM-2021-0057-0241-5

Commenter: George Thayer

Commenter Type: Individual

Comment Excerpt Text:

When the proposed project is complete, only a few hundred, at best, local jobs will be created.

A.3.10.3. Other

Comment Number: BOEM-2021-0057-0021-2

Commenter: jim wolf

Commenter Type: Individual

Comment Excerpt Text:

The jobs touted seem to mainly benefit European companies workers, with few jobs for the local economy. Furthermore, HUGE turbines clearly visible destroying the pristine ocean views from shore will have a detrimental affect on the economy which relies heavily on tourism

Comment Number: BOEM-2021-0057-0024-1

Organization: GE Renewable Energy

Commenter:

Commenter Type: Other

Comment Excerpt Text:

First, BOEM should analyze the economic benefits of the U.S. offshore wind industry on a regional or national level, and not merely with respect to the counties surrounding the project being reviewed (as it did in its Final EIS for Vineyard Wind 1 [Footnote 2: Vineyard Wind 1 Offshore Wind Energy Project, Final Environmental Impact Statement, Volume 1 (March 2021), section 3.6.1.1, page 3-124.]). While GE strives to source and hire labor locally to the extent practicable, it is impossible to do more than a fraction of the work for each project within the narrow geographic scope established in BOEM's prior economic analysis. We best create value for our customers, ratepayers, and the public when we use the same manufacturing facilities and trusted suppliers for multiple projects. Because our current and future U.S. projects are sited in diverse geographical areas, our domestic supply chain—and that of other original equipment manufacturers (OEMs)—is by necessity going to be regional or national. By limiting its analysis of economic benefits to just the areas adjacent to a project, BOEM misses a huge part of the economic picture.

Comment Number: BOEM-2021-0057-0030-5

Commenter: Liza Wolf

Commenter Type: Individual

Comment Excerpt Text:

Economically the Atlantic Shores project will (along with its sister projects):

Add \$32 billion to the already high cost of electricity paid by NJ ratepayers, or \$4,067 per residential user, and require another 21% of that in tax subsidies.

Provide only a few hundred full-time local jobs, and

Primarily enrich two European corporations and the French government, which owns 83% of the stock in one of those companies, through your tax subsidies and guaranteed purchase of its power.

Comment Number: BOEM-2021-0057-0032-5

Commenter: Ryan R

Commenter Type: Individual

Comment Excerpt Text:

Wind is also becoming cheaper and cheaper and makes economic sense.

Comment Number: BOEM-2021-0057-0044-3

Commenter: Chuck Edwards

Commenter Type: Individual

Comment Excerpt Text:

I have seen the hundreds of windmills in Northeast Texas, where many sit in disrepair, and the projected return on investment is never.

Comment Number: BOEM-2021-0057-0045-2

Commenter: Lynn Petrulio

Commenter Type: Individual

Comment Excerpt Text:

Research has shown detrimental effects to wildlife and cost of energy will be way more than nuclear energy.

Comment Number: BOEM-2021-0057-0047-6
Organization: Beach Haven Taxpayers Association
Commenter: John Hailperin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

When BHTA questioned NJBPU on the average monthly residential cost increase of \$2.11, the response was this was a present value estimate once electricity is produced because of the Proposed Action. BHTA believes this is a modest price given the economic benefits, sound financial base, and the positive impact on climate change.

Comment Number: BOEM-2021-0057-0049-1
Organization: Geothermal National International Initiative
Commenter: John (Jack) DiEnna
Commenter Type: Other

Comment Excerpt Text:

The major item that is are not being discussed for the Off-Shore Wind project is the total cost to build, transmit the energy and how that will affect the fee amount now and in the future. The dollar figures that I am using are taken from similar projects in the US so they may be off slightly.

The cost of running a transmission line from Atlantic City to Stone Harbor, approximately 29 miles, underwater is in the range of \$275,500,000 (average cost of underwater transmission line is \$9.5m) To continue to run the transmission line to the shoreline it would be \$142,500,000 (15 miles X \$9.5 M) in any location where this would be needed.

Once the transmission line hits the shore it would cost the AC portion of the project it would be installed underground @ \$2M per mile (14 miles) to the Marmora site would be \$28,000,000. The transmission line for Stone Harbor could go to the Oyster Creek Plant in Lacey (70miles underground @ \$2 Million per mile) with an estimated cost of \$140,000,000. The estimated cost of installation of this transmission line is \$586,000,000.

If we look at why this is even considered, it is to deliver 1,100 Mw to the local utility, this amounts to approximately \$533,000 per megawatt. This does not include the disruption the installation would cause in an established neighborhood and the cost of the permitting etc.

Comment Number: BOEM-2021-0057-0049-5
Organization: Geothermal National International Initiative
Commenter: John (Jack) DiEnna
Commenter Type: Other

Comment Excerpt Text:

I know that this is being predicated on the goal of Governor Murphy to have 7,500 megawatts of offshore

wind capacity by 2035 but after evaluating the cost I am concerned that this project will dramatically increase the cost of energy for the citizens of NJ and destroy the Ocean's environment.

Comment Number: BOEM-2021-0057-0050-68
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Since the cost of this project is substantial, and will impact millions of household budgets such data is essential to reach a reasoned decision on it. Therefore, the EIS should include a full Socio-economic benefit and cost analysis.

Comment Number: BOEM-2021-0057-0050-70
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS should also include a clear description of the project economics, the capital and operational costs, the revenues generated, and the return on investment to the companies. It should explain how the State's OREC system works, present the levelized cost of electricity from the project (with and without subsidies), expected annual revenues, and what proportion of that will be returned to ratepayers.

Comment Number: BOEM-2021-0057-0050-71
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS should present the increased annual electric cost to NJ ratepayer households from this project and the cumulative cost for the full 7500 mw program. It should show how that number was derived and whether it might increase depending on how much backup natural gas generation capability needs to be retained. It should show what annual amount is being paid by NJ taxpayers in the form of federal and state tax subsidies to sustain this project and the full program.

The data in Exhibit I points towards an annual household cost increase of \$220 from both electric ratepayer cost and taxpayer subsidies for the full 7500 mw program. Compared to the current average annual NJ household electric bill of \$1,314, that represents a 17 percent increase. Over its 20-year life the project adds \$7.27 billion (\$927 per residential ratepayer) to the already high cost of electricity paid by NJ ratepayers. With its sister projects the total estimated additional cost to NJ ratepayers will be \$32 billion (\$4067 per residential ratepayer), and these ratepayer costs do not include tax subsidies for the project which are estimated at \$1.35 billion (\$6.75 billion including its sister projects).

If these numbers are correct or close to correct this is a significant socio-economic cost that needs to be

disclosed

Comment Number: BOEM-2021-0057-0050-73
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

A summary of the NJ BPU cost-benefit analysis required by State law should also be included with an explanation of how its numbers were derived. In particular, the potential authorized costs to ratepayers of \$7.27 billion over 20 years of operation based on that study's levelized net OREC cost of \$.058821 far exceeds the claimed economic benefit of \$1.869 billion. So, it is necessary to attribute a huge benefit from avoided emissions to justify a positive benefit to cost. But as shown in I.18 above, the sea level rise change from the project is insignificant so it is hard to see where this multi-billion-dollar environmental benefit is coming from. This needs to be clarified. In addition, the cumulative impacts of the 3 projects considered to date and including those contemplated to meet the NJ goal of 7500 MW by 2035 should be provided.

Comment Number: BOEM-2021-0057-0074-5
Organization: Save Long Beach Island, Inc
Commenter: Christine Leichte
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

NJ residents will bear the financial burden of \$32 billion to the already high cost of electricity paid by NJ ratepayers, or \$4,067 per residential user, and require another 21% of that in tax subsidies.

(8) Provide only a few hundred full-time local jobs, and

(9) Primarily enrich two European corporations and the French government, which owns 83% of the stock in one of those companies, through your tax subsidies and guaranteed purchase of its power.

Comment Number: BOEM-2021-0057-0090-2
Organization: South NJ Development Council
Commenter: Jane M. Asselta
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

With the states growing demand for power and its ambitious clean energy goals, Atlantic Shores has the opportunity to contribute to a burgeoning new industry and contribute to these ambitious clean energy goals. The Atlantic Shores Wind project can supply electricity close to the population centers and businesses currently saddled with some of the highest electricity prices in the nation.

Comment Number: BOEM-2021-0057-0114-16

Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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.

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 Atlantic Shores 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-2021-0057-0114-18
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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 last year's "Economics Issue" of the agency's Ocean Science newsletter. [Footnote 9: BOEM. 2020. Ocean Science 17(2) <https://www.boem.gov/sites/default/files/documents/newsroom/ocean-science/BOEM%20Ocean%20Science%202020%20Issue%202.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-2021-0057-0117-4
Commenter: Maureen Keating
Commenter Type: Individual

Comment Excerpt Text:

identify where the lease revenue and economics of the overall program- ie impact to tax payers, roi to any proposed NJ local communities impacted by proposed turbine placement;

Comment Number: BOEM-2021-0057-0118-3
Organization: Business Network for Offshore Wind
Commenter: Brandon Burke
Commenter Type: Other

Comment Excerpt Text:

On its own, Atlantic Shores will generate significant positive economic impacts for New Jersey that will boost the local economy for decades to come. Atlantic Shores will deliver an estimated \$848 million of economic benefits to the state. As part of the project, Atlantic Shores signed a memorandum of understanding with six New Jersey unions committing to help develop and employ a trained local workforce. The agreement calls for the creation of training and apprenticeship programs for New Jersey workers to support both the Atlantic Shores project and the broader offshore wind industry. It also mandates support the Helmets to Hardhats Program, which helps military personnel transition into careers in offshore wind, according to the agreement. Atlantic Shores is also committed to innovative approaches to offshore wind, and are partnered with SJI on a collaborative green hydrogen pilot program. Atlantic Shores is also engaged with local communities, and, in partnership with Stockton University, opened an Educational and Community Outreach (ECO) center in Atlantic City, New Jersey.

Comment Number: BOEM-2021-0057-0125-14
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

While we understand the goals and timelines laid out by the BOEM process, there is still a lack of transparent information on power generation, pricing and economic impacts. This information would help identify the number of turbines necessary to meet the capacity goal. It also could impact cabling, site layout and many other possible issues including impacted habitat.

Comment Number: BOEM-2021-0057-0136-2
Commenter: Walter Clarke
Commenter Type: Individual

Comment Excerpt Text:

In terms of here in New Jersey, again, we know this needs to be done as part of our arsenal to help resist climate change, so why not capitalize it. New Jersey is in a unique situation as a coastal community. We can develop a new economic sector based on clean wind technology and many other states can't do this which gives New Jersey a competitive advantage simply by having a coastline, the very same coastline which is threatened by sea level rise and increased storms.

Comment Number: BOEM-2021-0057-0142-4
Organization: Save Long Beach Island, Inc.
Commenter: Wendy Kouba
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Economically, the Atlantic Shores project will, along with its sister projects, add \$32 billion to the already high cost of electricity paid by New Jersey rate payers or \$4,067 per resident user and it will require another 21 percent of that in tax subsidies.

Comment Number: BOEM-2021-0057-0147-3
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization
Other Sections: 8

Comment Excerpt Text:

We are concerned with the socioeconomic impacts on the inland coastal communities and particularly the impacts with the fishing communities and families as well.

Comment Number: BOEM-2021-0057-0163-2
Organization: Business Network for Offshore Wind
Commenter: Sam Tirone
Commenter Type: Other

Comment Excerpt Text:

By some estimates the rapidly developing economic opportunity in U.S. offshore wind will well exceed \$100 billion for wind farm development and construction alone, that's just cap X. The Atlantic Shore project alone will bring \$848 million in guaranteed local economic benefits to the State of New Jersey.

Further, the project will bring thousands of manufacturing and operation maintenance jobs throughout its lifetime as well as several significant investments that will develop the offshore wind supply chain.

Comment Number: BOEM-2021-0057-0167-3
Organization: Clean Water Action
Commenter: Eric Benson
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition, this is a huge opportunity for New Jersey's economy. Being the first state to pursue large scale wind projects, will create jobs and lead to investments in the long term support of infrastructure for the farms.

Comment Number: BOEM-2021-0057-0213-3
Commenter: Norah Langweiler
Commenter Type: Individual
Other Sections: 17

Comment Excerpt Text:

I'd also like to see the DEP and EPA collaborate to figure out how to support tertiary or community level supply chains, how can local restaurants like my husband's be ready to support more business from wind tourism, how can local businesses and charter boat owners collaborate to offer engaging eco tours, it's important to provide opportunities and communities for this kind of economic development as well.

To accomplish all of this, New Jersey should continue to hear from and include community members that could be affected by these projects as they move forward. We also need to keep investing in research and regional collaboration as the plan is finalized and put into action.

Comment Number: BOEM-2021-0057-0240-20

Commenter: Gregory Roberts

Commenter Type: Individual

Other Sections: 24

Comment Excerpt Text:

The wind farm will destroy ocean views, impacting property values, tourism, local businesses, and New Jersey taxpayers. From Project Our Coast NJ: "These 12- Megawatt wind turbines will be among the largest on earth. At 845 feet tall and 722 feet in diameter they are close to the height of the Chrysler Building in NYC and 298 feet taller than the Washington Monument. They will be required to have lighting at night at the top and the base of the turbines for aviation and marine traffic safety." The economic impact could be in the billions.

Comment Number: BOEM-2021-0057-0241-3

Commenter: George Thayer

Commenter Type: Individual

Comment Excerpt Text:

Due to number 1 above, I believe our governor has not yet figured out the budgetary impact this will have to the state due to the loss of sales tax revenue. This will severely harm the rest of the state by requiring requiring cuts etc to other services. I am aware he wants to make NJ the leader in wind generated energy, but he is foolish to think this is the answer.

Comment Number: BOEM-2021-0057-0241-4

Commenter: George Thayer

Commenter Type: Individual

Comment Excerpt Text:

This project, rather than saving taxpayers money, will increase the cost of electricity to our already exorbitant prices. It will require tax increases of other types in order to pay for the subsidies required to make this project even have a chance of being economically feasible. The state will still have to maintain current electric generating plants to fill in the days/weeks where the turbines do not generate enough power, thereby further increasing cost, and minimizing any supposed climate benefits.

A.3.11 Environmental Justice

Comment Number: BOEM-2021-0057-0020-3

Commenter: Tamar Kieval Brill

Commenter Type: Individual

Comment Excerpt Text:

The issue of social justice should also be taken into consideration, as our current reliance on fossil fuels disproportionately impacts communities of color that have been made into sacrifice zones where our current dangerous power plants are located due to systemic injustice and environmental racism.

Comment Number: BOEM-2021-0057-0037-1

Commenter: Megan Duren

Commenter Type: Individual

Comment Excerpt Text:

What are the plans in place to ensure local Tribal safety against becoming MMIP? With new construction and jobs for Off Shore Wind Projects, new construction jobs have the potential to bring in violence against local Native Communities. What plans are in place to keep this from happening and keep local tribes safe?

Comment Number: BOEM-2021-0057-0051-14

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

EPA Region 2 has a strong commitment to promote the principles of environmental justice outlined in Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority and Low-income Populations. According to the Executive Order, "Each Federal Agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA. Mitigation measures outlined or analyzed in an environmental assessment, environmental impact statement, or record of decision, whenever feasible, should address significant and adverse environmental impacts of proposed Federal actions on minority communities and low-income communities."

The COP includes an Environmental Justice assessment using data obtained from the Census Bureau and the EPA's Environmental Justice Screening and Mapping Tool (v2017), as well as information provided by State authorities. Census block groups within one mile of onshore interconnection cable routes and ports were assessed. We acknowledge the project proponent's commitment to ensuring that EJ communities do not bear any disproportionately high or adverse impacts through the development of a Traffic Management Plan and other efforts such as a workforce hiring program implemented to benefit EJ populations. While the COP indicates that the Project does not affect EJ communities, the supporting figures do indicate surrounding populations that may be impacted by construction and operations of onshore components and facilities. EPA recommends that noise, air, lighting, and traffic impacts to the community from construction and project operations be considered in the EIS. Additionally, some of the figures in Section 7.2 indicate the presence of linguistically isolated populations. In conducting outreach, we recommend that BOEM and the project proponent provide materials in other languages in order to more effectively engage populations with limited English proficiency.

Comment Number: BOEM-2021-0057-0091-3
Organization: Vestas-American Wind Technology Inc
Commenter: Jon Chase
Commenter Type: Other

Comment Excerpt Text:

To that end, Atlantic Shores has already conducted significant outreach and propped initiatives with Rutgers University, Rowan College, the Barnegat Bay Partnership, and the Boys Girls Club of Atlantic City to drive workforce development and training programs. These initiatives are strongly focused on supporting minorities, women, veterans, and those from underserved and economic justice communities to foster a just transition to clean energy.

Comment Number: BOEM-2021-0057-0108-4
Organization: Jersey Renews et al.
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We must prioritize training a local workforce and specifically ensure that the jobs, business, and economic investment opportunities brought by this new industry reach the communities hardest hit by the pandemic-- including low-income, Black, Brown, Indigenous, and People of Color (“BIPOC”), and immigrant communities.

Comment Number: BOEM-2021-0057-0113-4
Organization: Waterspirit
Commenter: Rachel Dawn Davis Davis
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Our reliance on heavily subsidized fossil fuels disproportionately impacts communities of color. For far too long, under-privileged, vulnerable, marginalized communities have experienced the direct, indirect and cumulative physical and mental harms from living in environmentally racist sacrifice zones, inter-generationally. There should be no sacrifice zone, anywhere. On October 25, 2021, there was talk of people having second properties. Climate change is causing us all to face unforgiving realities. In 2021, the "not in my backyard" (NIMBY) idea that wind turbines are an eyesore is not grounds for halting the potential of a wind project that could power so many, collectively. Regardless of the landmark environmental justice legislation in our state, the Ironbound community in Newark still fights for its right to have any clean air with a community youth led march coming up November 10th, 2021, opposing two polluting facilities worthy of renewable energy alternative solutions. No community's children should have to suffer any more from polluting emissions, let alone those who have already suffered across generations.

Comment Number: BOEM-2021-0057-0118-4
Organization: Business Network for Offshore Wind

Commenter: Brandon Burke
Commenter Type: Other

Comment Excerpt Text:

As BOEM advances the Atlantic Shores COP through the permitting process, the Network encourages BOEM to ensure it includes a complete accounting of 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 and resulting health impacts. In 2019, fossil fuel generation contributed to over 50% of New Jersey’s electricity generation, according to U.S. Energy Information Administration. 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. If clean energy projects such as Atlantic Shores are not built, existing fossil fuel plants will continue operating, or new fossil fuel plants may be constructed. This will continue to have disproportionate impacts on historically disadvantaged communities.

Comment Number: BOEM-2021-0057-0119-124
Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 1

Comment Excerpt Text:

In considering the environmental justice impacts, BOEM must look at how power plants are frequently located in or close to population centers and disproportionately located in or near communities of color, lower income communities, and Indigenous communities. The ability of offshore wind to displace fossil fuel generation thus has a potentially important environmental justice benefit. This displacement could be particularly pronounced, as offshore wind facilities’ generation often coincides with afternoon peak demand [Footnote 406: Dep’t of Energy, Office of Energy Efficiency & Renewable Energy, Top 10 Things You Didn’t Know About Offshore Wind Energy, <https://www.energy.gov/eere/wind/articles/top-10-things-you-didnt-know-about-offshore-wind-energy> (last visited Apr. 28, 2021).]. Offshore wind may be especially helpful in displacing the dirtiest peaking units, providing especially large air quality benefits and benefits to environmental justice communities.

Comment Number: BOEM-2021-0057-0122-24
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Environmental justice (hereafter “EJ”) issues abound with energy proposals, including with renewable energy projects and infrastructure. Considering all of the projects proposed for offshore wind energy development, including Atlantic Shores’ projects, there will be numerous Operations and Maintenance (O&M) facilities that will need to be built in already-burdened communities, including Atlantic City, NJ. At a certain point, all the combined onshore infrastructure needed to bring the energy to land will create new overburdened communities and become burdensome to existing environmental justice communities,

despite it being for a renewable form of energy. Considering this reality, the EIS must review in detail the combined onshore infrastructure required to bring the energy generated offshore to land and identify the burdens to coastal and inland EJ communities that will result.

While we appreciate BOEM's acknowledgement of EJ issues related to the wind projects proposed for offshore sites near the NJ/NY coast, we are concerned with the agency's approach to environmental justice in the present case. First, BOEM must identify where and how it draws its legal authority for collecting and implementing EJ for the Atlantic Shores' wind projects or any of the other wind projects proposed off the NJ/NY coast. Additionally, BOEM has not made clear how it will address EJ issues through the EIS, nor with what criteria these issues will be evaluated.

Comment Number: BOEM-2021-0057-0140-1

Commenter: Holly Cox

Commenter Type: Individual

Other Sections: 6

Comment Excerpt Text:

I want to look at the big picture. We are in a climate emergency now. Evidence is all around us that we need to transition off fossil fuels. Global admissions are skyrocketing, putting earth on a path of becoming uninhabitable, heat waves are becoming more widespread and frequent in fact the last four years have been the hottest on record. Millions of tons of arctic ice are melting, and glaciers are disappearing. Out of control wildfires are burning here in the United States and all over the globe.

Stronger superstorms like Sandy and Ida are occurring more frequently leading to billions of dollars of damage. Something called a derecho storm tore through Iowa with 120 mile per hour winds destroying crops and homes. Catastrophic flooding is happening here and all over the world, deforestation is occurring at an alarming rate, ocean acidification and warming is destroying sea life and coral reefs.

Bird, insect, and bee populations are rapidly declining. Biodiversity loss is occurring on a massive scale, in fact we have lost 68 percent of our wildlife since the 1970s. Fossil fuels are killing our planet causing it to irreversibly warm and lead to the sixth mass extinction.

All of the effects are felt even more by communities on the frontline to have suffered from environmental racism. Our planet is on the brink of irreversible tipping points. It is against this background that I come to speak to you about the urgency of moving New Jersey towards a fossil free future clean renewable energy technology which includes offshore wind.

A United Nations' report and climate scientists tell us we have less than nine years left to reduce our carbon emissions to avoid irreversible tipping points from which earth can no longer recover. This climate crisis is leading to ocean level rise which could result in large well-known cities as New York City and cities and homes along the Jersey shore being under water and uninhabitable.

All of this illustrates the urgent need for offshore wind projects so we can transition off fossil fuels. Governor Murphy has stated a goal of 100 percent clean energy by 2050 and has directed state agencies to develop clean energy plans and shift away from dirty energy production that contributes to climate change.

Comment Number: BOEM-2021-0057-0159-2

Commenter: Brian Scanlon

Commenter Type: Individual
Other Sections: 27

Comment Excerpt Text:

Finally we have a renewable energy project and we should really go forward with it. For once, we don't have to combat environmental racism. Wind power is a proven safe technology which is available now unlike hydrogen, it is not a pie in the sky technology. Moreover, you don't have to mix it with frack gas to produce energy.

Comment Number: BOEM-2021-0057-0218-1
Organization: Waterspirit
Commenter: Rachel Dawn Davis
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Many talked about the increase of stormwater and floodwater management and linked it to climate change being exacerbated by fossil fuel subsidies for the past few decades at least, so thank you for those who did that. Our reliance on heavily subsidized fossil fuels disproportionately impacts communities of color.

For far too long, underprivileged, vulnerable, marginalized communities have experienced the direct, indirect, and cumulative physical and mental harms from letting an environmental racist sacrifice zones intergenerationally. There should be no sacrifice zones anywhere obviously.

There is talk about people having second properties tonight. In 2021, the not in my backyard idea that wind turbines are an eyesore is really not grounds for halting the potential of a wind project that could power so many collectively. We have to think of everybody. It is our world in partaking in this ongoing dialogue to lift up morals and values benefitting everyone in the community.

Comment Number: BOEM-2021-0057-0223-1
Commenter: Elizabeth Silleck
Commenter Type: Individual
Other Sections: 27

Comment Excerpt Text:

I fully support the expedient development of the draft EIS to advance environmentally responsible and equitable development of clean energy.

There is really no time to waste and right now we have not even begun the draft EIS which will take a very long time to develop with many opportunities for public input.

I listened in to the meeting last Thursday and I heard advocacy for the no action alternative in the EIS. Right now, I am not hearing that today, but I just want to speak to what we mean when we say no action.

When we consider what no action means, I want us to also consider what we are saying yes to. I am grateful to the few commentators who have spoken today about the inequity in our current energy system, and I want to underscore this point. A failure to move forward quickly with clean energy means we are saying yes to continuing the cumulative burdens of fossil fuel combustion pollution in communities that

are plagued by decades of under investment and being treated as sacrifice zones.

A failure to move forward quickly with clean energy means keeping dirty peaking plants in operation, spewing toxic chemicals into the air into communities where children suffer disproportionate rates of asthma.

It means saying yes to a country where black children are four times as likely to die from asthma as white children. It means saying yes to a country where black indigenous people of color pay more of their income towards energy cost and realize very little of the benefits of the energy industry. It means saying yes to a country and a world where increasingly severe storm and catastrophic flooding devastate the most vulnerable among us. It means saying yes to injustice.

Instead, I urge that we do move forward, and we move forward in a way that rectifies inequity, that invites communities disproportionately impacted by environmental burdens to define what they need from the clean energy transition and make sure it materializes.

I urge that the developers of this project ensure the benefits of the clean energy transition are intentionally and specifically directed to those who have suffered the most harm from energy production and to date have been left behind by the opportunities presented by the clean energy transition in the United States.

The Atlantic Shores project presents an opportunity to do things differently. Let's move, let's move quickly, and let's move in consultation with those who have born most of the brunt of dirty energy production. Let's move towards energy equity and energy justice.

Comment Number: BOEM-2021-0057-0234-17

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

The NEPA document should address effects of the Projects 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 FR7009; 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) *Consultation and Coordination With Indian Tribal Governments*, which requires federal agencies to establish regular and meaningful consultation and collaboration with tribal officials where tribal implications may arise.

A.3.12 Finfish, Invertebrates, and Essential Fish Habitat

Comment Number: BOEM-2021-0057-0009-3

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

In addition, NOAA and the National Marine Fisheries Service have established that Essential Fish Habitat (EFH) areas exist in that project area for sea and surf clams and sea bass. There is also concern about negative impacts on the horseshoe crab, which provides essential material for vaccine production.

Comment Number: BOEM-2021-0057-0039-14

Organization: Mayor of Borough of Seaside Park

Commenter: John A. Peterson Jr.

Commenter Type: Local Agency

Comment Excerpt Text:

It is "not a stretch", when one considers the absolutely critical and extremely valuable nature of medicines derived from another New Jersey Coast creature, the Horseshoe Crab, whose serum is utilized in saving countless human lives.

To discount, undervalue, if not ignore, the value of a critically endangered species shuts off forever, the potential hypothetical contribution of that species to the furtherance of mankind, bio-diversity, and all life. As such, I object, in the most vehement terms possible, to that one particular comment already spread upon the record, at the aforesaid October 21st public meeting

Comment Number: BOEM-2021-0057-0050-60

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS should address potential significant impacts on overlapping essential fish habitats (EFHs) for both migratory and nonmigratory species. Concerns have been expressed regarding the presence of EFHs in the project area for ocean quahogs, surf clams, Atlantic cod and black sea bass. A December 2017 BOEM report, Habitat Mapping and Assessment of Northeast Wind Energy Areas, stated that the EFHs for these species broadly overlap the lease area. The report also stated that although the sea scallop EFH did not overlap the lease area, trawling surveys found scallops widespread in the lease area. The report states that these species are "worth considering in terms of potential habitat disturbance".

The impact on the fish and their habitat from the high levels of turbine operational noise described above in I.1 needs to be included in the EIS and the EFH assessment prepared for the Magnuson-Stevens Fishery Conservation and Recovery Act consultation (see III.4).

Comment Number: BOEM-2021-0057-0051-8

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Other Sections: 14

Comment Excerpt Text:

Marine Life

The COP indicates a number of recreational and commercially important fisheries, as well as endangered species and essential fish habitat designated within the lease area. Careful consideration should be given to determine if the Project would result in:

- Increased risk of vessel strikes due to modifications in navigable patterns;
- Noise-related impacts to species due to pile driving and wind turbine operations;
- Disruption of benthic habitat or conversion of habitat types;
- Displacement of species from preferred habitats, or increased stress which may lead to injury or mortality.

While the COP outlines many of these considerations, a more detailed quantitative evaluation is warranted in the EIS. Further, EPA encourages implementing time of year considerations for construction of the wind farm to reduce impacts to marine life, such as avoiding times of peak migration, etc. BOEM will be required to consult with the National Oceanic and Atmospheric Administration (NOAA) regarding issues related to marine mammals, essential fish habitat, and threatened or endangered species. Furthermore, in addition to the Habitat Suitability Assessment Report, which indicates records of threatened/endangered species and/or their habitat associated with onshore components, EPA recommends conducting surveys to determine site-specific conditions that can better inform the impacts analysis in the EIS.

Comment Number: BOEM-2021-0057-0052-12

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Conservation of Essential Fish Habitat (EFH) is a critical element of modern sustainable 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.

Because the project is sited in federal waters and may have adverse effects on EFH, BOEM should consult with the Mid-Atlantic 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.

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-2021-0057-0052-27
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt 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 9: 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. If the areas cannot be avoided, alternatives should be developed to minimize the frequency, intensity, and duration of the effects.

Comment Number: BOEM-2021-0057-0070-2
Commenter: Timothy Feeney
Commenter Type: Individual

Comment Excerpt Text:

I'm highly concerned with the speed that this project is moving forward without research on the possible effects it could have on one of our nation's most valuable and unique fisheries.

Comment Number: BOEM-2021-0057-0089-3
Commenter: Gina Cobia
Commenter Type: Individual

Comment Excerpt Text:

Structures installed for the Projects could permanently change benthic habitat and other fish habitat.

Comment Number: BOEM-2021-0057-0100-7
Commenter: David Wallace
Commenter Type: Individual

Comment Excerpt Text:

The National Marine Fisheries Service (NMFS) has said that they cannot survey with their research vessels, within the wind farms as they are currently designed. This means that fisheries, environmental and habitat data that has been collected continually for 60 years will not be able to be continued there data base. Therefore, without that data, the database ends up with a big hole in the population estimates for a number species of fish and shellfish. Without the fishery surveys, what will happen is each fish stock will appear to be lower than in the past. That could result in having the quotes of those stocks reduces to

prevent the stock from being over fished. When all of the wind farms are build, assuming that the developers get their way, the fish and shellfish populations will be underestimated and therefore the quotas will be lowered. If the turbine spacing were to be spaced 2 X 2 NM apart, the government's research vessels may be able to sample within the wind farm which would solve the problem.

Comment Number: BOEM-2021-0057-0103-2
Organization: Sierra Club
Commenter: Richard Isaac
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition to helping address the climate crisis that the planet is in, theres an additional environmental benefit as well at the local level. Once the offshore turbines are installed, their pylons form artificial reefs which can benefit several species of marine life, including mussels and demersal fish.

Comment Number: BOEM-2021-0057-0104-10
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 20

Comment Excerpt Text:

The EIS must provide a comprehensive cumulative impacts assessment, based on current scientific data, of EFH, pelagic, and benthic resources from the impacts of Atlantic Shores projects construction, operation, maintenance, repowering, and decommissioning. In the EIS, BOEM must evaluate all reasonable alternatives to current COP activities and adopt that alternative which has the least/minimal impact to EFH.

Comment Number: BOEM-2021-0057-0104-9
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Essential fish habitats (EFHs), and Pelagic and demersal fish including commercially managed, overfished, ESA-listed & ecologically important forage species, species caught as bycatch, and benthic resources including infauna buried in sediments, epifauna living on seabed surface or attached to substrates; macroinvertebrates (arthropods, annelids, mollusks) are immediately affected by various underwater disturbances including acoustic disturbance, seafloor disturbance, and water pollution. These must be addressed at the outset to minimize the overall adverse impacts to EFH and lessen the direct mortality of fish and invertebrates[Footnote 21: BOEM. (2021, Sep). Atlantic Shores Wind Farm Construction and Operations Plan - Volume II: Affected Environment. Table 4.6-1 Finfish and Pelagic Invertebrate Species Potentially Present in the Atlantic Shores Offshore Project Area] and prevent the collapse of marine ecosystems. Among the ESA-listed fish species in Atlantic Shores project area are:

Column A: Atlantic sturgeon (*Acipenser oxyrinchus*) - Endangered

Column B: Atlantic salmon (*Salmo salar*) - Endangered
Column A: Shortnose sturgeon (*A. brevirostrum*) - Endangered
Column B: Giant manta ray (*Mobula birostris*) - Threatened

The sturgeons are also listed as Endangered under NJ law. Of the 4 tuna species (which are highly migratory) found in Atlantic Shores projects area, all have decreasing populations on the Atlantic coast and 3 are red-listed by the International Union for Conservation of Nature (IUCN) [Footnote 22: IUCN Red List <https://www.iucnredlist.org/>] as are the 11 shark species with EFH in the Atlantic Shores project area:

Column A: Atlantic bluefin tuna (*Thunnus thynnus*) – Endangered, Atlantic yellowfin tuna (*T. albacares*) - Near Threatened
Column B: Atlantic albacore tuna (*T. alalunga*) – Near Threatened
Column A: shortfin mako (*Isurus oxyrinchus*) - Endangered
Column B: basking shark (*Cetorhinus maximus*) – Endangered*
Column A: dusky shark (*Carcharhinus obscurus*) – Endangered*
Column B: porbeagle shark (*Lamna nasus*) - Endangered
Column A: sand tiger shark (*Carcharias taurus*) – Vulnerable*
Column B: common thresher (*Alopias vulpinus*) - Vulnerable
Column A: spiny dogfish (*Squalus acanthias*)- Vulnerable
Column B: white shark (*Carcharodon carcharias*) - Vulnerable
Column A: sandbar shark (*Carcharhinus plumbeus*) - Vulnerable
Column B: blue shark (*Prionace glauca*) - Near Threatened
Column A: tiger shark (*Galeocerdo cuvier*) - Near Threatened
*Species of Concern (federal)

Comment Number: BOEM-2021-0057-0105-13
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

While it may be a given that Atlantic sturgeon are a federally listed endangered species, it is important to note that recent annual survival rate estimates for Atlantic Sturgeon are already below the suggested threshold for recovery and, despite a lack of information regarding the magnitude of emerging threats to this species, including offshore wind energy development, it is apparent that even a moderate increase in mortality resulting from anthropogenic sources could negatively impact Atlantic Sturgeon stocks. (Emphasis added). [Footnote 19: Ingram, E. C., Cerrato, R. M., Dunton, K. J., and Frisk, M. G. (2019). Endangered Atlantic sturgeon in the New York wind energy area: implications of future development in an offshore wind energy site. *Sci. Rep.* 9:12432. Retrieved from doi: 10.1038/https://www.nature.com/articles/s41598-019-48818-6s41598-019-48818-6]

There is evidence that certain construction projects adjacent to sturgeon spawning areas and migratory paths have resulted in sturgeon mortality. For example, records kept by New York State showed a surge of sturgeon deaths that coincided with the Tappan Zee Bridge replacement project, which began in 2012. 46 sturgeon deaths were reported in 2015, and it was reported that the mortality increase aligned almost exactly with the 2012 start of bridge construction when test piles were first installed. [Footnote 20: Riverkeeper (2015. Nov. 17) Fisheries Service Agrees to Re-Examine Tappan Zee Bridge Project as Reports of Dead Sturgeon Continue to Mount. Fisheries Service agrees to re-examine Tappan Zee Bridge

project as reports of dead sturgeon continue to mount - Riverkeeper.]

BOEM recognizes that its authorization of offshore wind projects in the New York Bight may impact the endangered Atlantic sturgeon. Atlantic Sturgeon make extensive coastal migrations and the majority of the late-juvenile and adult life-stages are spent in coastal and offshore marine waters (Smith 1985). Recent BOEM supported telemetry studies within the New York Wind Energy Area indicated that Atlantic Sturgeon are migrating into deeper offshore marine habitats during the fall and winter. This study resulted in detections of 181 unique individuals throughout the site and was able to conclude that “detections were highly seasonal and peaked from November through January. Conversely, fish were relatively uncommon or entirely absent during the summer months (July–September).” (Ingram et al. 2019). This type of research is of tremendous value in guiding decisions about ongoing monitoring requirements, offshore wind construction windows, seasonal vessel speed restrictions, and other mitigation.

BOEM is also supporting an ongoing sturgeon study, scheduled to be completed in June of 2023. The information from this report will be “compared to the location of proposed offshore wind energy projects to help characterize relative risk of projects to different distinct population segments (DPSs) and life history stages of Atlantic sturgeon.” [Footnote 21: University of Delaware and United States Geological Services. 2020-2022. Understanding of Atlantic Sturgeon Migratory Patterns – Integrating Telemetry & Genetics. Retrieved from: SDP PICOC Template (boem.gov).] To the extent possible, the EIS should include findings from this ongoing study to be evaluated as part of the EIS.

The Conservancy supports and encourages this type of research to further our understanding of seasonal patterns and spatial and temporal occurrences of this important endangered species so that impacts can be avoided and mitigated. That being said, given the nature and extent of past research conducted and the fact that research relevant to this this important species is ongoing, the Atlantic Shores’ COP inadequately addresses the potential impacts to Atlantic Sturgeon from both noise and vessel strikes associated with construction and operation in these areas. The COP does not reference the most recent telemetry studies in the New York Bight referenced above. Instead, the COP focusses almost exclusively on the fact that Critical Habitat for Atlantic Sturgeon as defined by NOAA does not overlap with the Offshore Project Area and the fact that Offshore Project Area is not located within any Atlantic sturgeon spawning areas.

Comment Number: BOEM-2021-0057-0105-14

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

The EIS should articulate specific monitoring and mitigation requirements for the protection of Atlantic sturgeon during the construction, operation and decommissioning phases of this project. The EIS should pay special attention to the temporal effects of seabed disturbance on foraging habitat and prey availability relative the migratory patterns of Atlantic sturgeon and seasonal prevalence in the New York Bight during construction activities. The preferred alternative in the EIS should include requirement for additional acoustic tagging of Atlantic sturgeon to further enhance the ongoing BOEM Atlantic sturgeon telemetry study.

Comment Number: BOEM-2021-0057-0107-16

Organization: Mid-Atlantic Fishery Management Council and New England Fishery

Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

Installation of cables and foundations for turbines and offshore substations will generate both noise and sediment plumes, which may affect biological processes for marine species. For example, longfin squid may be negatively impacted by the construction sounds and their demersal egg mops could be materially impacted by sediment deposition. The EIS should acknowledge that both demersal and pelagic species may also be impacted by the noise and vibrations generated from construction activities and may change their behavior and/or feeding patterns to avoid the impacted area, which is not a negligible impact. It will be important for the impacts analysis, including the EFH assessment, to consider how installation during different seasons will affect particular species and life stages during spawning, juvenile settlement, etc. The nature of these repeated effects over time should be accounted for in the analysis of impacts to habitats and fishes. As described above, we also have concerns about sedimentation which could occur at the turbine and substation foundations due to the wake effect.

Comment Number: BOEM-2021-0057-0107-19

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 17 8

Comment Excerpt Text:

Through modeling work, the physical presence of turbines has been estimated to alter the near- surface and near-bottom temperatures, and thus, habitat conditions for marine species, as well as juvenile transport of commercially important species like sea scallop. [Footnote 9: https://s3.amazonaws.com/nefmc.org/Doc.14.a-UMASSD_WHOI_short_report_05_6_12_2021_revison.pdf] The EIS should acknowledge both the individual's project potential to materially affect oceanographic and hydrodynamic conditions based on ongoing research efforts and the project's contribution to cumulative effects from development of several wind farms on a regional scale. The EIS should also utilize the findings from ongoing research funded by BOEM in its impact assessment to understand how wind energy facilities will likely affect local and regional physical oceanographic processes.

Potential impacts to the Mid-Atlantic Cold Pool and resulting impacts on fishery species are of concern to the Councils and other fishery stakeholders. This is also an area of ongoing research. [Footnote 10: For example, two recent reports on potential impacts of offshore wind energy development on the Cold Pool which do not appear to be referenced in the draft EA are available at the following links:

<https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf>;

https://rucool.marine.rutgers.edu/wp-content/uploads/2020/10/PartnersWorkshop_WhitePaper_Final.pdf]

The EIS should clearly document what is known about potential impacts to the Cold Pool and resulting potential impacts to marine species and fisheries. The EIS should acknowledge data gaps and ongoing research and should consider potential impacts resulting from this project, as well as cumulative impacts from all planned wind energy projects in the Mid-Atlantic. We appreciate that the COP acknowledged this as an issue of concern and an area of ongoing research.

Comment Number: BOEM-2021-0057-0107-7

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt 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. 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).

The EIS should clearly and repeatedly acknowledge the limitations of each data set, should include recent data, and analyze multiple years of data (e.g., 10 years) to capture variations in fisheries and environmental conditions. Important data limitations, including but not limited to the location of private recreational fishing effort, should be supplemented with stakeholder input.

Important caveats regarding fisheries data for 2020 should be taken into consideration given most commercial and recreational fisheries were severely impacted by the COVID-19 pandemic (e.g., severely reduced market demand, lower prices, social distancing restrictions, and reduced fishing effort for many species). Important data collection programs were also negatively impacted (commercial fishery discard surveys, shore-side recreational catch sampling, and for- hire sampling).

Comment Number: BOEM-2021-0057-0112-7

Organization: New York State Department of State

Commenter: Kisah Santiago-Martinez

Commenter Type: State Agency

Comment Excerpt Text:

Populations of concern to New York that rely upon offshore habitats along the New Jersey seacoast include:

a. Juvenile and adult striped bass (*Morone saxatilis*) in Long Island and the Hudson River have well-established migratory corridors connecting the Chesapeake Bay, Delaware Bay, and Hudson River stocks throughout their lifetime, with the Hudson River representing a significant spawning and nursery area on the East Coast. Not all striped bass migrate, but those that do typically migrate in groups when they are at least two years old and generally move northward in summer and southward in winter along the Atlantic coast. [Footnote 5: ASMFC. 2013. 57th SAW Assessment Report. http://www.asafc.org/uploads/file/529e5ca12013StripedBassBenchmarkStockAssessment_57SAWReport.pdf] Important corridors necessary to support striped bass coastal migrations and their extensive movements between estuaries should be considered when evaluating construction and operational impacts.

b. Similar to striped bass, the federally endangered Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) occurs in nearshore waters of the outer continental shelf. The New York Bight is identified as one of five distinct population segments for Atlantic sturgeon and continues to have the most robust population since

the fishery experienced a coastwide collapse in 1901.[Footnote 6: Atlantic States Marine Fisheries Commission (ASMFC). 2017. 2017 Atlantic Sturgeon Benchmark Stock Assessment and Peer Review Report] Atlantic sturgeon are most likely to occur along shallow nearshore areas of the continental shelf off Long Island and New Jersey during seasonal migrations from March to June and September to November. [Footnote 7: Dunton, K.J., A. Jordaan, D.O. Conover, K.A. McKown, L.A. Bonacci, and M.G. Frisk. 2015. Marine Distribution and Habitat Use of Atlantic Sturgeon in New York Lead to Fisheries Interactions and Bycatch. *Marine and Coastal Fisheries*, 7:1, 18-32.] Offshore development should account for these seasonal movement patterns so that Atlantic sturgeon can fulfill this vital step in their life history and safely journey to estuaries and upriver spawning grounds.

Comment Number: BOEM-2021-0057-0114-38

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Other Sections: 19.6 19.2

Comment Excerpt Text:

Currently, the process for submitting geological and geophysical (G&G) survey information in Site Assessment Plans (SAP) does not allow for environmental review of the impacts of survey activities. BOEM requires the submission of G&G information in SAPs for both wind energy areas and cable routes, [Footnote 13: 30 C.F.R. § 585.610.] but survey activities undertaken pursuant to the collection of this mandated information are not explicitly governed or authorized under any EA. Because survey information is collected before BOEM reviews a SAP, [Footnote 14: Notably, the public does not have an opportunity to comment on a SAP or even see a draft until after BOEM's approval.] there is no formal process for evaluating the environmental impacts of survey activities. However, the G&G survey equipment is known to cause harm to commercially harvested fishes [Footnote 15: See, e.g., van der Knaap, Inge, et al. "Effects of a seismic survey on movement of free-ranging Atlantic cod." *Current Biology* (2021). <https://doi.org/10.1016/j.cub.2021.01.050>. While this study examines the effects of the low frequency-sound pulses associated with oil and gas site characterization, it is unclear to what extent how those differ from sound and vibrations produced by current generation OSW surveys, as available public information spans a vast range of possibilities and we are unable to identify any instance in which BOEM has authoritatively disclosed this information.] and the marine environment, [Footnote 16: See Kunc HP, McLaughlin KE & R Schmidt. "Aquatic noise pollution: Implications for individuals, populations, and ecosystems." *Proceedings of the Royal Society B: Biological Sciences* (2016). <https://doi.org/10.1098/rspb.2016.0839>] is used in a manner that displaces commercial fishing activity, and results in loss of or damage to fishing gear. Numerous RODA members have reported observing population-scale impacts to harvested species, particularly pelagic species including squids but also demersal species like whelks, after periods of OSW survey vessel activity. In recent years, the scientific literature on acoustic impacts to commercially harvested stocks has broadened, and the best available science now corroborates the experiences of our members, showing that acoustic impacts from OSW projects and seismic surveys have localized and population-scale impacts to harvested species and their habitat.

Comment Number: BOEM-2021-0057-0114-39

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

Due to the G&G activities occurring outside of the NEPA process, NMFS is unable to conduct Essential Fish Habitat (EFH) consultations, despite the fact that geophysical surveys emit high amounts of acoustic energy, including shallow- and medium-penetration sub-bottom imaging systems that use ‘chirp’ and ‘boomer’ equipment. [Footnote 17: BOEM. “Guidelines for Information Requirements for a Renewable Energy Site Assessment Plan (SAP).” (June 2019). https://www.boem.gov/sites/default/files/renewable-energy-program/BOEM-Renewable-SAP_Guidelines.pdf.] In preparation of a SAP, G&G survey requirements only include a submission of a Biological Evaluation [Footnote 18: National Marine Fisheries Service. “Recommendations for the Contents of Biological Assessments and Biological Evaluations.” <https://www.nrc.gov/docs/ML0921/ML092170770.pdf>.] to NMFS Protected Resources Division for the purposes of avoiding marine mammals. EFH assessments and consultations conducted in later project stages have also failed to adequately assess the impacts of G&G surveys to the acoustic environment, as these activities. 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-2021-0057-0119-28

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Although benthic resources are not discussed in depth in these comments, we refer BOEM to other recently submitted comments that discuss how offshore wind projects structurally modify large areas of benthic habitat [Footnote 68: See, e.g., comments submitted by NWF et al. “Comments in Response to the Bureau of Ocean Energy Management Notice of Intent To Prepare an Environmental Impact Statement for the Proposed Sunrise Wind Farm Project on the Northeast Atlantic Outer Continental Shelf, 86 Fed. Reg. 48763 (August 31, 2021),” submitted 10/04/2021, available at <https://drive.google.com/file/d/17JF-8av1xiyjb1TMUwt9niFe4IiMnev8/view?usp=sharing>]. The seven foundation types in Atlantic Shores’ Project Design Envelope have considerably different potential impacts on the seafloor, with the foundation footprint per-foundation ranging from 78.5 m² for piled jackets to 2,375.8 m² for gravity base structures (or, including scour protection, the per-foundation footprint ranges from 2,700.0 m² for gravity-pad tetrahedron bases to 10,404.0 m² for suction bucket jackets) [Footnote 69: ASOW COP Volume I, Table 4.1-1 at 4-21]. This will necessarily impact benthic invertebrates, which provide a foundation for the marine trophic pyramid, but also impact demersal fishes, and bottom- foraging pelagic animals.

Comment Number: BOEM-2021-0057-0119-30

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

What has not been evaluated in pile driving operations is the noise propagated through the substrate by Rayleigh waves [Footnote 74: https://en.wikipedia.org/wiki/Rayleigh_wave The Rayleigh wave is a surface wave that propagates along the surface of a semi infinite elastic solid], and their direct impact on benthic invertebrates and demersal fish. The benthic sediment and substrate serve as habitat for many

invertebrates, polychaete annelids, mollusks, crustaceans (including amphipods, crabs, lobster, snapping and mantis shrimp), and echinoderms, as well as lower trophic level fishes such as the sand lance and gobies. These critical organisms serve as the foundation of the trophic pyramid. These animals have adapted to the subtle dynamics of their habitat to find food, avoid predation, and otherwise communicate with conspecifics and co-inhabitants of their environment, and the delicate sensory systems that they use to survive could be damaged by the excessive impulse noise of pile driving.

Comment Number: BOEM-2021-0057-0119-31

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

There is nominal data on how these benthic organisms respond to substrate-borne noise and vibration, although it is known that chronic noise is a stress factor for bivalves [Footnote 75: Charifi M, Sow M, Ciret P, Benomar S, Massabuau J-C (2017) The sense of hearing in the Pacific oyster, *Magallana gigas*. PLoS ONE 12(10): e0185353. <https://doi.org/10.1371/journal.pone.0185353>] and arthropods [Footnote 76: Pine MK, Jeffs AG, Radford CA (2012) Turbine Sound May Influence the Metamorphosis Behavior of Estuarine Crab Megalopae. PLoS ONE 7(12):]. In a study by Solan et. al (2016) [Footnote 77: Solan, M., Hauton, C., Godbold, J. et al. Anthropogenic sources of underwater sound can modify how sediment-dwelling invertebrates mediate ecosystem properties. Sci Rep 6, 20540 (2016). <https://doi.org/10.1038/srep20540>], it was found that chronic shipping and construction noise disrupted the burrowing and bioirrigation [Footnote 78: Bioirrigation is how much the organism moves water in and out of the sediment by its actions] activities of the North Sea Langoustine [Footnote 79: University of Southampton News, (5 February 2016) Man-made underwater sound may have wider ecosystem effects than previously thought. <https://www.southampton.ac.uk/news/2016/01/underwater-sound-biodiversity-study.page>]. Langoustine “fluff up” the sediment of the North Sea, providing habitat for burrowing worms, amphipods, crabs, and other marine invertebrates – the foundation of the area’s trophic pyramid. If pile driving noise significantly interrupts burrowing and bioirrigation activities such that the substrate is allowed to settle, it may become less like mud and more like concrete. Compromising the habitability of this benthic habitat will affect all marine life dependent upon it. Decreases in bioirrigation could also decrease carbon sequestration and nutrient recycling, with the potential consequence of the sediment becoming anoxic [Footnote 80: Solan, M., Hauton, C., Godbold, J. et al. Anthropogenic sources of underwater sound can modify how sediment-dwelling invertebrates mediate ecosystem properties. Sci Rep 6, 20540 (2016). <https://doi.org/10.1038/srep20540>].

While these studies were not all focused on installation and operation of monopile-mounted turbines, it is possible that the effects of noise from these structures—from the pile driving installation, to the chronic turbine noise propagated down the monopile into the benthic substrate—would impact benthic-inhabiting taxa in unpredictable ways [Footnote 81: Roberts L, Elliott M. Good or bad vibrations? Impacts of anthropogenic vibration on the marine epibenthos. Sci Total Environ. 2017 Oct 1;595:255-268. doi: 10.1016/j.scitotenv.2017.03.117. Epub 2017 Apr 4. PMID: 28384581]. Additionally, as mentioned earlier, particle motion caused by pile driving may also result in impacts to species in the seabed [Footnote 82: Nedelec et al. (2016)].

Pile-driven bases also confer acoustical energy from the turbine masts into the substrate, which becomes a chronic noise problem as the turbines operate. While these noises may seem subtle, benthic-inhabiting creatures use substrate vibrations to sense their surroundings and these vibrations may elevate vigilance,

or mask biologically important acoustical cues, causing stress and compromising the organisms' natural history [Footnote 83: Pine MK, Jeffs AG, Radford CA (2012) Turbine Sound May Influence the Metamorphosis Behavior of Estuarine Crab Megalopae. PLoS ONE 7(12)]. Mitigating this impact would require acoustically decoupling the mast from the pile-driven base, or if the mast is below the waterline, acoustically decoupling the turbine from the mast. But noise profiles of the equipment should be fully measured prior to developing the field.

Comment Number: BOEM-2021-0057-0119-7

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 2.2

Comment Excerpt Text:

Cooling for DC cables (Section IV.D.2): If Atlantic Shores uses a DC cable, the Project should not use open loop cooling systems in order to avoid impacts to marine life, including eggs, larvae, juvenile fish, and invertebrates.

Comment Number: BOEM-2021-0057-0119-78

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM should explicitly consider the cumulative effects of offshore wind on oceanographic conditions, including stratification and waves, and the resulting effects on fish habitat, as part of the Atlantic Shores EIS.

Comment Number: BOEM-2021-0057-0122-18

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

(2) Habitat Change

a. Introducing hard substructures into the marine environment creates artificial reefs leading to the settlement of marine organisms in the area. This can be positive, as well as negative. It increases biodiversity but can also potentially introduce new harmful species (including invasive species) and disrupt food chains.

b. The creation of these large homogenous changes to the sea floor will change the environment and the impact it has on the marine life is uncertain but could result in displacement.

Comment Number: BOEM-2021-0057-0169-2
Organization: Sierra Club, NJ Chapter
Commenter: Richard Isaac
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition to helping address the climate crisis that the planet is in, there is an additional environmental benefit as well at the local level. Once the offshore turbines are installed, their pylons form artificial reefs that benefit several species of marine life including mussels and diversal fish.

Comment Number: BOEM-2021-0057-0234-27
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency
Other Sections: 14

Comment Excerpt 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 habitats on which they depend. Potential effects of offshore wind energy development on listed species and their habitat that should be considered by BOEM when making any determinations about the Atlantic Shores Projects 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;

Comment Number: BOEM-2021-0057-0234-33
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency

Comment Excerpt Text:

As currently described in the NOI, these facilities (inclusive of the wind farm areas, offshore and inshore export cables and corridors, and shoreside landing points) will be constructed, operated, and maintained in areas designated EFH for various life stages of species managed by the New England Fishery Management Council (NEFMC), Mid-Atlantic Fishery Management Council (MAFMC), South Atlantic Fishery Management Council (SAMFC), and NMFS. Species for which EFH has been designated in the Projects' area include, but are not limited to butterfish (*Peprilus triacanthus*), summer flounder, windowpane flounder (*Scophthalmus aquosus*), clearnose skate, bluefish (*Pomatomus saltatrix*), longfin squid, black sea bass (*Centropristis striata*), scup, spiny dogfish (*Squalus acanthias*), winter flounder, ocean quahog, sea scallop, and Atlantic surfclam. The Projects' proposed area is also designated EFH for several Atlantic highly migratory species (tuna, swordfish, billfish, small and large coastal sharks, and pelagic sharks) including, but not limited to sandbar shark and sand tiger shark (*Carcharias taurus*). The sand tiger shark has been listed as a Species of Concern by NOAA. "Species of concern" are species about which we have some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the ESA (69 FR 19975; April 15, 2004)

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. 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/>. The mapper is a useful tool for viewing the spatial distribution of designated EFH and HAPCs, however the mapper should be used for reference purposes only and does not include Atlantic salmon EFH, blueline tilefish, chub mackerel, or the summer flounder HAPC for the Greater Atlantic Region. The full designations for each species may be viewed as PDF links provided for each species within the Mapper, or via our website links to the New England Fishery Management Council's Omnibus Habitat Amendment 2 and the Mid-Atlantic Fishery Management Council's FMPs. 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-2021-0057-0234-34

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 4

Comment Excerpt Text:

The Atlantic Shores Projects are proposed to be constructed in or directly adjacent to important habitat for numerous federally-managed species and their prey. Additionally, the export cable corridors likely overlap sensitive offshore and nearshore-estuarine habitats such as subtidal and intertidal flats, coastal marsh, SAV, and others. The NEPA document, and the EFH, benthic resources, finfish, and invertebrates sections, in particular, should accurately describe the Projects' area and the resources that rely on habitats that are susceptible to project impacts. 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, as well as habitats important for eggs, larvae, and juveniles. The evaluation of the Projects' impacts should not only consider impacts of the Projects 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/inland locations. The document should analyze the effects to the physical and biological habitat features and the biological consequences of those effects. It will be important to consider impacts of the Projects on all life stages (adults, juveniles, larvae, eggs), and we recommend focusing on species and life stages that may be more vulnerable to impacts.

Additionally, habitats that support particularly sensitive life stages of species should be identified and described. For example, juvenile summer flounder inhabit a variety of inshore coastal and estuarine habitats, including SAV (eelgrass and other species). Any area with SAV is designated as a HAPC and should be identified and mapped. Project activities that adversely affect SAV should be avoided or minimized to the extent practicable. Additionally, species with adhesive or demersal eggs or neutrally buoyant larvae, such as winter flounder, are particularly sensitive to actions such as dredging and

trenching. Furthermore, sensitive or unique features such as those designated as New Jersey (NJ) Prime Fishing Areas in accordance with N.J.A.C. 7:7-9.4 should be identified and described, and any potential impacts be analyzed. A large portion of the lease area is designated a NJ Prime Fishing Area (“Lobster Hole”), in addition to a smaller feature (“The Wall”) being present, closer to shore. Other Prime Fishing Areas overlap with, or are very close to, the export cable routes. These areas are designated NJ Prime Fishing Areas because of their demonstrable history of supporting a significant local intensity of recreational or commercial fishing activity, which likely results from high fish production, high benthic faunal density, and species diversity; dense aggregations of fish are likely supported by high local primary production. It is important that the EIS fully describe and analyze impacts of the Projects on sensitive habitats and unique benthic features as well as vulnerable life stages of any NOAA trust resource, and evaluate ways to avoid and minimize those impacts. If it is not feasible to avoid or minimize negative impacts, mitigation measures must be proposed and analyzed.

We would also note that impacts to complex habitats and benthic features, such as those found in the Projects’ area, are known to result in long recovery times and are potentially permanent. Such impacts 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 the Projects’ 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. Benthic features (*e.g.*, sand ridges and banks; ridge and swale complexes) and complex habitats are more vulnerable to permanent impacts or may take years to decades to recover from certain impacts. The variability in recovery times by habitat type and components should be fully discussed and analyzed in the document.

The analysis should include discussion of the potential effects of habitat alteration from construction and operation of the Projects using the best available scientific information. The analysis should address the potential impact of converting unconsolidated soft bottom and smaller-grained hard habitats that support distinct assemblages of fish and shellfish to artificial structures (WTGs and scour protection) that may attract larger predatory species and lead to shifts in the invertebrate communities. While the WTGs may create a reef effect, the document should clearly distinguish the difference between man-made structures and any natural complex habitat - such as pebbles/granules and cobbles - that may be present in the area. The distinction between the ecological functions and values of natural and man-made structures should be incorporated into the analysis. The decommissioning and removal of WTG structures should also be incorporated into the analysis. Furthermore, numerous species feed, rest, spawn, drift, and settle in this same area, so comprehensive analyses related to changes in hydrodynamics and underwater noise, vibrations, and turbidity and sedimentation as a result of WTG placement/operation and scour protection placement should be undertaken. Functionally immobile species such as Atlantic surfclam and ocean quahog are particularly susceptible to impacts based on their life history strategies. Near permanent disturbances, such as increased noise and vibrations from the presence and operation of WTGs, will likely increase stress in Atlantic surfclams, ocean quahogs, and other species, leading to a potential cascade of negative biological consequences (*e.g.*, reduced feeding and respiration, poor body condition, reduced survivorship, reduced fecundity).

The document should evaluate the extent to which the introduction of artificial hard structures (WTGs and scour protection) will have both direct and indirect impacts on marine resources that could lead to changes in the distribution and abundance of Federally managed species and their prey. For example, artificial hard structures will permanently eliminate soft bottom habitats for numerous species such as Atlantic surfclam, ocean quahog, sea scallop, longfin squid, benthic prey species, and various flatfish (*e.g.* flounder). This change in habitat could alter predator-prey interactions by providing additional habitat for structure-oriented species (*e.g.*, black sea bass and other large predators) and species like moon snails and starfish that prey on bivalves. These species could become more abundant and aggregate within the

Project area due to presence of WTGs and scour protection, potentially changing species interactions. Potential changes to community structure from habitat conversion should be fully evaluated in the EIS. Furthermore, Atlantic surfclams and ocean quahogs burrow into sand and gravelly sediments and are directly susceptible to habitat loss and mortality from the construction of turbine foundations, permanent placement of foundations and scour protection, and trenching of cables in the lease area and in the export cable corridor. Sea scallops inhabit the same areas, but are epifaunal, existing primarily on surficial sediments. Numerous flat fish (*e.g.*, flounder) also burrow into surficial sediments to ambush prey and seek refuge from larger predators, making them more susceptible to construction activities in soft bottom areas, and to the permanent elimination of soft bottom. The EIS should fully evaluate all of the direct, indirect, individual, cumulative, and synergistic estimated impacts to fish and invertebrates due to the potential conversion of existing natural substrates with artificial materials.

Comment Number: BOEM-2021-0057-0234-35

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

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 projects.

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 projects, an expanded EFH consultation as described in 50 CFR 600.920(f) is necessary for these projects. As part of the expanded EFH consultation, the EFH assessment for the proposed projects, 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 Projects, (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.

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, we request you use the NEPA document as the vehicle within which to present the EFH assessment. The EFH

assessment should be included within a separate section or appendix of the Draft EIS document and be clearly identified as an EFH assessment.

Considerations for the EFH Assessment

We understand you permit the use of a Project Design Envelope (PDE) in the preparation of a COP, and the NEPA document will focus on analysis of the maximum impacts that would occur from the range of design parameters. However, for purposes of the EFH consultation, the EFH assessment should be consistent with the EFH regulations under the MSA. Specifically, you are required to include in your assessment an analysis of the potential adverse effects on designated EFH, including the site-specific effects of the Projects, and measures that can be taken to avoid, minimize, or offset such effects (CFR 600.920(d-e)). You must assess the potential adverse impacts that would occur as a result of the range of design parameters under consideration in the PDE, rather than a maximum impact scenario. Should the EFH assessment provide insufficient details to assess impacts of the Projects, 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. To help ensure adequate information to initiate the EFH consultation, the expanded EFH assessment should include full delineation, enumeration, and characterization of all habitat types in the Projects' area including the lease areas, cable corridors, and landing sites. Particular attention should be paid to HAPCs, sensitive life stages of species, ecologically sensitive habitats, and difficult-to-replace habitats such as SAV, natural hard bottom substrates, particularly substrates with attached macroalgae and epifauna (including corals), and shellfish habitat and reefs. The habitat mapping data should also be shared directly with us in usable geographic information system (GIS) format (or cloud-based GIS data viewer) for review, apart from the body of the EFH assessment and maps and figures contained therein. To aid BOEM and the Projects' applicant in the development of comprehensive and complete EFH assessments, we have published our *Recommendations for Mapping Fish Habitat* [Footnote 14: https://state1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/60637e9b0c5a2e0455ab49d5/1617133212147/March292021_NMFS_Habitat_Mapping_Recommendations.pdf], dated March 2021. This document is an updated version; a previous version was submitted to you on May 27, 2020. 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.

While a draft/preliminary EFH assessment was provided in the COP, this document primarily re-states the EFH designations from the various Fishery Management Councils or the NMFS in narrative form and provides maps from the EFH Mapper. The limited effects analysis in the draft document is flawed and insufficient as it appears to broadly discount adverse impacts while highlighting perceived benefits of the projects. We have provided numerous guidance documents to aid in the preparation of the NEPA document and EFH assessment and are currently working with you on an EFH Assessment Template to further streamline the consultation process. We recommend BOEM use the various guidance documents and template, and work directly with us to develop a comprehensive EFH assessment and not heavily rely on the draft document provided in the COP.

As stated in our habitat mapping recommendations, EFH checklist, and through regular communication with you, early coordination in the consultation process is essential. We appreciate Atlantic Shores's early coordination and communication efforts and are hopeful that these efforts continue as data is collected and future data collection efforts are proposed and undertaken. Comprehensive benthic data will help accurately characterize and delineate fish habitat within the lease area and cable corridors to ensure we can differentiate and distinguish between, and within, areas of sensitive and complex habitats to provide appropriate conservation recommendations. Accurate characterization of the project areas will be critical to ensure our recommendations are appropriate and able to reflect any heterogeneity that may exist across

the sites. Although we have been presented with figures and representations of data during meetings with Atlantic Shores, we have yet to review any comprehensive habitat data, including maps or mapping documents.

In the absence of fine-scale and accurate fish habitat characterization and delineation, we will take a conservative approach to our assessment of project impacts and development of conservation recommendations for the Projects. All data related to habitat mapping (acoustic survey results, seafloor sampling data, GIS data, figures/maps, etc.) should be shared with us as soon as practicable (once it is processed), so we can begin reviewing and providing comments, which will allow for more streamlined projects' review and consultation. Upon review of this information, a habitat mapping-specific meeting for the Atlantic Shores Projects should be scheduled.

Comment Number: BOEM-2021-0057-0234-36

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 8

Comment Excerpt Text:

our FWCA recommendations must be given full consideration by federal action agencies. Your consultation with us under the FWCA may occur concurrently with the EFH consultation under the MSA.

Under the FWCA, our authority extends to numerous other aquatic resources in the area of the proposed projects, including, but not limited to, the following species and their habitats: 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.asmfc.org>.

We anticipate all of these species will be included in your impact assessments, both in the EFH assessment and NEPA document. We also expect the assessment to include impacts to the recreational and commercial fishing communities that rely on these species. 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 Projects' impacts to organisms or populations associated with the various trophic levels and life history strategies exhibited by FWCA species known to occupy the Projects' 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 impacts of the Projects.

Comment Number: BOEM-2021-0057-0234-38

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

the Atlantic Shores projects are 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. These projects would have direct impacts on the federal multi-species bottom trawl survey conducted on the Fisheries Survey Vessel (FSV) Henry Bigelow, the surfclam and ocean quahog clam dredge surveys conducted on chartered commercial fishing platforms, the integrated benthic/sea scallop habitat survey, ship and aerial-based marine mammal and sea turtle surveys, and the shelf-wide Ecosystem Monitoring Survey (Ecomon). 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. The impacts to our scientific surveys from these projects 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 Projects' area and in the region (to at least 2050).

Comment Number: BOEM-2021-0057-0234-39

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 15

Comment Excerpt Text:

Given the anticipated development of offshore wind in our region, it is critical to expeditiously establish and implement a regional federal scientific survey mitigation program to address this significant issue. Such a survey mitigation program would include the following elements:

1. Evaluation of scientific survey designs;
2. Identification and development of new survey approaches;
3. Calibration of new survey approaches;
4. Development of interim provisional survey indices;
5. Integration of project-specific monitoring plans to address regional survey needs; and
6. Development of new data collection, analysis, management, and dissemination systems.

Information from project-specific mitigation plans could be critical inputs to the development and

implementation of any future regional survey mitigation program. Project-level impacts on scientific surveys should require project-level mitigation measures for each of the seven scientific surveys disrupted by the Atlantic Shores projects. As project monitoring plans are further considered and developed, these approaches should be standardized, meet existing scientific survey protocols and develop new methods using independent-peer review processes, calibrate methods to and integrate them with federal regional scientific surveys, and implement annual data collections for the operational life span of the Projects or until such time as a programmatic federal scientific survey mitigation program is established. Text provided in documents prepared for other projects with similar impacts can be used to inform the assessment of scientific survey impacts for these projects. Consistent with work we have done with you in the past, the NEPA document should include a full description of scientific surveys to be impacted, the history of each time series, and relative importance of the impacted scientific surveys on management advice, decision-making, and other end-users. We encourage you 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-2021-0057-0234-40

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

In addition to impacts on fisheries independent survey data collections, analysis of impacts on fisheries dependent data collections, ., 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.

Comment Number: BOEM-2021-0057-0234-43

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 14

Comment Excerpt Text:

- 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, alter prey assemblages, or

result in the displacement of individuals during all phases of the proposed project;

Comment Number: BOEM-2021-0057-0234-46

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

-Potential changes to pelagic habitat resulting from the presence of wind turbines.

Comment Number: BOEM-2021-0057-0234-7

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 2

Comment Excerpt Text:

We recommend that you fully evaluate and consider alternatives that avoid and minimize impacts to more vulnerable and difficult-to-replace resources such as submerged aquatic vegetation (SAV), natural hard bottom substrates (particularly those with macroalgae and/or epifauna), dense faunal beds (*e.g.*, cerianthid beds), biogenic reefs (including shellfish), shellfish habitat, tidal wetlands/marshes, subtidal and intertidal flats (*e.g.*, mudflats), and prominent benthic features (*e.g.*, offshore sand ridges; ridge and swale complexes). Compensatory mitigation should be provided for unavoidable adverse effects. Inherent to this is the necessity to conduct high-resolution benthic habitat mapping that characterizes and delineates all habitats in the lease area and within all potential cable corridor areas, which we understand is ongoing. Similar to the structure of the draft COP, and to facilitate efficient review of the alternatives, we recommend the EIS discussion of the alternatives, and the comprehensive analyses associated with each, be grouped into the three corresponding elements of the proposed Projects, 1) wind farm areas, 2) offshore export cable routes and associated corridors, and 3) inshore/landside export cable routes and associated corridors and landfall points. The proposed Projects should have multiple alternatives for each element that could be "mixed and matched" in the final selection of each single and complete project.

Comment Number: BOEM-2021-0057-0234-8

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

The proposed Atlantic Shores Projects are located in the Mid-Atlantic Bight, in an area characterized by shore-parallel, northeast-southwest oriented sand ridges and troughs (*i.e.*, shoreface sand ridges), and various crests, slopes, depressions, and flats. Prominent sand ridge complexes are present in the south-southwestern and western portions of the lease area, and appear to overlap and cross into the adjacent lease area. Previously collected data indicate the lease area is primarily composed of sands and gravels (*e.g.*, pebbles/granules atop sand), with muds/silts likely found in the lease area as well. Additionally,

cobbles and boulders are likely present in the lease area, but we are unable to specify their extents and locations without access to high-resolution habitat mapping data. Complex habitats [footnote 1: 1 See page 3 of 20 of the Recommendations for Mapping Fish Habitat, March 2021], such as gravels and gravel mixes, cobbles, boulders, and sand waves and ridges, are particularly sensitive and vulnerable to impacts, as disturbances or alterations to these habitats can impact their physical and biological components. Impacts to physical (*e.g.*, three-dimensional structure, surface area, crevices) and biological (*e.g.*, infauna and epifauna) components may be permanent or long-term, typically taking years to decades for recovery. Furthermore, large expanses of natural soft bottom and their associated communities are also vulnerable to the permanent impacts of removal/elimination through conversion to artificial anthropogenic structure (*e.g.*, piles/foundations concrete mattresses, grout bags) and hard masonry/quarry stone (*e.g.*, for scour protection).

Comment Number: BOEM-2021-0057-0234-9

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 2

Comment Excerpt Text:

While the minimization of impacts should be considered in the development of all alternatives, it will be essential for you to consider a discrete alternative that reduces impacts to fish habitats that are more sensitive and vulnerable to impacts. Based on our understanding the proposed Projects and lease area, we would recommend BOEM consider one or more Fisheries Habitat Impact Minimization Alternatives that focus on 1) reducing impacts to prominent benthic features and complex habitats in the lease area, 2) reducing impacts to habitat from scour protection given the wide range of materials proposed and extent of anticipated impacts, and 3) alternative measures to reduce impacts to sensitive habitats along the export cable.

This alternative should focus on project modifications that reduce adverse impacts to vulnerable fisheries habitat within the lease area, such as prominent benthic features (*e.g.*, sand ridges and banks; ridge and swale complexes) and complex habitats, while also avoiding and minimizing the elimination of natural soft bottom habitats. For example, the crests (highest points) and depressions (lowest points) of the ridge and swale complexes, where unique faunal assemblages are associated with distinct sediment types and sizes, should be avoided and impacts minimized to the maximum extent practicable. This should include avoiding these areas for turbine placement, and reducing the extent of scour protection to minimize the permanent conversion of soft sediment to hard stone or other artificial substrates. This alternative should consider the elimination or relocation of WTGs and inter-array cables in portions of the lease area dominated by complex habitats and prominent benthic features that provide important functions for associated living marine resources. A Fisheries Habitat Impact Minimization Alternative should consider impacts to all existing, fully functional fish habitats that are more vulnerable to project impacts. As discussed elsewhere in this letter, minimizing impacts through project design and identification of a Fisheries Habitat Minimization Alternative must begin with high-resolution habitat mapping and analysis, which will determine which project components are in the most sensitive areas and should be considered for removal or relocation.

Further, the Fisheries Habitat Impact Minimization Alternative should consider the material and composition of any proposed scour protection, for cables, substations, and WTG foundations, as well as the necessary extent (square footage) of such scour protection. The analysis should consider how different types of materials will adversely impact species, such as epifaunal and infaunal invertebrates, including

Atlantic surfclam (*Spisula solidissima*), ocean quahog (*Arctica islandica*), and sea scallop (*Placopecten magellanicus*). Additionally, this analysis should consider how different types of materials employed (e.g., size, shape) may or may not maximize the habitat value for early life stages (e.g., juveniles) of species, such as Atlantic cod (*Gadus morhua*), winter flounder (*Pseudopleuronectes americanus*), clearnose skate (*Raja eglanteria*) and summer flounder (*Paralichthys dentatus*). All of these measures should be considered as components of a Fisheries Habitat Impact Minimization Alternative or divided into two sub-alternatives (e.g., WTG location alternative and scour protection alternative). More specifically, the evaluation of materials used for scour protection for pile foundations, substation foundations, inter array cables, and export cables should consider the adverse effects of using thick layers of hard masonry/quarry stone, concrete mattresses, grout or sand bags, rock bags, ballast-filled mattresses, and frond mattresses. Additionally, BOEM should consider eliminating man-made scour protection options (concrete mattresses, grout or sand bags, rock bags, ballast-filled mattresses, and frond mattresses) that do not mimic natural habitats. Some alternatives to consider may include modification of masonry/quarry stone via tumbling to eliminate rough edges and angles. Furthermore, your analysis should also consider layering the tumbled stone so that smaller stones, such as pebble and cobble-sized stones, are present on the surface for use by larvae and juveniles.

The COP suggests the Atlantic Shores Projects may use various types of artificial scour protection over an extensive area. While the COP combines scour protection estimates with other types of impacts, it appears that between 9.3 and 25.96 acres of scour protection protection will be used for offshore substations (depending on type and number), while between 133.4 and 514 acres will be used for WTGs (depending on type and number). The COP estimates approximately 2,328 acres of seafloor impact related to inter-array and inter-link cables and 2,606 acres related to export cables, inclusive of scour protection. Taken together, it appears that approximately 5,000 acres (7.8 square miles) of natural seafloor could be converted to scour protection. However, the COP does not address the potential for additional scour protection that may be required to address depressions left by spuds/jack-up vessels used for pile installation - potentially further increasing the area of scour protection - a situation that has occurred in other areas (e.g., Virginia Research Lease). This issue and associated impacts should be fully addressed and integrated into the analysis.

The EIS should address the potential effects of the various types of artificial materials proposed and the Fisheries Habitat Minimization Alternative (or scour protection sub-alternative) should identify alternative options to reduce project impacts. BOEM's recent (2020) study of the Block Island Wind Farm found no colonization of organisms on concrete mattresses and determined that extensive use of mattresses may result in significant detrimental effects. Therefore, we recommend that the habitat minimization alternative investigate the use of natural smooth stone for scour protection that provides interstitial space for species, especially early life stages of species. The habitat value associated with scour protection does not provide the same value as natural hard habitats and may provide substrates for invasive species and/or alter predator-prey interactions in the area. The distinction between the natural and man-made structures should be incorporated into the analysis and should not be evaluated as equal in terms of habitat functions and values. The limitations of habitat value from scour protection and other man-made structures should be clearly disclosed and analyzed. The decommissioning and removal of structures (e.g., monopiles) should be integrated into this analysis.

A full range of reasonable alternatives to the proposed offshore and inshore export cable corridors should also be considered and evaluated, including an alternative (or alternatives) to avoid and minimize impacts to important, sensitive, and complex habitats located in the Projects' area. Such habitats could include natural hard bottom complex substrates (particularly those with macroalgae and/or epifauna); SAV; dense faunal beds (e.g., cerianthid beds) and shellfish habitat and reefs; other biogenic reefs; prominent benthic features; coastal marshes; subtidal and intertidal flats (e.g., mudflats); shipwrecks, fish havens, and other areas identified as N.J. Prime Fishing Areas (N.J. Administrative Code Section 7:7-9.4); and designated

Habitat Areas of Particular Concern (HAPC). HAPCs are designated as high priorities for conservation due to the important ecological functions they provide, their vulnerability to anthropogenic degradation and development stressors, and/or their rarity. Habitat impacts in any area with SAV should be avoided, minimized, or mitigated since SAV is designated as HAPC for summer flounder. Additionally, sandbar shark (*Carcharhinus plumbeus*) nursery HAPC is designated in the project area and overlaps with the Atlantic Export Cable Corridor and Cardiff Interconnection Cable Route. BOEM should consider an alternative that evaluates how cable installation and operation may impact these different habitat types and identify ways to avoid and minimize impacts to sensitive and complex habitats. This is an accepted practice for cables and other utilities projects and should be a component of the evaluation of impacts from offshore wind development. This may include evaluating modifications or expansions of the cable corridors to ensure cables can be routed around complex and sensitive habitats or using existing utility corridors/easements. This alternative should also consider methods used to lay the cable within, or adjacent to, complex habitats for both the offshore and inshore landing locations as well as avoiding, reducing, or modifying scour protection. Options for avoiding and minimizing impacts related to the methods of construction and routes, that allow for full cable burial to minimize permanent habitat impacts and potential interactions with fishing gear, should be also considered.

The proposed project area is designated essential fish habitat (EFH) for numerous managed fish species and trust resources for which NMFS has conservation and management responsibilities, including but not limited to: Atlantic surfclam; ocean quahog; sea scallop; scup (*Stenotomus chrysops*); clearnose skate; longfin squid (*Doryteuthis pealeii*); winter flounder; sandbar shark; and summer flounder. It will be especially important for the habitat minimization alternative(s) to consider ways to minimize both impacts to important benthic habitats as well as the sensitive life stages of species that rely on them. Therefore, construction methods, timing, and associated cable layouts should also be considered in this evaluation as additional measures to minimize impacts to fish habitats. An alternative that minimizes impacts to sensitive benthic habitats, and life stages of species that rely on them, to be a reasonable alternative that should be considered in the NEPA document.

Comment Number: BOEM-2021-0057-0240-11

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

The proximity to New Jersey's five artificial reef sites and sensitive Essential Fish Habitat in and near the lease sites is especially concerning.

Comment Number: BOEM-2021-0057-0240-13

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

5. The addition of a multitude of turbines will dramatically change the habitat and migratory patterns of fish.

A.3.13 Land Use and Coastal Infrastructure

Comment Number: BOEM-2021-0057-0232-14
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

The FLP Program helps communities to acquire, reuse and protect surplus federal properties for local parks and recreation. States, counties, and communities may acquire federal land and buildings no longer needed by the federal government, often at no cost to communities. The NPS FLP Program works with communities interested in acquiring property for parks and recreation, from finding out about available property, assisting with the application, advocating for the public recreation, and deeding the property. The program is authorized as a public benefit conveyance program under the Federal Property Act, 40 U.S.C. 550(b) and (e), whereby the National Park Service deeds the land to the applicant under several conditions to ensure continued public access, recreational use, and stewardship. The property deed will specify that the property must remain for public park and recreational use in perpetuity.

After the land is conveyed, the NPS FLP Program monitors the property's use and development to make sure it is managed according to the terms and conditions of the deed and approved use plan. NPS continues to work with communities to ensure this land remains available and used for public parks and recreation in perpetuity and to protect important natural and cultural resources. The property recipient must submit a brief biennial report on property use and condition.

As noted above, additional information on the proposal landfall, transmission route, and substation upgrades is necessary to ascertain whether FLP Program parcels may be impacted by the projects so that appropriate steps can be taken.

A.3.14 Marine Mammals

Comment Number: BOEM-2021-0057-0009-2
Commenter: James Binder
Commenter Type: Individual

Comment Excerpt Text:

The impact on the environment, including that on the endangered right whale and fin whale, has been documented by many. NOAA/National Marine Fisheries Service is currently reassessing the status of the endangered wright whale, should we be moving forward before this reassessment is done?

Comment Number: BOEM-2021-0057-0021-1
Commenter: jim wolf
Commenter Type: Individual

Comment Excerpt Text:

I am extremely AGAINST the building of wind turbines so close to the Long Beach Island, NJ coast. As

much as i try to read articles stating the BOEM's case, it just makes no sense via the environmental risks to marine life such as dolphins whales that migrant right in the path of the proposed wind field.

Comment Number: BOEM-2021-0057-0027-2

Commenter: Kevin Kernan

Commenter Type: Individual

Comment Excerpt Text:

The current plan will impact the migration path of the Atlantic Right whales which navigate by noise and the noise generated by the turbines will result in great harm to this endangered species. Will also force endangered Fin and Humpback whales attempting to avoid the noise from the turbines very close to shore, increasing beach strandings.

Comment Number: BOEM-2021-0057-0030-2

Commenter: Liza Wolf

Commenter Type: Individual

Comment Excerpt Text:

The underwater noise from the turbines would block the entire adjacent 12-mile-wide migration corridor of the critically endangered North Atlantic right whale, likely violating the Endangered Species and Marine Mammal protection laws.

It will also force endangered fin and humpback whales attempting to avoid the noise from the turbines very close to shore, increasing the stranding of whales on the beach, leading to their death.

Comment Number: BOEM-2021-0057-0031-12

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

Also, what about these endangered species? An unbiased study by academics who are not on the payroll of the owners would supply the facts needed to understand whether moving to a more distant site would reduce the threat to whales and birds.

Comment Number: BOEM-2021-0057-0032-4

Commenter: Ryan R

Commenter Type: Individual

Comment Excerpt Text:

In addition, any potential disruption to marine or aquatic life from a wind farm construction pales in comparison to an oil spill or a deep sea rig spewing out fossil fuels.

Comment Number: BOEM-2021-0057-0033-3

Commenter: Brenna Fallows
Commenter Type: Individual

Comment Excerpt Text:

Additionally, there is reason to believe that endangered whale populations will be affected.

Comment Number: BOEM-2021-0057-0035-2
Commenter: Anthony Hagen
Commenter Type: Individual

Comment Excerpt Text:

For the protection of wildlife including marine species, We do need to incorporate the experience from other states in the US and countries in Europe when we move forward with these installations, and proceed with care. Literally thousands of these turbines will likely be installed along the East Coast. And these installations will involve very noisy undersea construction, with huge sediment disturbance as cables are laid and foundations are built. Every effort must be made to reduce the noise levels and sediment disturbance, and further, construction should be coordinated so that marine mammals have some place to escape from the noise. They cannot escape from construction in NJ if there is simultaneous construction occurring in New York or Delaware. We have marine mammals and fish that are endangered, and if they are to survive climate warming too, we must look after them during this process. Right whales number around 440, globally, right now. Thats it. Turbine construction has the potential to push this species too far over the edge.

Comment Number: BOEM-2021-0057-0039-13
Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

Of particular concern, and contrary to at least one of the comments made on the record in the October 21st public meeting, in which one individual discounted critically endangered species, I would again point out the extremely vulnerable nature of the approximately 350 North Atlantic Right Whales left in the entire world, and the potential impact of the vast industrialization project itself, and its on-going adverse impacts, from a noise perspective, and otherwise, in the ongoing operation of the wind turbines themselves.. The draft environmental statement does not recognize legal and moral standing, of such an invaluable threatened species, whose inspirational value, beauty, and potential worth, as to the bio-diversity, of our planet, and to life itself, cannot be overstated.

Comment Number: BOEM-2021-0057-0048-1
Commenter: James Binder
Commenter Type: Individual

Comment Excerpt Text:

Awareness of the plight of the endangered fin whale and sea turtle have come to light on Long Beach

Island in the past two months. An adolescent fin whale, about 20 feet in length, was struck by a vessel, died and washed up on the beach in Barnegat Light, LBI.

Comment Number: BOEM-2021-0057-0050-1
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Of more immediate concern however is that the proposed federal action itself is unreasonable, because it would:

- (1) block the essential migration of the critically endangered North Atlantic right whale, by creating operational turbine-generated noise levels above the 120-decibel behavior disruption criterion throughout its entire 12-mile wide outer adjacent migration corridor (Exhibit B),
 - (2) due to that blockage, would seem to violate both the Endangered Species Act and the Marine Mammal Protection Act, requiring, because of the long-term impact, an Incidental Take Rulemaking (ITR) to show otherwise,
 - (3) force endangered fin and humpback whales frequenting closer-in areas (Exhibit C) to shore to avoid the turbine noise, causing beach stranding,
-

Comment Number: BOEM-2021-0057-0050-11
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

It will force Endangered Fin and Humpback whales dangerously close to shore.]

- A similar problem is encountered on the inner side of the project area to protect the endangered fin and humpback whales that frequent distances out to 11.5 miles (Exhibit C).
 - Project area sited turbines would generate elevated noise levels above 120 dB all the way to the shore, and would force these whales towards shore to try to avoid it, causing beach stranding.
-

Comment Number: BOEM-2021-0057-0050-14
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The location and width of the project area does not allow for turbine exclusion zones to allow the whale to migrate (I.1). These conflicts were raised to the New Jersey Board of Public Utilities (BPU) prior to its power purchase agreement with Atlantic Shores^(BG3) but not considered. They were raised with the

Bureau of Ocean Energy Management (BOEM) in our comments ^(BG4) on the Ocean Wind NOI, and apparently ignored because there is no mention of the right whale operational noise problem in this NOI.

Absent any consideration of these conflicts in formulating the proposal, any number up to two hundred turbines is an entirely arbitrary one, would very likely violate the MMPA and the ESA, and is therefore not a reasonable federal proposal to be made under the National Environmental Policy Act (NEPA).

Comment Number: BOEM-2021-0057-0050-25

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

1. The Impact of Operational Turbine Noise from Larger Turbines on Endangered Whales.

The presence of endangered whales in and near the project area and the use of larger gearbox turbines poses a significant operational noise problem and requires a thorough quantitative analysis the EIS. Those impacts, based on currently available data and studies are summarized below.

- The number of critically endangered North Atlantic right whales (NARW) is already low at 366 animals and in steep decline- Exhibit A. There are less than 94 females of reproductive age left.

Comment Number: BOEM-2021-0057-0050-26

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The proposed action would place turbines 10 to 20 miles offshore. The right whale's north/south migratory corridor starts about 20 miles out, and is about 12 miles wide, extending to 32 miles out (Exhibit B).

- Endangered fin and humpback whales frequent the inner part of the project area, distances out to 11.5 miles (Exhibit C).

Comment Number: BOEM-2021-0057-0050-29

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Using the formula in the first study^{W2} for transmission loss, $15 \log_{10}(r/r_0)$, it takes six miles^{(W2)(W3)} for that single turbine source noise level of 180 dB to fall below the 120 dB National Marine and Fisheries Service (NMFS) level B criterion for disrupting marine mammal behavior from continuous noise^{(W4)(W5)}
^(W6).

Comment Number: BOEM-2021-0057-0050-31
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

It will be extremely difficult for the whales to avoid that expanse of elevated noise and continue their migration. Attempting to do will expose them to high cumulative sound exposures potentially exceeding hearing threshold shift criteria, cause loss of communication between and separation of females from calves, stranding, and loss of echolocation and other navigational abilities (I.3).

Comment Number: BOEM-2021-0057-0050-32
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Experiments have shown^(W5) that one reaction of the right whale to such sound disturbances is to ascend and swim just under the surface where it is vulnerable to vessel strike.

- The proposed use by the Coast Guard^(BG2) of the right whale's migration corridor as a new deep draft vessel lane(Exhibit D) would significantly increase the risk of vessel strike once it ascends
-

Comment Number: BOEM-2021-0057-0050-33
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Subsequent planned turbine placement along the inner part of the Hudson South area would only elevate the noise levels in the corridor and worsen the problem.

- Mitigating measures involving detection and turbine shut down are not viable for the large noise influence zones and multi-year operational time frames here, leading to the need to consider turbine exclusion zones to try to avoid disrupting the right whale's migration.
- However, since the zone of influence above 120 dB (at least 22 miles) from even the innermost turbines at 10 miles extends across the entire 12-mile width of the migration corridor, [bold: there is no place in this project area for turbine placement that is compatible with protecting the whale's migration.]

*Decibels are a logarithmic scale; a plus 10 dB = 10 times the sound intensity

Comment Number: BOEM-2021-0057-0050-35
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Criteria for Avoiding Jeopardizing the Continued Existence of the North Atlantic right whale.

The EIS, BA and BO should provide a clear, definitive criteria to avoid the likelihood of jeopardizing the existence of the NARW, or causing a non-negligible impact to it.

The numbers of NARW are already very low at 366 animals and in steep decline- Exhibit A. There are less than 94 females of reproductive age left.

The NMFS 2020 stock assessment report for the NARW shows an average per female productivity rate of 0.06 for the years 2013 to 2017, Figure 4. It also shows (Figure 2a) an average female population of 180, leading to 11 average births per year. Table 2 shows estimated human caused fatalities at an average of 18.6 per year for that period.

According to the International Fund for Animal Welfare ^{W10}, over the past five years from 2016 through 2020, 17 whales died on average per year from human actions. During that same period 7 whales were born on average per year.

Clearly, with a human caused death rate (not including natural mortality) about twice the birth rate and a net loss of 8 to 10 whales per year, current mitigating and recovery measures are not sufficient to protect the whale, and any additional serious injury or fatality would “jeopardize” it under the meaning of that word which is to put (someone or something) into a situation in which there is the possibility of suffering loss, harm, injury or failure.

Therefore, the only sensible and scientifically credible criterion for the NMFS to adopt for the right whale is one of zero tolerance for any fatality or serious injury during its migration from turbine noise, and as discussed below in I.4. that criteria must be met with high statistical confidence.

Comment Number: BOEM-2021-0057-0050-36
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Defining Realistic, Take, Avoidance Behavior & Harm Outcomes

Under the above impact setting the number of takes or daily exposures above the 120 dB behavior disruption criterion will be high compared to the right whale population. The primary noise exposure from operational Atlantic Shores 13.6 mw gearbox turbines to the right whale would occur in March and April as the whales migrate north. That migration appears to consist primarily of mothers and calves.

Previous analysis of turbine installation involving one or two discrete pile driving sources assumed that a whale approaching a source above the behavior disruption level could veer to the left or the right, find an “noise open route” and proceed on its migration.

Here, given the elevated noise levels above the 120 dB criterion throughout the wind complex and across

their entire migration corridor it will be very difficult for the whales to avoid the noise disturbance and continue their migration. Attempting to do will expose them to high cumulative sound exposures potentially exceeding hearing threshold shift criteria, loss of communication between and separation of females from calves, stranding, and loss of echolocation and other navigational abilities.

Consider a whale traveling north approaching the migratory corridor between the project area and Hudson South.

In an effort to continue its migration, it might tolerate the noise disturbance and continue its 25-mile, 30-hour journey (@1.3 km/hr.) past the complex, incurring an additional sound exposure of 50 dB, for total levels likely exceeding the NMFS sound exposure level (SEL) criteria for temporary or permanent threshold hearing loss^{W11}. It might veer west and travel north through the wind complex, incurring similar exposures.

But it is far more likely that it would try to avoid the elevated sound. Traveling due west to avoid the noise disturbance would require it to go all the way to shore because the zone of influence goes that far. Traveling east to avoid the disturbance requires it to find a noise open route through the Hudson South area, and once turbines are placed there that will not be possible. It would then have to go all the way around Hudson South and find a new route, all the while incurring long exposure times.

Comment Number: BOEM-2021-0057-0050-38
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Experiments have shown^{W5} that one reaction of the right whale to such sound disturbances is to ascend and swim just under the surface where it is vulnerable to vessel strike.

The proposed use^{W15} of the migration corridor as a new deep draft vessel lane(Exhibit D) would significantly increase the risk of vessel strike once it ascends and struggles to find a new migration route. Subsequent planned turbine placement along the inner part of the Hudson South area worsens the situation.

Comment Number: BOEM-2021-0057-0050-39
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

As discussed further under the EIS scope, all three federal actions, the Atlantic Shores proposal, leasing the inner part of Hudson South and the deep draft vessel lane bear on the impact to the whale and should be assessed together in the EIS, BA, and BO.

The exposures described above have been shown to cause the right whale to surface and travel just below the surface subjecting it to greater risk of vessel strike^{W5}. Masking of its communications risks the separation of females from calves during migration^{W13, W14}. Its echolocation and navigation ability will be

impaired^{W16}, while trying to find a noise open route to continue its migration. Whales seeking to avoid the noise by going closer to shore risk stranding and elevated sound exposure levels as mentioned above.

Common sense dictates that under this expanse of high, multiple noise sources and the unattractive avoidance options discussed above, it is likely that there will be at least some of the animals exposed above 120 dB who will be subjected to prolonged exposure above that level, undergo stress^{W12} and be seriously injured or killed.

Comment Number: BOEM-2021-0057-0050-40
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

There will be a similar and cumulative impact on the whales from other projects up and down the East Coast, wherever the migration route intersects the elevated noise area.

Therefore, the EIS, BA and BO should provide a realistic, scientifically supported assessment of behavior avoidance for such continuous, multiple, high noise sources. New assumptions, equations and models are needed as discussed more fully in section I.6 and I.7 below to accurately assess the harm here. In particular, the use of mean numbers also does not adequately capture the uncertainties involved in avoidance and other assessments and provide assurance that the criterion in I.2 will be met.

Comment Number: BOEM-2021-0057-0050-41
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Addressing Uncertainty in Animal Take and Harm Estimates.

The NMFS is charged to determine the “likelihood” of the continued existence of a species. Likelihood involves probability. The current procedures using only mean estimates of key parameters to estimate animal take and harm are not mathematically sufficient to meet its charge.

The current process involves multiple steps:

1. Estimation of source noise levels
2. Estimation of noise transmission loss
3. Determination of zones of influence (ZOI) where noise levels are above

Criteria, using 1 and 2.

4. Estimates of animal densities within the ZOI.

5. Estimates of animal “takes” i.e., the number of days an animal experiences noise above thresholds, using 3. and 4.

6. Judgments regarding animal avoidance behavior, that are largely qualitative but sometimes using numerical estimates of certain factors such as animal travel speeds and times to escape the ZOI, and,

7. Conclusions regarding the number of animals seriously injured or killed, based on 5 and 6.

At each step the NMFS appears to use mean estimates, for example, for density and animal travel speeds. While such mean estimates are informative, they leave open the question that the harm conclusion could be worse than predicted for half of the plausible scenarios. Therefore, the mean estimates don't directly address the problem of determining extinction which as discussed above for the right whale depends on adverse outcomes for only a few animals.

In mathematical terms what is important to know here is the behavior of the tail end of a statistical distribution, as opposed to the average or mean. Therefore, NMFS needs to augment its current procedures and inject the probability of worser outcomes to provide closer to 95 percent or two standard deviation confidence in its conclusions. It's recognized that certain aspects here do not lend themselves to precise statistical distributions but there are steps that can be taken to make the calculations and conclusions more relevant, as suggested in section I.7 below.

Comment Number: BOEM-2021-0057-0050-42
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Turbine Exclusion Zones for the Atlantic Shores Offshore Wind Project to Protect Endangered Whales

Detection and shut down procedures are unreliable for the noise reduction distances and the 30-year time periods for turbine operation here^(w8). The only reliable measure would be turbine exclusion zones. However, since the width of the project area, 10 miles, is less than the greater than 22-mile noise zone of influence, there is no place in this lease area for turbine placement that is compatible with protecting the whale's migration

Comment Number: BOEM-2021-0057-0050-5
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Proposed Action Jeopardizes the North Atlantic right whale (NARW).

· The project proposes turbine placement 9/10 to 20 miles offshore. The North Atlantic right whale's migration corridor here extends from about 20 miles to 32 miles offshore.

· The critically endangered NARW must migrate through that corridor south/north each year between its calving and feeding grounds to survive. Its numbers are already low and recently are declining rapidly

(Exhibit A).

Comment Number: BOEM-2021-0057-0050-8
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The use of 13.6-megawatt Vesta-236 gearbox turbines would place multiple, long term operational, continuous, elevated underwater noise sources of 180 decibels ^{(W2)(W17)} along the western side of the whale's migratory corridor (Enclosure 2, II.1 and Exhibit B).

- The noise zone of influence from a single turbine, i.e, the area above 120 decibels(dB) where the whale's behavior would be disturbed, would extend 6 miles ^(W2) or halfway across the whale's 12-mile-wide migratory corridor, using the formula for transmission loss in that study, $15 \log_{10}(r/r_0)$.

- The combined impact of that single turbine and others in the complex would extend the disturbed behavior zone of influence above 120 dB to at least 22 miles, filling the entire 12-mile-wide migratory corridor (II.1).

- Since the distances needed for noise reduction to 120 dB are far greater than the spacing between turbines (about 1 mile), the 120 dB level will also be exceeded everywhere within the wind complex.

- This creates a "wall" of noise across the entire wind complex and the whale's migration corridor, essentially blocking it.

- It will be extremely difficult for the whales to avoid ^{W18} that expanse of elevated noise and continue its migration. Attempting to do will expose them to high cumulative sound exposures potentially exceeding hearing threshold shift criteria, cause loss of communication between and separation of females from calves, stranding, and loss of echolocation and other navigational abilities (I.3).

Comment Number: BOEM-2021-0057-0050-86
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Scope of Impacts on Endangered Species

With the recent removal of the definition of cumulative impacts from the NEPA regulation the scope of the impacts to be discussed in an EIS from 40§CFR 1501.9(e)(3) and §1508.1(g) is not very clear. However, 40 CFR §1502.23 does require that every impact analysis in an EIS be scientifically credible.

Assessing the impact on an endangered species, particularly a critically endangered one, in a piecemeal, project by project way, is not scientifically credible. Regardless of what you call it, "cumulative" or some other word, NEPA requirements for full disclosure and scientific integrity demand a more comprehensive look in EIS's.

With respect to Marine Mammal Protection Act (MMPA) issues, we recommend that be pursued through a programmatic consultation with NMFS as discussed in Section IV.2 below

Comment Number: BOEM-2021-0057-0050-9
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Experiments have shown^(W5) that one reaction of the right whale to such sound disturbance is to ascend and swim just under the surface where it is vulnerable to vessel strike.

- The proposed use by the Coast Guard^(BG2) of the right whale's migration corridor as a new deep draft vessel lane(Exhibit D) would significantly increase the risk of vessel strike once it ascends.
 - Subsequent planned turbine placement along the inner part of the Hudson South area would only elevate the noise levels in the migration corridor and worsen the problem.
-

Comment Number: BOEM-2021-0057-0050-95
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Marine Mammal Protection Act, Required Rulemaking

The NOI mentions the need for incidental take authorizations only in connection with pile driving and construction. The turbine operational noise problem described in Sections I.1 to 7 persists for the life of the project, much greater than five years.

Therefore, under the MMPA, any incidental take authorizations will require an Incidental Take Regulation and associated letters of authorization as opposed to annual incidental harassment authorizations

After receipt of the Atlantic Shores application this requires NMFS to accept it for adequacy and completeness, publish a Notice of Receipt of application in the Federal register for a 30-day comment period, consider such comments and prepare and publish a proposed rule for a 30 to 60-day comment period. NOAA estimates the time required for those efforts to be between 5-10 months (Incidental Take Authorizations under the Marine Mammal protection Act/NOAA Fisheries).

Comment Number: BOEM-2021-0057-0050-96
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Marine Mammal Protection Act, Timing

As explained in the cover letter turbine exclusion zones must be considered to formulate a reasonable proposal. Therefore, the EIS NOI with a proposed action should have awaited the public comment period on a LOA application so that turbine exclusion zones can be considered and a proposed action formulated that does not violate the MMPA or the ESA.

The ITR should be proposed with a 60-day comment period prior to release of the draft EIS so the BOEM can reflect the preliminary determinations of that rule in its EIS proposed action and alternatives. This also allows the public to become familiar with and comment on the scientific information, noise transmission methods and calculations used to come to those preliminary determinations prior to the draft EIS. Issuance of the final ITR rule would await the Final EIS.

Comment Number: BOEM-2021-0057-0051-8

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Other Sections: 12

Comment Excerpt Text:

Marine Life

The COP indicates a number of recreational and commercially important fisheries, as well as endangered species and essential fish habitat designated within the lease area. Careful consideration should be given to determine if the Project would result in:

- Increased risk of vessel strikes due to modifications in navigable patterns;
- Noise-related impacts to species due to pile driving and wind turbine operations;
- Disruption of benthic habitat or conversion of habitat types;
- Displacement of species from preferred habitats, or increased stress which may lead to injury or mortality.

While the COP outlines many of these considerations, a more detailed quantitative evaluation is warranted in the EIS. Further, EPA encourages implementing time of year considerations for construction of the wind farm to reduce impacts to marine life, such as avoiding times of peak migration, etc. BOEM will be required to consult with the National Oceanic and Atmospheric Administration (NOAA) regarding issues related to marine mammals, essential fish habitat, and threatened or endangered species. Furthermore, in addition to the Habitat Suitability Assessment Report, which indicates records of threatened/endangered species and/or their habitat associated with onshore components, EPA recommends conducting surveys to determine site-specific conditions that can better inform the impacts analysis in the EIS.

Comment Number: BOEM-2021-0057-0052-18

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Consistent with NOAA regulations under the ESA for all vessels, aircraft, the EIS should include requirements for all vessels must maintain a separation distance of at least 500m from NARWs at all times.

Comment Number: BOEM-2021-0057-0052-24
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Areas to be Avoided in Siting 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-2021-0057-0052-26
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Right Whale Important Areas

The North Atlantic right whales travel from Canada to Florida on a regular basis. The NARW calves are born in southern waters and they travel north to feed and grow. In recent years, NARWs have shifted some of their aggregation areas. NOAA designates SMAs that are aligned to where whales are expected at certain times of the year and then creates DMAs when NARWs are present. As mentioned above, projects should not be sited in Seasonal Management Areas or in areas where persistent or long-duration DMAs are established and extended for more than 3 months in one year of the most recent five. The Atlantic Shores EIS should analyze NARW abundance patterns to confirm that there is no overlap SMAs or persistent DMAs.

Comment Number: BOEM-2021-0057-0052-4
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition, Oceana is interested in seeing the reduction, if not elimination, of vessel strike-related death, injury, and harm to NARWs. For these reasons, in 2019, Oceana launched a binational campaign in the United States and Canada to urge the respective governments to effectively enforce environmental laws to protect this critically endangered species and Oceana is currently campaigning to protect these whales from their two biggest threats—entanglement in fishing gear and vessel strikes.

Comment Number: BOEM-2021-0057-0052-7
Organization: Oceana

Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Proposed offshore wind projects need to consider, avoid, and mitigate effects to protected species, particularly on the critically endangered NARW, to ensure that wind development will not come at the expense of the species. NARWs spend the majority of the year in the waters of New England and Eastern Canada with mothers migrating south to have calves in the U.S. SE region. Wind development in persistent aggregation habitats and calving grounds pose the greatest concern and those areas where NARWs spend less time are likely more appropriate because of the reduced frequency, intensity, and duration of interactions with potential offshore wind development in these areas. This project is not sited in a NARW aggregation or calving area and is therefore a better choice than other locations frequented more often and at higher densities by NARWs. Still, strong mitigation and monitoring measures are needed to protect this critically endangered species as offshore wind is developed along the eastern seaboard.

Comment Number: BOEM-2021-0057-0066-4
Commenter: Peter Hartney
Commenter Type: Individual
Other Sections: 4 5

Comment Excerpt Text:

Moving from economic to the environmental, the proposal submitted by Atlantic Shores either fails to address or glosses over the impact of the wind farms on a number of environmental issues which BOEM needs to give significant consideration. Among these issues are the impact upon the benthic species and habitats which have yet to be significantly studied and understood (<https://tos.org/oceanography/article/offshore-wind-energy-and-benthic-habitat-changes-lessons-from-block-island-wind-farm>; https://research-repository.st-andrews.ac.uk/bitstream/handle/10023/21420/Hutchison_2020_tos_interaction_between_CC.pdf?sequence=1) the impact upon the migratory patterns of the endangered right whale in addition to the impact, negative in my opinion, on the seasonal flight path of migratory birds in the middle of which the proposed windfarm projects are located;

Comment Number: BOEM-2021-0057-0070-3
Commenter: Timothy Feeney
Commenter Type: Individual

Comment Excerpt Text:

Also this massive project is taking place along the migratory path of sensitive and endangered marine life. This project reminds me of the jetty system that was constructed along the New Jersey shoreline decades ago. It was supposed to solve the beach erosion problem, it failed miserably and in some cases exacerbated the problem. When other states looked at that project they referred to it as the "Jerseyfication" of the coast. I fear this wind project will have the same connotation.

Comment Number: BOEM-2021-0057-0074-1
Organization: Save Long Beach Island, Inc

Commenter: Christine Leichte
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Significant Concerns Include:

(1) block the essential migration of the critically endangered North Atlantic right whale, by creating operational turbine-generated noise levels above the 120-decibel federal criterion that would disrupt its behavior throughout its entire 12-mile-wide migration corridor that extends from about 20 miles to 32 miles out.

(2) due to that blockage, would very likely violate both the Endangered Species Act and the Marine Mammal Protection Act, requiring, because of the long-term impact, a new federal rulemaking to show otherwise,

(3) force endangered fin and humpback whales frequenting closer-in areas (Exhibit C) to shore to avoid the turbine noise, causing beach stranding,

Comment Number: BOEM-2021-0057-0089-2

Commenter: Gina Cobianchi

Commenter Type: Individual

Other Sections: 23

Comment Excerpt Text:

Cons: Based on a preliminary evaluation of these resources, BOEM expects impacts on sea turtles and marine mammals from underwater noise caused by construction and from collisions with vessel traffic associated with the Projects

Comment Number: BOEM-2021-0057-0103-3

Organization: Sierra Club

Commenter: Richard Isaac

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

While the Sierra Club fully supports offshore wind and the proposed Atlantic Shores project, the use of bubble curtains should be considered, as it may help mitigate the issue of possible harm to marine mammals such as the coastal form of bottlenose dolphin from the noise generated from driving pylons into the seabed. Regardless, however, of whether bubble curtains are part of the final plan, the Sierra Club New Jersey Chapter fully supports construction of this offshore wind project, as its critical for helping address the climate crisis that were now in.

Comment Number: BOEM-2021-0057-0104-21

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Marine mammals have important roles in marine ecosystems both as predators and as prey sources for larger marine mammals and sharks. Members of three of the four taxonomic groups of marine mammals are found in the northeast and mid-Atlantic marine environments: cetaceans (whales, dolphins, and porpoises), pinnipeds (seals), and sirenians (manatees). These species “exhibit a wide range of behaviors, varying social structures, and differences in social information use. Human impacts on marine mammals and their environments are ubiquitous; from chemical and noise pollution, to marine debris, prey depletion, and ocean acidification.” [Footnote 80: Brakes, P. & Dall, S. R. X. (2016). Marine Mammal Behavior: A Review of Conservation Implications. *Frontiers in Marine Science*. <https://doi.org/10.3389/fmars.2016.00087>] Now they face yet another new threat in the form of massive offshore wind energy projects being installed within their migratory routes and which also impact nearshore, coastal and surrounding terrestrial environments. “As a result, no marine mammal populations remain entirely unaffected by human activities. Conservation may be hindered by an inadequate understanding of the behavioral ecology of some of these species.” [Footnote 81: Brakes, P. & Dall, S. R. X. (2016).] The EIS must consider the full range of potential impacts of Atlantic Shores project activities, cumulatively with those of all regional and coast-wide OSW projects, and climate crisis impacts on marine mammals all which are protected by the MMPA. Further consideration must be given to the conservation of ESA-listed species by developing and implementing the most robust strategies to avoid, minimize, and mitigate all potential adverse impacts, and monitoring the efficacy of these strategies throughout the life of the project. An integrated comprehensive ecosystem approach is needed and must be required to protect all resident and migratory species whose spatiotemporal presence in Atlantic Shores area do not overlap with each other.

Numerous marine mammal species are known to be present in Atlantic Shores project area at variable frequencies with differing spatiotemporal profiles. Among the 38 species found in Atlantic Shores area, all protected by MMPA, are 33 cetaceans (26 odontocetes: toothed whales, dolphins, porpoises and 7 mysticetes: baleen whales), 4 phocids (harbor seals, gray seals, harp seals, and hooded seals), and 1 sirenian (Florida manatee). [Footnote 82: BOEM. (2021, Sep 3). Atlantic Shores Wind Farm Construction and Operations Plan - Volume II: Affected Environment. Table 4.7-1 Marine Mammal Species in the Mid- and North Atlantic Outer Continental Shelf] Of these, five are listed species under the ESA and NJ state law [Footnote 83: New Jersey Division of Fish & Wildlife. (2018, Mar 20). New Jersey's Endangered and Threatened Wildlife]:

North Atlantic right whale (*Eubalaena glacialis*) - Critically Endangered
fin whale (*Balaenoptera physalus*) - Endangered
sei whale (*B. borealis*) - Endangered
sperm whale (*Physeter microcephalus*) - Endangered
blue whale (*B. musculus*) - Endangered
Florida manatee (*Trichechus manatus latirostris*) - Threatened

The ESA listed whale species are also listed as depleted and strategic stocks under the MMPA. The humpback whale (*Megaptera novaeangliae*) is Endangered under NJ law and is part of the Gulf of Maine stock which is considered strategic under the MMPA. [Footnote 84: NMFS. (2020). Draft U.S. Atlantic and Gulf of Mexico marine mammal stock assessments -- 2020.]

Comment Number: BOEM-2021-0057-0104-32

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

- include a quantitative analysis of vessel strike risk posed by OSW vessels (i.e. total number of vessels, proportion of vessels associated with reasonably foreseeable OSW activities, locations of the primary route between ports and OSW project areas, and marine mammal occurrence and density) using all available data (e.g. on the Mid-Atlantic Data Portal[Footnote 94: <https://portal.midatlanticocean.org/>]).

Comment Number: BOEM-2021-0057-0106-1

Commenter: Donald Weigl

Commenter Type: Individual

Comment Excerpt Text:

Just a question relating to marine mammals, especially whales and dolphins, although seals and fishes may be affected too. I was wondering if there are vibrations created from the wind turbines that will transfer down the monopoles or other supporting structure into the ocean that may be detectable to marine mammals and fishes? I thought that if so, they may be sufficient to deter or alter migration patterns for these creatures and also overall avoidance. Has this been studied or known? I am in support of these wind farms but am quite concerned for all other wildlife and fishermen that will be affected.

Comment Number: BOEM-2021-0057-0111-6

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

7. ADDITIONAL STUDY OF EXPECTED IMPACTS IS NECESSARY FOR PROTECTION OF MARINE ANIMALS, FISHING AND THE PRESERVATION OF THE OCEAN: I urge BOEM to require additional study of impacts of negative impacts of the Projects before the COP EIS process continues further. As reflected in the NOI, based on preliminary evaluation of resources, “BOEM expects impacts” on marine life. The information I found shocking in the NOI is that there is an unspecified number of requests (“one or more”) resulting in loss of marine mammals (“take” meaning to kill or capture). I request BOEM to provide references for more detail. I do not have scientific or personal knowledge as to the possible negative impacts on marine mammals and commercial/recreational fishing. Accordingly, the analysis by federal agencies should fully protect the public interest. For purpose of comment here, I join the sentiment and discussion set forth in the detailed comments submitted by the Coalition for Wind Without Impact citizen group

Comment Number: BOEM-2021-0057-0112-8

Organization: New York State Department of State

Commenter: Kisah Santiago-Martinez

Commenter Type: State Agency

Comment Excerpt Text:

Six large whale species are commonly found in the New York Bight and also represent some of the most threatened species in the U.S.[Footnote 8: NYSDEC. <https://www.dec.ny.gov/lands/113647.html> The six large whale species include fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), North Atlantic right whale (*Eubalaena glacialis*), blue whale (*Balaenoptera musculus*), sei whale (*Balaenoptera borealis*), and sperm whale (*Physeter macrocephalus*).] New York has undertaken

a multi-year baseline monitoring program that includes NYSERDA-sponsored aerial surveys, [Footnote 9: https://remote.normandeau.com/nys_aer_overview.php] DEC-sponsored aerial surveys, and DEC-sponsored acoustic monitoring.[Footnote 10: Information on NYSDEC’s Aerial Monitoring and Passive Acoustic Survey are available at <https://www.dec.ny.gov/lands/113647.html>. Coordination with other research in the NY Bight is also discussed.] Data from these surveys indicate that fin and humpback whales can be found throughout the New York Bight during most times of the year, with the relatively large number of sightings and observed behaviors suggesting that the New York Bight is part of the fin and humpback whales’ seasonal feeding grounds.[Footnote 11: Tetra Tech and LGL. 2020. Final Comprehensive Report for New York Bight Whale Monitoring Aerial Surveys, March 2017 – February 2020. Technical report prepared by Tetra Tech, Inc. and LGL Ecological Research Associates, Inc. 211 pp. + appendices. Prepared for New York State Department of Environmental Conservation, Division of Marine Resources, East Setauket, NY. May 18, 2020. <https://www.dec.ny.gov/lands/113818.html>.] Another recent study found that humpback, fin and minke whales use the waters off New York and New Jersey as a supplemental feeding area. [Footnote 12: Carissa D. King, Emily Chou, Melinda L. Rekdahl, Sarah G. Trabue, Howard C. Rosenbaum. Baleen whale distribution, behaviour and overlap with anthropogenic activity in coastal regions of the New York Bight. Marine Biology Research, 2021; 1 DOI: 10.1080/17451000.2021.1967993] DOS encourages these data and findings be incorporated into the environmental review and considered when developing project-specific environmental protections. The EIS should include documentation of best practices and methods which will be implemented to reduce the incidental take of marine mammals and turtles associated with construction and operations. Data on seasonal presence and abundance of populations of affected species should also be included in appendices to the EIS.

Comment Number: BOEM-2021-0057-0119-129

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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, 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-2021-0057-0119-33

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Seven cetacean species [Footnote 88: Including the seven species that were sighted as “common” during the New Jersey Department of Environmental Protection (NJ DEP) Ecological Baseline Survey. Whitt, A.D., J.A. Powell, A.G. Richardson, and J.R. Bosyk. 2015. Abundance and distribution of marine mammals in nearshore waters off New Jersey, USA. Journal of Cetacean Research and Management

15:45-5] are expected to occur regularly or be common in waters in and near the Project Area [Footnote 89: The ASOW COP refers to a “Project Region” for marine mammals, which is undefined but appears to include deep, offshore waters based on the fact that sperm whales and a number of other deep-diving species as described as being “uncommon” in the Project Region. Sperm whales, Risso’s dolphins, pilot whales, and Atlantic white-sided dolphins are not expected in the lease area and export cable routes, which is in nearshore and continental shelf waters of New Jersey. None of these species were sighted during GMI’s monthly surveys over 2 years in the NJ offshore wind areas. Sperm whales and pilot whales are found in deep offshore waters. Risso’s dolphins are distributed along the shelf break and offshore waters. Although Atlantic white-sided dolphins do occur in waters over the continental shelf, they are primarily distributed farther north than the lease area from Hudson Canyon north to the Gulf of Maine with strandings occurring from New Brunswick, Canada to New York.

Comment Number: BOEM-2021-0057-0119-34

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The summaries and density analyses focus on a much larger area, including deep offshore waters, and, therefore, does not present a robust assessment of marine mammal occurrence in the project areas]. Of these species, two (North Atlantic right whale and fin whale) are listed as endangered under the federal Endangered Species Act (ESA), and as depleted and strategic stocks under the Marine Mammal Protection Act (MMPA). In addition, strategic status has been proposed for the Gulf of Maine stock of humpback whales [Footnote 91: 2020 Draft Marine Mammal Stock Assessment Reports, NAT’L MARINE FISHERIES SERV. (NMFS) (Aug. 2020), <https://s3.amazonaws.com/media.fisheries.noaa.gov/2020-12/Draft%202020%20Atlantic-Gulf-marine%20mammal%20stock%20assessment%20reports.pdf?null> [hereinafter “2020 Draft Marine Mammal Stock Assessment”], at 2. The revised Stock Assessment Report for humpback whales was presented in draft stages but withdrawn for final publication due to delay in publication of supporting documents]. Harbor porpoise are also expected to be common to the Project Area; while not a listed species or strategic stock, the marked sensitivity of the harbor porpoise to noise requires BOEM’s specific attention.

Comment Number: BOEM-2021-0057-0119-35

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Project Area is part of the NMFS-designated migratory corridor Biologically Important Area (BIA) for the North Atlantic right whale [Footnote 108: LaBrecque, E., C. Curtice, J. Harrison, S.M.V. Parijs, and P.N. Halpin. 2015. Biologically important areas for cetaceans within U.S. waters – East Coast region. *Aquatic Mammals* 41(1):17-29]. While helpful in identifying key areas of importance, the BIAs are not comprehensive and are intended to be periodically reviewed and updated to reflect the best available scientific information [Footnote 109: “However, these BIAs are meant to be living documents that should be routinely reviewed and revised to expand the number of species covered and to update the existing

BIAs as new information becomes available.” Van Parijs, S. M., “Letter of introduction to the Biologically Important Areas issue.” *Aquatic Mammals*, vol. 41, p.1 (2015)]. Since 2010, North Atlantic right whale distribution and habitat use has shifted in response to climate change-driven shifts in prey availability [Footnote 110: Record, N., Runge, J., Pendleton, D., Balch, W., Davies, K., Pershing, A., Johnson, C., Stamieszkin, K., Ji, R., Feng, Z. and Kraus, S., “Rapid Climate-Driven Circulation Changes Threaten Conservation of Endangered North Atlantic Right Whales,” *Oceanography*, vol. 32, pp. 162-169 (2019); Meyer-Gutbrod, E.L., Greene, C.H., Davies, K.T.A., and Johns, D.G., “Ocean regime shift is driving collapse of the North Atlantic right whale population,” *Oceanography*, vol. 34, pp. 22-31 (2021)]. All of the East Coast marine mammal BIAs were defined in 2015 before scientific evidence of these shifts emerged. Until the current review of BIAs is completed for the East Coast, NMFS should not rely on the North Atlantic right whale migratory corridor BIA as the sole indicator of habitat importance for the species.

Comment Number: BOEM-2021-0057-0119-36

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Protection of North Atlantic right whale migratory and foraging habitat is essential, and further research to determine whether North Atlantic right whales are currently engaging in these behaviors should be undertaken during site assessment. Foraging areas with suitable prey density are limited relative to the overall distribution of North Atlantic right whales, and a decreasing amount of habitat is available for resting, pregnant, and lactating females

Comment Number: BOEM-2021-0057-0119-37

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

This means that unrestricted and undisturbed access to suitable areas, when they exist, is extremely important for the species to maintain its energy budget [Footnote 119: Id.]. Scientific information on North Atlantic right whale functional ecology also shows that the species employs a “high-drag” foraging strategy that enables them to selectively target high-density prey patches, but is energetically expensive [Footnote 120: Van der Hoop, J., et al., Id.]. Thus, if access to prey is limited in any way, the ability of the whale to offset its energy expenditure during foraging is jeopardized. In fact, researchers have concluded: “[R]ight whales acquire their energy in a relatively short period of intense foraging; even moderate changes in their feeding behavior or their prey energy density are likely to negatively impact their yearly energy budgets and therefore reduce fitness substantially.” [Footnote 121: Id.]. North Atlantic right whales are already experiencing significant food-stress; juveniles, adults, and lactating females have significantly poorer body condition relative to southern right whales, and the poor condition of lactating females may cause a reduction in calf growth rates

Comment Number: BOEM-2021-0057-0119-38

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition to North Atlantic right whales, endangered fin whales, humpback whales, and minke whales are expected to regularly occur in the vicinity of the Project Area [Footnote 124: ASOW COP Volume II, Table 4.7-1. As with North Atlantic right whales, we note the best population estimates included in the ASOW COP reference the 2019 Stock Assessment Reports and are therefore based on outdated information. Best population estimates for 2020 were released by NOAA Fisheries in July 2021. <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock>]. Fin whales were the most frequently sighted large whale species and were observed to be present throughout the year during aerial and shipboard surveys undertaken in 2008 and 2009 off the coast of New Jersey [Footnote 125: Whitt, A.D., et al., Abundance and distribution of marine mammals in nearshore waters off New Jersey, *supra*]. One calf was observed with an adult fin whale in August 2008 [Footnote 126: Id]. A mixed species aggregation of fin and humpback whales was observed in September 2008 and one humpback whale was observed lunge feeding. A single humpback whale cow-calf pair was observed in February 2008 [Footnote 127: Id]. Four sightings of minke whales were also recorded in the winter and spring [Footnote 128: Id]. Acoustic detections collected between 2004 and 2014 confirm that humpback whales and fin whale occur in New Jersey waters in all seasons [Footnote 129: Davis, G.A., et al., 2020, *supra*]. A comparison of acoustic detections made within the 2004-2010 and the 2011-2014 time periods indicate that humpback whale and fin whale presence in the region has significantly increased across these two time periods; the increase is even more striking for North Atlantic right whales (as discussed in the previous section) but also for sei whales [Footnote 130: Id], which show an increased year-round presence in the Mid-Atlantic similar to right whales [Footnote 131: Id. Sei whales are described as “uncommon” in the project region in the ASOW COP (Table 4.7-1) due to the species preference for deeper waters. However, in light of the distributional shifts described by Davis et al. 2020, we recommend sei whales be a targeted species during baseline monitoring efforts].

There is a clear need for additional visual and passive acoustic survey effort to improve understanding of current large whale occurrence and habitat use in the waters off New Jersey to establish the baseline necessary to advance the Atlantic Shores Offshore Wind project. The COP states that Atlantic Shores is conducting digital aerial surveys of the Offshore Project Area, which started in 2020 and are ongoing. However, without more information on the survey methodology it is not possible to evaluate the reliability or utility of the data. We note that digital aerial survey methods are likely to underestimate the occurrence of large whales and are not able to provide information on whale behavior, including foraging [Footnote 132: Willmott, J.R., Digital aerial surveys to inform offshore wind development. NYSERDA Learning from the Experts Webinar Series. Jun. 9, 2021. 2021-06-09-Digital-Aerial-Surveys-Normandeau-Associates.pdf]. These surveys therefore do not negate the need for additional multi-year shipboard and/or manned aerial surveys, as well as passive acoustic monitoring, within the Project Area and broader Project Region prior to construction.

Ongoing UMEs exist for humpback and minke whales. There have been UMEs for the Atlantic population of minke whales since January 2017 and humpback whales since January 2016. Alarming, 118 minke whales have stranded between Maine and South Carolina from January 2017 to October 2021 [Footnote 133: NOAA-NMFS, “2017-2021 Minke whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2021-minke-whale-unusual-mortality-event-along-atlantic-coast>]. Elevated numbers of humpback whales have also

been found stranded along the Atlantic Coast since January 2016 and, in a little over five years, 154 humpback whale mortalities have been recorded (data through 22 October 2021) with strandings occurring in every state along the East Coast [Footnote 134: NOAA-NMFS, “2016-2021 Humpback whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2021-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. NMFS recently proposed to designate the Gulf of Maine humpback whale stock as a strategic stock under the MMPA based on the total estimated human-caused average annual mortality and serious injury to this stock, including from vessel strikes [Footnote 135: National Marine Fisheries Service (NMFS). 2020. Draft U.S. Atlantic and Gulf of Mexico marine mammal stock assessments -- 2020. The revised SAR for humpback whales was presented in draft stages but withdrawn for final publication due to delay in publication of supporting documents]. This stock primarily occurs off Rhode Island and Massachusetts, but a portion of the population uses waters off New York through the Mid-Atlantic [Footnote 136: Hayes, S.A. et al 2020. US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2019. NOAA Fisheries Northeast Fisheries Science Center. NOAA Technical Memorandum NMFS-NE-264: Humpback whale (*Megaptera novaeangliae*): Gulf of Maine stock]. The declaration of these UMEs by NMFS in the past few years for three large whale species for which anthropogenic impacts are a significant cause of mortality, and the recent classification of humpback whales as a strategic stock by the agency, demonstrates an increasing risk to whales from human activities along the East Coast.

Comment Number: BOEM-2021-0057-0119-39

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt 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 137: 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

Comment Number: BOEM-2021-0057-0119-40

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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 139:

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))

Comment Number: BOEM-2021-0057-0119-41

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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 of New Jersey.

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 full extent possible [Footnote 142: 16 U.S.C. § 1371(a)(5)(D)(ii)(I)(2020)].

Comment Number: BOEM-2021-0057-0119-42

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt 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. For example, aerial survey and passive acoustic monitoring data must be combined to provide a comprehensive look at the seasonal and annual occurrence of large whales. Data sources that should be assessed include New York Department of Environmental Conservation aerial surveys, Northeast Large Pelagic Survey collaborative aerial and passive acoustic studies

Comment Number: BOEM-2021-0057-0119-43

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Consequently, 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. Although not noted in the Atlantic Shores COP, the New Jersey Ecological Baseline Study generated density and abundance estimates based on conventional distance sampling [Footnote 148: Whitt, A.D., et al., Abundance and distribution of marine mammals in nearshore waters off New Jersey, USA, supra.] a more robust methodology than density surface modeling used in the Roberts et al. model. Data from the Study are included in the Roberts et al. model, but the density estimates derived from the Study's data should also be examined separately as they provide site-specific estimates and may provide useful additional insights into the abundance and density of species within the Project Area and wider region [Footnote 149: We also note that the monthly density estimates included in the ASOW COP do not utilize the Roberts model results from 2015, 2016, 2017, 2018 but do not include recent updates. The North Atlantic right whale model has been updated with additional regional data; this latest Version 11 was released in February 2021. The Roberts et al. model for the U.S. Atlantic will be updated again during Spring 2022. Also, the density models included a 50-km buffer, so the results include estimates for offshore species (e.g., sperm whales) which are not expected to occur in the Wind Energy Areas].

Comment Number: BOEM-2021-0057-0119-45

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt 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 Atlantic Shores Project. BOEM must also require strong protections for other endangered and threatened marine mammal species, including those currently experiencing a UME. 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 155: 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 fin whales, humpback whales, and minke whales, as well as harbor porpoises.

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.

Gravity-based and suction bucket foundations, as proposed by Atlantic Shores, 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 gravity-based and suction bucket foundations relative to pile-driven foundations, we present two sets of mitigation recommendations for North Atlantic right whales below, one for gravity-based and suction bucket foundations, and the other for pile-driven foundations.

While gravity-based and suction bucket 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 (see also Section

IV.E.5.b). 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 gravity-based or suction bucket foundations are used.

The mitigation measures described below reflect our current (November 2021) set of recommendations for North Atlantic right whales during construction and operations of [*Italics: fixed foundation*] turbines along the East Coast. Mitigation measures that offer co-benefits to other large whale species are noted below.

Comment Number: BOEM-2021-0057-0119-46

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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.

Comment Number: BOEM-2021-0057-0119-47

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Installation of gravity-based and suction bucket 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 foundations should be halted, unless continued installation activities are necessary for reasons of human safety or installation feasibility, 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 PSO confirms no North Atlantic right whales or other large species have been detected within the relevant clearance zones.

Comment Number: BOEM-2021-0057-0119-51

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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-2021-0057-0119-52

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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, as supported by review of the best available science at the time of the activity [Footnote 156: The ASOW COP states that “Pile-driving will follow a proposed schedule from May to December to minimize risk to NARW.” However, right whales are present in nearshore New Jersey waters throughout the year (Whitt et al. 2015) and are expected to be present at relatively higher densities in the Mid-Atlantic between November and April (see NMFS Vessel Strike Reduction Measures; Seasonal Management Areas for the Mid-Atlantic are in effect from November 1 through April 30)].

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.

Comment Number: BOEM-2021-0057-0119-53

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Pile driving shall not be initiated within 1.5 hours of civil sunset or in times of low visibility when the visual “clearance zone” and “exclusion zone” (as hereinafter defined) cannot be visually monitored, as determined by the lead Protected Species Officer (PSO) [Footnote 157: The term “PSO” refers to an individual with a current National Marine Fisheries Service (NMFS) approval letter as a Protected Species Observer] 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 158: 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] and if required nighttime monitoring protocols are followed (see subsection e).

Comment Number: BOEM-2021-0057-0119-54

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Clearance Zone distances (provided here for a minimum of 10-12 dB noise reduction (see subsection h) though technologies have achieved significantly greater noise reduction [Footnote 159: 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) [Footnote 160: No estimated exclusion zone ranges or number of PSOs are provided in the ASOW COP, so it is difficult to assess the effectiveness of the monitoring plan. Boat and/or aerial monitoring is mentioned but no details are provided on what protocols would be implemented for either platform]:

i. A visual clearance zone and exclusion zone shall extend at minimum 5,000 m in all directions from the location of the driven pile.

ii. An acoustic clearance zone shall extend at minimum 5,000 m in all directions from the location of the driven pile.

iii. An acoustic exclusion zone shall extend at minimum 2,000 m in all directions from the location of the driven pile.

iv. 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.

Comment Number: BOEM-2021-0057-0119-55

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Shutdown requirements (for a minimum of 10-12 dB noise reduction (see subsection h); North Atlantic right whales only):

- i. Pile driving should 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 shall not be initiated or, if already underway, shall be shut down unless continued pile driving activities are necessary for reasons of human safety or installation feasibility [Footnote 161: 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 monitoring methods defined in subsection (e) result in a visual detection within the visual exclusion zone or an acoustic detection within the exclusion zone of one or more North Atlantic right whales.
- iii. Pile driving shall 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.

Comment Number: BOEM-2021-0057-0119-58

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 16

Comment Excerpt Text:

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).

Comment Number: BOEM-2021-0057-0119-60

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Project personnel should 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-2021-0057-0119-62

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

To best account for the impacts of the simultaneous development of multiple lease areas on the North Atlantic right whale, we stress that the agency must prepare a full Programmatic EIS encompassing all United States' East Coast renewable energy development as soon as possible to inform future offshore wind development. Currently, impact analyses are undertaken, and mitigation measures prescribed, on a project-by-project basis leading to inconsistency and inefficiency. It would be highly beneficial to collectively consider available information on North Atlantic right whales in United States' waters to build a picture of responsible development accounting for the lifespan and migratory movements of the species, which have the potential to overlap with every WEA along the United States' East Coast on a twice-yearly basis (i.e., northern and southern migration). A Programmatic EIS is also particularly timely given the climate-driven shifts in North Atlantic right whale habitat use observed over the past decade [Footnote 172: Albouy, C., Delattre, V., Donati, G. et al. "Global vulnerability of marine mammals to global warming" *Scientific Reports*, vol. 10, No. 548 (2020); Silber, G.K., Lettrich, M.D., Thomas, P.O., et al., "Projecting Marine Mammal Distribution in a Changing Climate," *Frontiers of Marine Science*, vol. 4, no. 413 (2017)] as well as significant changes in their conservation status and major threats [Footnote 173: EarthTalk, January 18, 2010, "Despite Gains, One Third of the World's Marine Mammals Seen at Greater Risk," *Scientific American*, <https://www.scientificamerican.com/article/earth-talks-marine-mammals/>, accessed July 22, 2020.; Marine Mammal Commission, "Status of Marine Mammal Species and Populations," <https://www.mmc.gov/priority-topics/species-of-concern/status-of-marine-mammal-species-and-populations/>]. Such an approach will ensure that alternatives and mitigation measures are considered at the scale at which impacts would occur and may potentially help increase the pace of environmentally responsible offshore wind development along the United States' East Coast.

Comment Number: BOEM-2021-0057-0119-66

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Vessel strikes are one of the two main factors driving the North Atlantic right whale to extinction. Offshore wind development will result in a marked increase in vessel activity. For example, in the recent Final EIS for the South Fork Project, the agency notes 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 178: SFWF FEIS at 3-61]. 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 deaths of North Atlantic right whale calves in July 2020 and February 2021, and the serious injury, 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. Thus, when analyzing impacts from vessel traffic, BOEM should concern itself less with “relative risk” and instead focus on the actual risk to the animal and the offshore wind project vessel.

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 III.E.1.a 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”)

Comment Number: BOEM-2021-0057-0119-67

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

“Collisions between ships and whales,” Marine Mammal Science, 17(1), pp.35-75 (2001)]—the primary reference cited by BOEM—suggest that the most severe injuries occur as a result of vessel strikes by large ocean-going vessels; this research has led to a number of mitigation and management actions in the United States and internationally. However, there is increasing recognition that smaller vessels can also cause lethal injury, even when traveling at relatively low speeds (i.e., below 10 knots)

Comment Number: BOEM-2021-0057-0119-69

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

PSOs stationed aboard a vessel may increase the likelihood that a whale is detected, but this approach cannot be relied upon, particularly in periods of darkness or reduced visibility, and the whale would need to be detected with adequate time for the vessel captain to be alerted and to undertake evasive action (which may inadvertently strike another undetected whale). The use of vessel-based PSOs may therefore provide some additional benefit when a vessel is already traveling at slow speeds (i.e., less than 10 knots), but will provide little benefit for faster vessels.

Vessel speed restrictions and additional mitigation and monitoring measures must therefore be explicitly required as part of the permitting process. BOEM should acknowledge the significant risk vessel strikes pose to North Atlantic right whales and other large whales and require the industry to reduce vessel speeds to 10 knots or less and take further measures to mitigate vessel collision risk.

Data are readily available (e.g., on the Northeast Ocean Data Portal [Footnote 188: See <https://www.northeastoceandata.org/>]) to undertake a quantitative analysis of additional vessel strike risk posed by vessels associated with the offshore wind industry (i.e., total number of vessels, proportion of vessels associated with reasonably foreseeable offshore wind activities, locations of the primary route between ports and WEAs, and marine mammal occurrence and density). We encourage BOEM to undertake this quantitative analysis to provide a more robust analysis in its future environmental impact statements.

Comment Number: BOEM-2021-0057-0119-70

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Additionally, BOEM should consider the level and potential impacts of vessel-related noise during construction, particularly noise emitted by dynamic positioning systems. Reported source levels of noise from dynamical positioning systems (DPS) vary among 177, 162–180, and 121–197 dB re 1 μ Pa (SPL) at 1M [Footnote 189: MMO, 2015. Modelled mapping of continuous underwater noise generated by activities. A report produced for the marine management organisation, technical annex, MMO Project, 1097. ISBN: 978-1-909452-87-9. Tech. rep. 43 pp]. The latter intensity range reports frequencies in the 50–3,200 Hz range, within the hearing frequency of large whales and fish, and may have biologically significant effects. For example, research has shown mesopelagic fish migrate deeper in the water column upon exposure of DPS noise [Footnote 190: Peña, M., 2019. Mesopelagic fish avoidance from the vessel dynamic positioning system. *ICES Journal of Marine Science*, 76(3), pp.734-742], and there is extensive scientific literature on the impacts of continuous low frequency vessel noise on marine mammals and fish [Footnote 191: Erbe, C., Marley, S.A., Schoeman, R.P., Smith, J.N., Trigg, L.E. and Embling, C.B., 2019. The effects of ship noise on marine mammals—a review. *Frontiers in Marine Science*, 6, p.606].

DPS and other vessel noise differs from pile driving noise in its frequency spectrum and the fact it is

continuous rather than impulsive noise. DPS and vessel noise will also occur in the construction area during times when pile driving is not occurring (i.e., before and after a pile is driven). Thus, it should not be expected that the noise from pile driving will simply negate the effects of vessel-related noise. BOEM should undertake an analysis of DPS and vessel-related noise associated with the construction of Atlantic Shores, as well as cumulatively for existing and reasonably foreseeable projects in the Mid- Atlantic Bight.

Comment Number: BOEM-2021-0057-0119-73

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Habitat avoidance may also result in North Atlantic right whales being displaced into shipping lanes, thereby increasing their risk of vessel strike. The analysis should therefore estimate the additional potential risk that habitat displacement into shipping lanes, and the increased vessel traffic directly resulting from wind development activities, may pose in terms of serious injury and mortality along the East Coast, and evaluate that risk against that of species extinction.

Comment Number: BOEM-2021-0057-0119-74

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Underwater noise generated by turbines during the operations phase is positively correlated to the size of the turbine [Footnote 196: Stöber, U., and Thomsen, F., How could operational underwater sound from future offshore wind turbines impact marine life?" *Journal of the Acoustical Society of America* 149(2021): 1791-1795]. A recent scientific study summarized data on operational noise levels from offshore wind energy projects based on published measurements and simulations from the gray literature. Based on these data, the authors extrapolated the sound levels that could be generated from larger offshore wind turbines and assessed the impact ranges for behavioral response of marine mammals based on NMFS's acoustic thresholds (i.e., behavioral disruption for continuous noise may occur above a threshold of 120 dB rms) [Footnote 197: Id.]. The results of the analysis indicated that a 10 MW geared turbine required

6.3 km to fall below that threshold, and a direct drive turbine—a newer technology—would be expected to cause behavioral disruption at distances up to 1.4 km from the turbine [Footnote 198: Stöber, U., and Thomsen, F., How could operational underwater sound from future offshore wind turbines impact marine life? *Supra*]. With turbine spacing at 1 nm apart, even the lower impact direct drive 10 MW turbine could potentially elevate underwater noise to levels capable of disrupting marine mammal behavior across the entire Project Area. Moreover, 10 MW is on the lower end of the wind turbine generator (WTG) size that is now being procured by the offshore wind industry. For example, Equinor recently announced their procurement of 138 Vestas V236-15 MW WTGs for the Empire Wind I and II projects located in the New York Bight [Footnote 199: <https://www.equinor.com/en/news/20211018-empire-wind-turbine-supplier.html>]. The Vestas 236-15 MW model is a gearbox turbine, [Footnote 200:

<https://nozebra.ipapercms.dk/Vestas/Communication/Productbrochure/OffshoreProductBrochure/v236-150-mw-brochure/?page=6>. Gearbox turbine referenced] and thus expected to emit higher levels of underwater noise relative to a direct drive turbine.

Comment Number: BOEM-2021-0057-0119-8

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM must consider the full range of potential impacts on all seven cetacean species that occur regularly in the Project Area and to protect the critically endangered North Atlantic right whale from additional harmful impacts of human activities.

- BOEM's impact analyses must account for year-round presence of North Atlantic right whales in the Project Area.

Comment Number: BOEM-2021-0057-0119-80

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt 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.

Comment Number: BOEM-2021-0057-0119-81

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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-2021-0057-0122-14

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 16

Comment Excerpt Text:

(3) Vessel Strikes

- a. Increased vessel activities may result in increased strikes with marine mammals, such as the Northern Atlantic right whale. This includes from construction and O&M.
- b. There is also concern that the wind farms will displace other marine commerce and transit, funneling those vessels into narrower lanes which may increase strikes.
- c. The COP EIS must account for competing uses and navigation impacts of offshore wind facilities. With increased or altered traffic patterns, the risk of collisions and spills of gas, oil, and chemicals may increase, with negative effects to water quality and marine life. Exposure to oil and other hydrocarbons from oil spills can drastically affect marine mammals and ecosystems.
- d. Further, vessel strike mitigation is vital to reducing collision between both commercial and noncommercial vessels and North Atlantic right whales. [Footnote 10: T.M. Grothues and E. A. Bochenek, 2011: Fine scale spawning habitat delineation for winter flounder (*Pseudopleuronectes americanus*) to mitigate dredging effects –Phase II (Cycle 8), 2/2011.] The COP EIS should also consider increased spacing between offshore wind turbines and high-traffic areas through either increased spacing or based on consultation with the National Marine Fisheries Service and the United States Coast Guard.

Comment Number: BOEM-2021-0057-0122-15

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

(4) More Protective Consideration of the North Atlantic Right Whale

- a. This highly endangered species is exceptionally vulnerable to additional barriers in its migratory patterns and prime foraging habitat. While BOEM requires mandatory minimization procedures and marine mammal observers for construction and operation of offshore wind farms, it is not enough. Current minimization measures, including passive acoustic monitoring (PAM) via glider [Footnote 13: Moscrop et al., Vocalization rates of the North Atlantic right whale, *J. CETACEAN RES. MANAGE.* 3(3):271– 282, 2001, available at https://www.researchgate.net/publication/268273193_Vocalisation_rates_of_the_North_Atlantic_right_whale] do not account for when marine mammals are not vocalizing. Right whales vocalize frequently. But these vocalizations tend to be “irregular and non-repetitive” and based on activity level. [Footnote 14: Id.] Further, it is likely that most known marine mammal mortalities occur via ship-strike. [Footnote 15: Ship Strikes and Right Whales, Marine Mammal Commission (last accessed 4/28/2012), available at <https://www.mmc.gov/priority-topics/species-of-concern/north-atlantic-right-whale/ship-strikes/>] While PAM, marine mammal observers, shut-down procedures, and other mitigation measures can be useful during construction and building spatio-temporal baseline data, there is uncertainty regarding right whale behavior and offshore wind foundations and vessel activity. The COP EIS needs to address this problem.
- b. A recent report released by North Atlantic Right Whale Consortium confirmed the population of North Atlantic right whales continues to decline. According to the report,

The North Atlantic Right Whale Consortium announced that the North Atlantic right whale population dropped to 336 in 2020, an eight percent decrease from 2019... the population estimate is the lowest number for the species in nearly 20 years. [Footnote 16: New England Aquarium, “Population of North Atlantic right whales continues its downward trajectory.”

<https://www.neaq.org/about-us/news-media/press-kit/press-releases/population-of-north-atlantic-right->

whales- continues-its-downward-trajectory/ as seen 10/29/2021.]

The report shows that despite measures to protect the species, the population continues to decline, and urgent actions to prevent further harm, including from collisions and allisions, is critical in the short and long term. Hundreds of wind turbines in the ocean from the Atlantic Shores projects, as well as the others in various stages of development in the NY/NJ region, will provide an obstacle course for the competing uses of the ocean, thereby putting this critically endangered species, as well as other species, at risk. According to the Chair of the North Atlantic Right Whale Consortium,

“There is no question that human activities are driving this species toward extinction. There is also no question that North Atlantic right whales are an incredibly resilient species. No one engaged in right whale work believes that the species cannot recover from this. They absolutely can, if we stop killing them and allow them to allocate energy to finding food, mates, and habitats that aren’t marred with deadly obstacles,” said Dr.

Scott Kraus, chair of the Consortium.

What measures will BOEM require to ensure offshore wind projects do not contribute further to the decline of North Atlantic right whales? Will those measures be enough? How will these measures coordinate with measures used in other local and regional offshore wind projects?

Comment Number: BOEM-2021-0057-0128-3

Commenter: Margaret Collins

Commenter Type: Individual

Comment Excerpt Text:

The mating pattern of whales already has been severely disturbed, and this would further disturb their mating patterns.

Comment Number: BOEM-2021-0057-0142-2

Organization: Save Long Beach Island, Inc.

Commenter: Wendy Kouba

Commenter Type: Non-Governmental Organization

Other Sections: 19.2

Comment Excerpt Text:

In addition, the underwater noise from the turbines would block the entire adjacent 12-mile wide migration corridor of the critically endangered North Atlantic Right Whale, likely violating the endangered species and marine mammal protection laws.

The project will also force endangered fin and humpback whales who are attempting to avoid the noise from the turbines very close to shore increasing the stranding of whales on the beach and leading to their death.

Comment Number: BOEM-2021-0057-0169-3

Organization: Sierra Club, NJ Chapter

Commenter: Richard Isaac

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

While the Sierra Club supports offshore wind and the proposed Atlantic Shores project, the use of bubble curtains should be at least considered as it may help mitigate the issue of possible harm to marine mammals, such as the coastal form of bottle nose dolphins from the noise generated from driving pylons into the seabed.

Comment Number: BOEM-2021-0057-0176-4

Organization: Mayor of Borough of Seaside Park

Commenter: John Peterson Jr

Commenter Type: Local Agency

Comment Excerpt Text:

it is a massive industrialization and I heard reference earlier environmental species and in particular extinction threatened of those species and clearly the right whales have been and remain critically endangered and this is a prime area where the right whales migrate every year along with the humpback whales, it is just one other factor in terms of our area and the ecotourism and observing the whales in the last four years in particular as they have come in more frequency and two years ago there was indeed a documented sighting of a right whale, it is not a stretch to suggest the importance potentially of any one individual species and one only has to look to the value of species in terms of medical research, science and the like and once the right whale would be gone, one could never go back

Comment Number: BOEM-2021-0057-0210-3

Organization: Save LBI

Commenter: Joanne Leichte

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

the underwater noise from the turbines would block the entire adjacent 12-mile-wide migration corridor of the critically endangered North Atlantic right whale likely violating the endangered species and marine mammal protection law.

Also, the endangered fin and humpback whales attempting to avoid the noise from the turbines move close to shore increasing the stranding of whales on the beach leading to their death.

Comment Number: BOEM-2021-0057-0234-27

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 12

Comment Excerpt 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 habitats on which they depend. Potential effects of offshore

wind energy development on listed species and their habitat that should be considered by BOEM when making any determinations about the Atlantic Shores Projects 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;

Comment Number: BOEM-2021-0057-0234-32

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt Text:

Because activities associated with the construction of the Atlantic Shores Projects have the potential to result in the harassment [Footnote 11: Harassment, (as defined in the MMPA for non-military readiness activities (Section 3(18)(A)), is any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment) or any act of pursuit, torment, or annoyance that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns (Level B harassment). Disruption of behavioral patterns includes, but is not limited to, migration, breathing, nursing, breeding, feeding or sheltering.]of marine mammals, we anticipate that a request for an ITA pursuant to section 101(a)(5) of the MMPA may be submitted to us by the Projects' proponent. NMFS' proposal to issue an ITA that would allow for the taking of marine mammals, consistent with provisions under the MMPA and incidental to an applicant's lawful activities, is a major Federal action under 40 CFR 1508.1(q) [Footnote 12: All references to the Council on Environmental Quality NEPA regulations included in this letter apply to the 2020 regulations effective September 14, 2020.], requiring NEPA review. 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 Atlantic Shores LLC'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, after independent review and evaluation, determines the document (or portion) satisfies 40 CFR 1506.3.

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 by 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 [Footnote 13: NOAA Administrative Order (NAO) 216-6A "*Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and EO 13690, Floodplain Management; and 11990, Protection of Wetlands*" issued April 22, 2016 and the Companion Manual for NAO 216-6A "*Policy and Procedures for Implementing the National Environmental Policy Act and Related Authorities*" issued January 13, 2017.], and subsequent issuance of an ITA.

As such, the document body must contain the following items: the purpose and need of NMFS' action, a clear description of NMFS' roles and responsibilities as both a cooperating and adopting agency (language we previously provided to BOEM for the South Fork Draft EIS); and a range of alternatives which incorporate a description of NMFS' action, to include the No Action alternative.

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

- The other agency's 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;
- A thorough description of the affected environment including the status of all marine mammals species likely to be affected;
- 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.

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 Projects' 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. For specific marine mammals issues, we refer you to the discussion on marine mammals in the ESA section above. 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-2021-0057-0234-4

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

Of particular concern are effects to North Atlantic right whales. Critically endangered North Atlantic right whales occur in the Atlantic Shores lease area, along the proposed cable corridor, and along many of the anticipated vessel transit routes. The status of this species is extremely poor and distribution in this region is not particularly well known. The proposed construction, operation, and decommissioning of the Atlantic Shores project may have adverse effects on North Atlantic right whales. This issue warrants special consideration throughout the environmental review process, especially in regard to the potential adverse effects of the proposed project to migratory right whales and their migrating, newly-born calves.

Comment Number: BOEM-2021-0057-0234-43

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 12

Comment Excerpt Text:

- 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, alter prey assemblages, or result in the displacement of individuals during all phases of the proposed project;

Comment Number: BOEM-2021-0057-0240-8

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

Marine mammals (whales, porpoises, seals) are sensitive to underwater sound and are extremely vulnerable to harm during offshore windmill construction. Hearing damage destroys their ability to navigate and communicate permanently. Even special mitigation measures like bubble curtains are not enough.

Comment Number: BOEM-2021-0057-0243-1

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In particular, our analysis of operational (vs. construction) underwater turbine-generated noise raises very serious concerns regarding the migration of the North Atlantic right whale. That analysis shows that the proposed action would:

- block the outer adjacent 12-mile-wide migration corridor of that critically endangered whale by creating operational noise levels above the 120-decibel behavior disruption criterion throughout the entire corridor,
- due to that blockage, seem to violate both the Endangered Species Act and the Marine Mammal Protection Act, requiring, because of the long-term impact, an Incidental Take Rulemaking to show otherwise, and
- force endangered fin and humpback whales, attempting to avoid the noise from the inner turbines to shore, causing beach stranding.

A.3.15 Mitigation and Monitoring

Comment Number: BOEM-2021-0057-0014-1

Commenter: Sabrina Wilder

Commenter Type: Individual

Other Sections: 19.2

Comment Excerpt Text:

The issues or impacts that could arise from the construction and use of the wind project include increased underwater noise and vibrations and increased vessel traffic. Both of these issues could potentially drive away sea creatures native to that region. My recommendation to reduce these impacts would be to put dampeners on the structures and the construction equipment and to find other way of transportation than boats to get out to the structure.

Comment Number: BOEM-2021-0057-0014-3

Commenter: Sabrina Wilder

Commenter Type: Individual

Other Sections: 19.2

Comment Excerpt Text:

My recommendations to possibly reduce the impact that may come about would be to put dampeners to lessen the noise and vibrations and to find a different way to get out to the structures to reduce vessel traffic.

Comment Number: BOEM-2021-0057-0050-10

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

· Mitigating measures involving detection and turbine shut down are not viable for the large noise influence zones and multi-year operational time frames here, leading to the need for consideration of turbine exclusion zones to avoid disrupting the right whale's migration.

· However, since the zone of influence above 120 dB (at least 22 miles) from even the innermost turbines at 10 miles extends across the entire 12-mile width of the migration corridor, [bold and italics: there is no place in this project area for turbine placement that will protect the whale's migration.]

Comment Number: BOEM-2021-0057-0051-7

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

EPA also supports the development of a long-term monitoring plan to measure recovery of the benthic habitat from construction related disturbances and to monitor for potential migration of invasive species. An action plan to address incomplete recovery or areas affected by invasive species should be considered.

Comment Number: BOEM-2021-0057-0052-17

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt 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-2021-0057-0052-20

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt 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 marine wildlife presence and abundance.

Comment Number: BOEM-2021-0057-0052-29

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Construction

The EIS must include alternatives to schedule 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-2021-0057-0052-32

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Clearance Zones for all pile driving, including vibratory

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-2021-0057-0052-33

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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.

Comment Number: BOEM-2021-0057-0052-34

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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.

Comment Number: BOEM-2021-0057-0052-35

Organization: Oceana

Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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.

Comment Number: BOEM-2021-0057-0052-38
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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.
-

Comment Number: BOEM-2021-0057-0052-39
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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.

Comment Number: BOEM-2021-0057-0052-44
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Similar to the requirements for vessel monitoring, the EIS should also explore requirements to supplement human observer with IR technology and drones, where appropriate.

Comment Number: BOEM-2021-0057-0104-11
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

A comprehensive regional fisheries and benthic resources monitoring plan must be developed and implemented in collaboration and consultation with state fishery managers and scientists.

Comment Number: BOEM-2021-0057-0104-14
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

To protect ESA-listed sea turtles as well as other impacted marine species, avoidance and mitigation measures must include vessel speed restriction and noise reduction in the Atlantic Shores projects area.

Comment Number: BOEM-2021-0057-0104-16
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 20 5

Comment Excerpt Text:

All current avian monitoring technologies and survey methodologies have limitations in their scope and specific use in addition to inherent sampling biases. The EIS must use models produced from standardized monitoring/survey data collection methods and address the biases of each method used in the

COP. The EIS must include:

- accurate estimates of avian populations;
- thorough evaluation of local population-level cumulative impacts in addition to flyway-wide impacts on a broad range of bird species with a presence in the Atlantic Shores area particularly passerines and other nocturnal migrants, seabirds, and species most at risk, employing complementary methods and technologies.
- Since all current OSW areas occur within migratory pathways of trans-Atlantic songbirds and shorebirds, BOEM must conduct a quantitative assessment of the cumulative effects including population viability analyses from OSW build out in the Atlantic OCS to mitigate the increased likelihood of large-scale migratory collision events or displacement events as the total OSW footprint increases.
- An examination of a detailed adaptive ecosystem-wide management plan, based on above analyses, describing how all conservation obligations afforded to impacted avian species by multiple statutes, conservation policies, agreements, and treaties[Footnote 42: North American Waterbird Conservation Plan, U.S. Shorebird Conservation Plan, MOU between U.S. Minerals Management Service and FWS on the implementation of EO 13186 (01/17/2001), UN- CMS, & IUCN] will be met. This comprehensive plan could include methods and standards for monitoring, avoidance, and mitigation, informed by current science and best available technologies, in ecosystem-wide approaches. The best management practices defined by this plan could be extended to other OSW projects within the region and all along the Atlantic coast which encompass important habitats for birds migrating along the Atlantic Flyway.
- application of Collision Risk Models (CRMs) in analyzing potential collision impacts on at-risk species in the offshore environment which may occur within 20 km of the Atlantic Shores area footprint. CRMs provide a mechanism for testing outcomes against model predictions (e.g. observed vs expected collision rates). The collision risk analysis in the EIS must be complete and transparent as CRMs are extremely sensitive to input parameters such as avoidance behavior, flight height, flight activity, flux rate, corpse detection rate, rotor speed, bird speed, and collision risk. CRMs should also consider differences in daytime and nighttime flight patterns. [Footnote 43: Band, B. (2012). Using a collision risk model to assess bird collision risks for offshore windfarms. SOSS report for The Crown Estate, Norway.]
- mortality data and displacement data in cumulative impacts analyses and adaptive management strategies, to validate CRMs, and to measure long-term impacts on at-risk species.

Comment Number: BOEM-2021-0057-0104-17

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

The EIS must consider measures to minimize construction and operational lighting throughout the footprint of OSW projects following BOEM guidelines[Footnote 45: BOEM. (2021, Apr 28). Guidelines for Lighting and Marking of Structures Supporting Renewable Energy Development] to minimize collision risk.

A comprehensive regional avian monitoring plan could help BOEM determine the OSW impacts on the vast number of resident and diurnal/nocturnal migratory birds (several of which are endangered species) using the coastal, near shore and offshore pelagic environments of the Atlantic Shores projects area. This plan could be developed and implemented in collaboration and consultation with ornithologists and technical experts and include:

- effective baseline data collection protocols for the Atlantic Shores region initiated immediately and continued through decommissioning including complementary acoustic and visual monitoring methods and technologies, e.g. marine radar surveys, vessel surveys, personned or digital aerial transect surveys, acoustic monitoring, radio telemetry, satellite telemetry, etc. to fill knowledge gaps and to inform future OSW installation processes. Some of the survey and monitoring methods/technologies and their scope include:
 - personned or digital (for higher altitudes if safety is an issue) aerial transect surveys coupled with vessel surveys to track larger bodied species of all relevant taxa and to inform OSW siting that minimizes avian impacts while also measuring the realized level of impacts from before and after construction. Distance sampling is the most obvious method to address inaccuracies in transect surveys and we recommend that BOEM incorporate this accepted method into Atlantic Shores projects area survey protocols along with predictive models where available.
 - satellite tracking information from Movebank[Footnote 46: Max Planck Institute’s free, online database of animal tracking data. <https://www.movebank.org/cms/movebank-main>] and Icarus Initiative[Footnote 47: International Cooperation for Animal Research Using Space (ICARUS). Scientists working to develop a satellite-based system to observe small animals such as birds, bats, and turtles. <https://www.icarus.mpg.de/en>] for larger bodied shorebirds, along with additional research and tagging of priority bird species.
 - radio telemetry for evaluation of full life cycle of sensitive smaller bodied species.
 - satellite telemetry technology supplemented with pressure sensors to obtain fine scale movement data and flight altitude
 - marine radar methods to monitor nocturnal migrants. Migration of various birds (including at-risk species like red knot, piping plover, and whimbrel) over the Atlantic Ocean has been documented. [Footnote 48: Sorte, F. A. L. & Fink, D. (2017). Projected changes in prevailing winds for transatlantic migratory birds under global warming. *Journal of Animal Ecology*, 86, 273–284.] While nocturnal migrants are known to typically fly above the rotor swept zone for current wind turbines in operation, they may also fly lower, potentially within the rotor swept zone, during inclement weather and cross winds.[Footnote 49: Van Doren, B. M., Horton, K. G., Stepanian, P. M., Mizrahi D. S., & Farnsworth, A. (2016). Wind drift explains the reoriented morning flights of songbirds. *Behavioral Ecology*, 27, 1122–1131.]
 - aerial surveys over the southern New England/mid-Atlantic OSW planning areas to capture annual and seasonal variations in avian movement that are not adequately accounted for by the current MDAT regional avian activity surveys. Begin surveys as soon as possible and repeat frequently enough to cover within and between seasonal and annual variation in avian distribution to capture changes in distribution caused by OSW & inform collision risk analysis.
 - science-based monitoring protocols for automated radio telemetry currently being developed by NYSERDA and USFWS[Footnote 50: Williams, K., Adams, E., & Gilbert, A. (2020). USFWS Migratory Birds.] who are also testing the feasibility of floating receiving stations. Financially support efforts to advance this technology by adopting it into regional monitoring protocols for OSW and employing data from these efforts into this EIS and other OSW impacts analyses in the future. Conduct further telemetry studies on other less known life stages, time periods, and appropriate geographic scope, and incorporate those results in the EIS.
- real-time implementation strategies to use the collected data in adaptive management. The adaptive management framework should include cost effective operational adjustments and advances in detection and avoidance technology, e.g. “smart curtailment” to contain reasonable loss of energy production, seasonal adjustments based on mortality data as needed to compare with defined thresholds, etc. This framework also requires interagency (BOEM and USFWS) coordination and commitment beyond Atlantic Shores projects that would be applicable to OSW projects planned and proposed off Atlantic coast.

- installation, upgrades, or maintenance of new and/or existing network of such as Motus Wildlife Tracking System[Footnote 51: Bird Studies Canada. 2018. Motus Wildlife Tracking System. <https://motus.org/>] receivers on WTGs and onshore OSW infrastructure
- commitment to address unforeseen impacts through compensatory mitigation to offset potential long-term adverse impacts from the 2 Atlantic Shores projects. Migratory birds pose huge conservation challenges since their lifecycle spans multiple regions/countries requiring significant investment of resources to restore equivalent quality habitats at multiple sites. The large number of migratory species potentially affected by the 2 projects will require directed environmental compensatory mitigation for meaningful beneficial outcomes, e.g. the \$63 million compensation mitigation package for migratory seabirds in Mexico helped in the recovery and delisting of Pacific Brown Pelican. Mitigation more effectively compensates for impacts when conducted on a project- and population-specific basis although a compensatory mitigation fund could serve similar purposes.
- Investment in research to understand the effects of displacement and mortality relative to turbine size and spacing. There is no substantial evidence to suggest that larger turbines spaced farther apart lower bird collision risks. Turbulence above and below the rotor swept zone can affect flight performance. If this makes the birds more susceptible to physical interactions with turbines, then larger turbines would only increase that risk. The risk of collision with the tower itself and turbulence around the rotor swept zone must also be evaluated.
- Support for the development of technologies to detect bird collisions or mortalities informed by onshore post-construction mortality studies. The Department of Energy recently funded development of collision detection technology to detect small object collisions with WTGs. [Footnote 52: Oregon State University. Wind turbine sensor array for monitoring wildlife and blades collisions. <http://research.engr.oregonstate.edu/albertani/wind-turbine-sensor-array-monitoring-wildlife-and-blades-collisions>] Similar technologies being tested elsewhere might become available in time if/when Atlantic Shores COP is approved and ready to be implemented. [Footnote 53: Dirksen, S. (2017). Review of methods and techniques for field validation of collision rates and avoidance amongst birds and bats at offshore wind turbines. Report number: Sjde 17-01 DOI:10.13140/RG.2.2.15547.41766] Require developers to report mortality events promptly and publicly and require turbine developers to integrate these systems into their turbines.
- The impacts of less energy production from increased spacing with fewer larger turbines within the footprint of OSW project versus the additional habitat loss impacts from more of smaller projects (and more space) required to meet state and national energy goals must be balanced in the context of avian conservation. Fund studies to address this alternative through financial support of OSW project developers or using tax revenues.
- pursuit of studies to verify CRM utility in the offshore environment and its integration into viable collision detection requirements for Atlantic Shores and future OSW projects
- requirement of schedules/activities modification to protect breeding ESA-listed species from potential onshore impacts of the 2 Atlantic Shores projects including hiring trained spotters to prevent any harm to nesting chicks (e.g. the Endangered piping plover which nests on the beach) within 100 m of onshore construction activities.

Comment Number: BOEM-2021-0057-0104-2
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

To avoid, minimize, and mitigate the adverse impacts to wildlife, the EIS must:

- establish baseline data, using best available science, on current ecological conditions, accurately identifying resident and migratory species, and determining their population sizes within the offshore, coastal, and onshore ecosystems of the Atlantic Shores lease area
- identify all potential species-specific and ecosystem-wide impacts from the 2 Atlantic Shores projects

Comment Number: BOEM-2021-0057-0104-20

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 3

Comment Excerpt Text:

We recommend evaluating the following monitoring and OSW operational requirements:

- a comprehensive regional bat monitoring plan in collaboration and consultation with scientists and technical experts. This plan must include continued visual monitoring using real-time detection systems such as Motus tracking[Footnote 64: Bird Studies Canada. (2018). Motus Wildlife Tracking System. <https://motus.org/>], field surveys, etc. and acoustic monitoring at the height of turbine nacelles[Footnote 65: Peterson et al. (2016); Hatch, S. K., Connelly, E. E., Divoll, T. J., Stenhouse, I. J., & Williams, K. A. (2013). Offshore Observations of Eastern Red Bats (*Lasiurus Borealis*) in the Mid-Atlantic United States Using Multiple Survey Methods. PLoS ONE, 8(12).]
- evaluate bat deterrent technologies being developed for land-based turbines for deployment or modified for use in the offshore environment to minimize bat impacts:
 - turbine coatings to counteract any attraction to smooth surfaces which might be perceived as water[Footnote 66: Victoria J. Bennett, V. J. & Hale, A. M. (2017?). Texturizing Wind Turbine Towers to Reduce Bat Mortality. DE-EE0007033,]
 - ultraviolet lighting which many bat species can see[Footnote 67: NREL Wind Research. Technology Development and Innovation Research Projects.]
 - ultrasonic noise emitters to effectively “jam” bats’ radars and make WTGs unappealing to bats[Footnote 68: <https://www.osti.gov/biblio/1484770>; Weaver, S. P., Hein, C. D., Simpson, T. R., Evans, J. W., & Castro-Arellano, I. (2020). Ultrasonic -acoustic deterrents significantly reduce bat fatalities at wind turbines. Global Ecology and Conservation, 24, e01099. <https://doi.org/10.1016/j.gecco.2020.e01099>; Arnett, E. B., Hein, C. D., Schirmacher, M. R., Huso, M. M. P., & Szewczak, J. M. (2013). Evaluating the Effectiveness of an Ultrasonic Acoustic Deterrent for Reducing Bat Fatalities at Wind Turbines. PLoS ONE, 8(6), e65794. <https://doi.org/10.1371/journal.pone.0065794>.]
 - acoustic monitoring at the height of turbine nacelles[Footnote 69: Peterson et al. 2016; Hatch, S. K., Connelly, E. E., Divoll, T. J., Stenhouse, I. J., & Williams, K. A. (2013). Offshore Observations of Eastern Red Bats (*Lasiurus Borealis*) in the Mid-Atlantic United States Using Multiple Survey Methods. PLoS ONE, 8(12).]
 - targeted tagging
 - thermal imaging technology to detect collisions
- explore targeted or smart operational curtailment (e.g. via feathering of turbine blades, which at high risk periods, has been shown to reduce bat fatalities by >90% at land-based WTGs[Footnote 70: Arnett, E. B., Huso, M. M., Schirmacher, M. R., & Hayes, J. P. (2011). Altering turbine speed reduces bat mortality at wind- energy facilities. *Frontiers in Ecology and the Environment*, 9(4), 209–214. <https://doi.org/10.1890/100103>]. [Footnote 71: Borssele Wind Farm in the Netherlands is the first

proposed offshore wind farm in Europe with a bat mitigation requirement for migratory bats. One proposed mitigation measure is targeted operational curtailment.) to minimize bat collisions with offshore WTGs.

- evaluate seasonal increase of turbine cut-in speed (shown to reduce overall bat fatalities by 36% including those of eastern red bats but not of hoary or silver-haired bats[Footnote 72: Good, R. E, Merrill, A., Simon, S., Murray, K., & Bay, K. (2012). Bat Monitoring Studies at the Fowler Ridge Wind Farm, Benton County, Indiana. Final Report: April 1 – October 31, 2011. Prepared for Fowler Ridge Wind Farm, Fowler, Indiana.

https://tethys.pnnl.gov/sites/default/files/publications/Good%20et%20al.%202012_Fowler%20Report.pdf] at land- based WTGs during warm, slow wind speed nights during seasonal migration when bat activity is highest[Footnote 73: Peterson et al. (2016).] to reduce fatal collisions[Footnote 74: Arnett, E. B., Johnson, G. D., Erickson, W. P., and Hein, C. D. (2013). A Synthesis of Operational Mitigation Studies to Reduce Bat Fatalities at Wind Energy Facilities in North America. A report submitted to the National Renewable Energy Laboratory. Bat Conservation International. Austin, Texas, 2013; Arnett, E. B., Huso, M. M., Schirmacher, M. R., & Hayes, J. P. (2010). Altering turbine speed reduces bat mortality at wind-energy facilities. *Frontiers in Ecology and the Environment*, 9(4), 209–214; Tidhar, D., Sonnenberg, M., & Young, D. (2012). Post-construction Carcass Monitoring Study for the Beech Ridge Wind Farm Greenbrier County, West Virginia. FINAL REPORT. Prepared by Western EcoSystems Technology, Inc.; Ostridge, C. & Framer, C. (2018).

Understanding the costs of bat curtailment. Presentation at AWEA Siting Conference. 20 Mar. 2018.] as shown in the case of the *Nathusius pipistrelle* (*Pipistrellus nathusii*) during its summer/autumn migration along North Sea. [Footnote 75: South Fork Wind Farm and South Fork Export Cable Project Draft Environmental Impact Statement, Table H-36, 86 Fed. Reg. 1520 (Posted January 4, 2021).] Bat activity levels offshore could be used as a proxy for their risk from OSW. [Footnote 76: NYSERDA - NYS-ETWG. (2021, July). State of the Science Workshop 2020 – Bats Workgroup Report]

- consult with the USFWS on Atlantic Shores project impacts to listed/potentially listed bat species in developing and implementing protocols to avoid, minimize, and mitigate such impacts.

- support and invest in scientific and technological research to:

- develop methods and technologies for monitoring, risk assessment, direct detection of collisions specifically in the offshore environment[Footnote 77: NYSERDA - NYS-ETWG. (2021, July). State of the Science Workshop 2020 – Bats Workgroup Report] so that OSW-related bat mortalities could be accurately quantified since traditional fatality assessment (i.e. relying on carcasses around WTGs) is not feasible at offshore sites.

- continually evaluate mitigation strategies being developed for land-based wind energy projects for their potential application to OSWs. Bat mortality has been shown to increase with the tower height of land-based WTGs, [Footnote 78: Barclay, R. M. R., Baerwald, E. F., & Gruver, J. C. (2007). Variation in Bat and Bird Fatalities at Wind Energy Facilities: Assessing the Effects of Rotor Size and Tower Height. *Canadian Journal of Zoology*, 85(3),381–87; Rydell, J., Bach, L., Dubourg-Savage, M- J., Green, M., Rodrigues, L., & Hedenström, A. (2010). Bat Mortality at Wind Turbines in Northwestern Europe. *Acta Chiropterologica*, 12(2), 261–74.] suggesting that fewer, larger turbines deployed in OSWs may be detrimental to bats.

- improve acoustic monitoring to distinguish between calls of different species. [Footnote 79: Peterson et al. (2016).]

Comment Number: BOEM-2021-0057-0104-22

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Knowledge of population densities and spatiotemporal profiles of marine mammals is essential in developing effective avoidance and mitigation strategies. Therefore, the EIS must:

- incorporate all available data including aerial survey records[Footnote 85: Tetra Tech & LGL Ecological Research Associates. (2020). Final comprehensive report for New York Bight Whale Monitoring Aerial Surveys, March 2017 – February 2020. Technical report prepared for NYS-DEC.] available through sightings databases (e.g. NMFS Right Whale Sighting Advisory System; [Footnote 86: NOAA Fisheries - NOAA Right Whale Sighting Advisory System.] Northeast Fisheries Science Center Monthly Dynamic Management Areas (DMA) analysis[Footnote 87: Northeast Fisheries Science Center - Interactive Monthly DMA Analysis.]) and passive acoustic monitoring data (e.g. Robots4Whales detections, [Footnote 88: Woods Hole Oceanographic Institution - Robots4Whales. <http://dcs.whoi.edu/>] Acoustic Right Whale Occurrence, [Footnote 89: Northeast Fisheries Science Center - Acoustic Indicators of Right Whale Occurrence.] large whale acoustics[Footnote 90: Estabrook, B. J. et al. (2020). Year-2 annual survey report for New York Bight whale monitoring passive acoustic surveys October 2018- October 2019. Contract C009925.]) for accurate estimation of population densities and seasonal presence.
- consider the use of all emerging and established monitoring technologies (e.g. unmanned acoustic gliders[Footnote 91: CBC News. (Aug. 30, 2020). Underwater glider helps save North Atlantic Right Whales from Ship Strikes], Robots4Whales[Footnote 92: Woods Hole Oceanographic Institution - Robots4Whales. <http://dcs.whoi.edu/>]) that allow near real-time detection of protected species and share the data with experts (e.g. “Mysticetus” [Footnote 93: <https://www.mysticetus.com/>]) to inform adaptive management and real-time mitigation action.

Comment Number: BOEM-2021-0057-0104-23

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We recommend that the EIS evaluate the following avoidance/mitigation measures which are applicable to the critically endangered North Atlantic right whales and other listed marine mammals present in Atlantic Shores project area, during the construction, operation, maintenance, repowering, and decommissioning activities. These recommendations are subject to change as new scientific data emerge and technologies in real-time monitoring and mitigation systems are developed.

Vessel speed restrictions

- focus on the actual risk to the animals and not on “relative risk” when analyzing impacts to marine mammals from vessel strikes
- require Atlantic Shores and all OSW developers as part of the permitting process to reduce speed of all project-associated vessels of all sizes to =10 knots at all times and locations (i.e., transiting to/from the project area) except in those circumstances where the best available scientific information demonstrates that NARW and other marine mammals do not use the area. Vessel stationed PSOs could provide additional benefit in reliably detecting whales but only if the vessel is traveling at slow speeds (i.e. <10 knots) and only during daylight hours on clear days. A whale must be detected with adequate time for the vessel to undertake evasive action but in doing so it may inadvertently strike yet another undetected whale. Beyond the mandatory vessel speed restrictions within Seasonal Management Areas (SMAs), there are currently no federal requirements to reduce the speed of OSW vessels to =10 knots. Voluntary 10 knot

speed reduction zones (i.e. NOAA DMAs and NARW “Slow Zones”) have not worked as evident in continued vessel-strike mortalities and plummeting population. [Footnote 116: NMFS. (2020, June). North Atlantic Right Whale (*Eubalaena glacialis*) Vessel Speed Rule Assessment.]

- require training of all personnel working offshore on observing and identifying NARW and other large marine mammals.
- require vessels to maintain a separation distances of 500 meters (m) for NARW, maintain a vigilant watch for NARW and other large marine mammals, and slow down or maneuver their vessels as appropriate to avoid potential collision with any large marine wildlife
- require all service operating vessels to carry automated thermal detection systems.

Underwater noise reduction

- require a minimum of 10 dB (SEL) reduction in radiated sound level to be attained during construction using a combination of emergent and proven current technologies such as shields, screens, and barriers around the sound source, e.g. air bubble curtains, [Footnote 117: Smyth, L. (11/08/2018). Wind farm noise reduced by air bubble curtain. <https://www.engineerlive.com/content/wind-farm-noise-reduced-air-bubble-curtain>] Hydro Sound Damper Systems, [Footnote 118: Hydro-Sound-Damper-System (HSD-System) from the German company OffNoise-Solutions <https://www.offnoise-solutions.com/the-hydro-sound-damper-system-hsd-system/>; Bruns, B., Stein, P., Kuhn, C., & Sychla, H. (2014). Hydro sound measurements during the installation of large diameter offshore piles using combinations of independent noise mitigation systems] isolation casings (Noise Mitigation Screen (NMS)), dewatered cofferdams, reduced blow energy, and prolonging pulse duration by modifying the hydraulic hammers. [Footnote 119: 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.] relative to a reference baseline of prior noise measurements of unmitigated piles.
- take all necessary actions to reduce the number of Level A takes and to ensure Level B takes [Footnote 120: NMFS has set threshold criteria for two levels of harassment under the MMPA: Level A: any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild; Level B: any act that has the potential to disturb [but not injure] a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering] for large whales are as close to zero as possible.

Monitoring requirements

- partner with NMFS, other relevant agencies, and science and technology experts to develop a robust and effective a long-term scientific plan: a. to understand baseline environmental conditions prior to utility-scale OSW development off any US coast, b. for continued monitoring of environmental conditions in project area, c. for continued real-time monitoring of NARW and other marine mammals, d. to formulate avoidance/mitigation strategies based on scientific recommendations. [Footnote 121: Kraus et al. (2019). A Framework for Studying the Effects of Offshore Wind Development on Marine Mammals and Turtles] These strategies are essential to adaptive management of NARW and other protected species while affording operational flexibility to OSW developers. The Atlantic Shores projects could set a precedent for the most protective mitigation measures to be used for future OSW development.
- use scientifically valid real-time monitoring system and mitigation protocol for NARW and other large marine mammals to dynamically manage the timing of pile driving and other construction activities to ensure those activities are undertaken during times of lowest risk

Visual and acoustic clearance and exclusion zones

- set a visual clearance zone and an exclusion zone extending at least 5,000 m in all directions from the

location of the driven pile.

- require monitoring of the visual clearance and exclusion zone by vessel-based PSOs stationed at the pile driving site and on additional vessels, as appropriate, during pre-clearance monitoring period and during pile driving activity
- require the presence of at least 4 vessel-based NOAA-certified PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon per pile driving location. Additional vessels must survey the clearance and exclusion zones at speeds of =10 knots. Consider deployment of additional observers and monitoring technologies (e.g. infrared, drones, hydrophones) to ensure comprehensive monitoring of clearance zones.
- set an acoustic clearance zone extending at least 5,000 m in all directions from the driven pile; set an acoustic exclusion zone extending at least 2,000 m in all directions from the driven pile.
- require monitoring of acoustic clearance and exclusion zones using near real-time passive acoustic monitoring (PAM), assuming a detection range of at least 10,000 m, undertaken from a vessel other than the pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by construction-related noise.
- visual and acoustic monitoring must begin at least 60 minutes prior to the commencement or re-initiation of pile driving and must be conducted throughout the duration of pile driving activity. Visual observation of the minimum 5,000 m visual clearance zone must continue until 30 minutes after pile driving.

Prohibitions, restrictions of activities, shutdown requirements

- extend seasonal restrictions to those times of the year when at-risk species other than NARW are present and schedule construction activities around the presence of these species. The best available scientific information validates the use of seasonal restrictions to temporally suspend OSW activity when NARW are likely present, but it is becoming increasingly clear that there may not be a time of “low risk” for this species. Climate-driven changes in oceanographic conditions and resulting shifts in prey distribution are rapidly changing the spatial and temporal patterns of habitat use of NARW and other large whale species. [Footnote 122: Davis, G.E., et al., (2020); Davis, G.E., et al. (2017); Record, N., et al. (2019).] BOEM/NMF’s seasonal restrictions in NARW foraging areas (including Atlantic Shores projects area) might afford them some protection but as discussed in Section 5.2, there are other endangered species (other mammals and sea turtles) that are present in Atlantic Shores projects area when NARW are not.
- prohibit pile driving:
 - during periods of highest risk (to NARW and other listed marine mammals) defined as times of highest relative density of individuals during their migration, and times when mother-calf pairs, pregnant females, surface active groups (indicative of breeding or social behavior), or aggregations of three or more individuals (indicative of feeding or social behavior) are present or expected to be present as indicated by the best available science at the time of the activity.
 - from being initiated within 1.5 hours of civil sunset or in times of low visibility when visual clearance and exclusion zones cannot be visually monitored by PSOs,
 - if there is acoustic detection within the acoustic clearance zone or visual detection within the visual clearance zone of NARW
- require shut down of pile driving activities if there is visual detection of NARW within the visual exclusion zone or acoustic detection within the acoustic exclusion zone, or sighting by PSOs at any distance from the pile
- allow paused pile driving to resume only after the lead PSO confirms no NARW have been detected within the acoustic and visual clearance zones or to continue after dark only if the activity commenced during daylight hours and must proceed for human safety or installation feasibility reasons.

Reporting

- require Atlantic Shores to report all visual observations and acoustic detections of NARW to NMFS or the Coast Guard as soon as possible and no later than the end of the PSO shift.
- require use of near real-time autonomous buoy systems for automatic report of NARW detections on preset cycles
- require Atlantic Shores to immediately report the sighting of any entangled or dead NARW to NMFS, Marine Animal Response Team (1-800-900-3622) or the USCG via phone, app, or radio. Methods of reporting are expected to advance and streamline in the coming years, and BOEM should require projects to commit to supporting and participating in these efforts.

In addition, we are advocating to NFMS to revise its guidance on harassment thresholds for acoustic exposure criteria for behavioral response[Footnote 123: Tougaard, J., Wright, A. J., & Madsen, P. T. (2015). Cetacean noise criteria revisited in the light of proposed exposure limits for harbour porpoises. *Marine Pollution Bulletin*, 90, 196-208.] to be consistent with the best available current science and be truly protective of marine mammals from the noise generated by OSW activities. BOEM must be conservative in its assessment of potential loss of communication and listening range to NARW and other listed species and assume that any substantial increase in noise 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.

BOEM should also partner with acoustic data scientists (from NYDEC, NYSERDA, Wildlife Conservation Society, NEFSC, NEAQ, Woods Hole Oceanographic Institution, etc.) and acoustic modeling scientists (e.g. from JASCO Applied Science) to obtain and collate best available current scientific data to inform a comprehensive acoustic impacts and cumulative impacts analyses.

Comment Number: BOEM-2021-0057-0104-24

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 18.4

Comment Excerpt Text:

Due to the complexity of the potential impacts of OSW to the numerous biological resources in OSW siting areas, expedited research and analysis are needed to draft comprehensive data-based avoidance and mitigation strategies, and to adopt a least-impact precautionary approach. We offer the following general recommendations for OSW sector-wide consideration:

- Together with OSW developers, invest in scientific research and development of monitoring technologies to inform proactive adaptive management of impacted species of all taxa and their habitats.
- Develop programmatic, ecosystem-wide Best Management Practices (BMPs) as part of the OSW industry permitting requirements, based on current science and state-of-the-art/emergent technologies to protect natural resources in all OSW projects.
- Create a publicly available centralized data portal to serve as a clearinghouse of real-time data collection and dissemination for all OSW-related scientific and technological data. Make all decision-making data transparent and available for public review.

Comment Number: BOEM-2021-0057-0104-25
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 2.4

Comment Excerpt Text:

A Fisheries Habitat Minimization Alternative should be developed to avoid siting foundations in/routing cables through complex habitats to decrease the overall adverse impacts to EFH and lessen the direct mortality of fish and invertebrates.

Comment Number: BOEM-2021-0057-0104-30
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

commit to conducting comprehensive long-term science-based monitoring before, during, and after construction to document impacts to benthic habitat and EFH and recovery, compared to pre-construction survey baseline.

Comment Number: BOEM-2021-0057-0104-39
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

- with respect to high voltage direct current (HVDC) export, consider using air-cooling systems, sustainable closed-loop sea water cooling systems, or emergent pumpless technologies, instead of open-loop raw seawater cooling system to reduce adverse environmental impacts from HVDC transformer platforms
- evaluate operational noise and consider deployment of attenuation technologies to minimize impacts on marine wildlife
- develop and evaluate robust science-based avoidance, minimization, and mitigation measures employing emerging and established technologies, in continued early consultations with scientists, technology experts, federal agencies (NMFS, FWS, DOD, and DOE[Footnote 5: NMFS – National Marine Fisheries Service; FWS – US Fish and Wildlife Service; DOD – Department of Defense; DOE - Department of Energy]), tribal leaders, and all stakeholders to protect the natural and cultural resources in Atlantic Shores projects area
- evaluate the implementation of a plan to report on the efficacy of the avoidance, minimization, and mitigation measures including:
 - both species-specific and holistic ecosystem-wide approaches that factor in spatiotemporal presence in the project area of various resident and migrating fauna
 - adaptive management strategies to reduce adverse impacts to all species, with particular emphasis on those already at risk of extinction

- use of deterrent technologies to reduce collision risks to bats and birds
- restriction of vessel speeds of [Underline: all sizes to less than 10 knots at all times] to avoid collisions with marine megafauna
- deployment of a combination of noise abatement technologies, seasonal and diel restrictions of construction activities to minimize impacts, curtailment of site assessment and characterization activities during times of highest risk
- strategies to minimize potential entanglement of marine mammals and other megafauna on export cables, weather buoys, and ghost fishing gear
- visual and acoustic clearance and exclusion zones and monitoring methods

Note that nothing but the most stringent protective measures will be adequate to prevent the Critically Endangered North Atlantic right whale from certain extinction. [**Bold: NARW cannot withstand even a single vessel strike or a single entanglement per year if it is to survive.**] Implementing such measures will also protect the Endangered sea turtles and other listed species.

- develop and implement a continued monitoring program to ensure that there is no significant deterioration of the environmental conditions or the existing natural resources from construction through the decommissioning phases

Successful deployment of the 2 Atlantic Shores projects and other offshore wind energy projects being planned is inextricably linked to the successful conservation and protection of local natural resources. Where in the comments below substantive suggestions are provided, it is with the understanding that the EIS would be more complete and compliant with the National Environmental Policy Act (NEPA) if those alternatives are evaluated.

Comment Number: BOEM-2021-0057-0104-8
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 19.2

Comment Excerpt Text:

The two likely chronic noise sources of offshore wind projects would be the gearbox noise from the turbines, and noises from the propeller blades, which include continuous noise from air turbulence induced by the blades, the pressure pulse as the blades pass the mast, and the roar of the tip vortices. [Footnote 19: Michael Stocker, Ocean Conservation Research. (2021, Oct 25), Personal communication.] Operation of the ~200 WGs of the 2 Atlantic Shores projects will have a significant acoustic footprint in the marine environment, which will impact species from multiple taxa[Footnote 20: Kim, S-C., & Choi, M. J. (2021). Harmfulness of infrasound and wind turbine noise managements. Journal of the Acoustical Society of Korea, 40(1), 73-83; Pine, M. K., Jeffs, A. G., & Radford, C. A. (2012). Turbine Sound May Influence the Metamorphosis Behavior of Estuarine Crab Megalopae. PLoS ONE, 7(12)] including at-risk species. The EIS must therefore evaluate all established and emergent technologies to minimize continues operational noise both from the gearboxes (e.g. by acoustic decoupling of the turbine from the mast or platform, by installing direct drive turbines, or other technologies) as well as from propeller blades.

Comment Number: BOEM-2021-0057-0105-11
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization

Other Sections: 19.2

Comment Excerpt Text:

Monitoring the Magnitude and Extent of Sound Propagation During Foundation Construction via Pile Driving is Critical and Should be Required by BOEM in the Preferred Alternative in the EIS to Further the Progress of Technology Decisions in the Offshore Wind Context.

The initial goal of monitoring sound propagation is to establish pile driving noise thresholds aimed at avoiding both physiological and behavioral impacts to marine species especially from cumulative noise exposure resulting from temporal or spatial project construction overlaps. But ultimately this information should be used to allow project developers to always choose foundation and turbine types that avoid these physiological and behavioral impacts altogether. Concerns related to the impacts of pile driving on the critically endangered North Atlantic Right Whale (NARW) are well-placed and appropriately consistently raised whenever pile driving is an option for an offshore wind project. The best avoidance and mitigation protocols should be required for this project to ensure protections for the NARW. Pile driving noise is also concerning for all marine mammals, sea turtles, fish, and virtually all other taxa of marine life. Populations of marine mammals, sea turtles, fish and invertebrates stand to experience cumulative impacts resulting from chronic exposure to pile driving noise during construction of this project, and all the other projects in the construction pipeline. The minimization of cumulative impacts of pile driving for multiple projects at the same time or in rapid succession should be given more attention, since construction of these projects could overlap both temporally and spatially.

Ideally, BOEM will be in a position to recommend a pile driving noise threshold aimed at avoiding physiological and behavioral impacts to marine mammals and fish. A 2010 study assessing the effect of pile driving noise on marine fish suggested that pile-driving noise during construction was of particular concern because “the high sound pressure levels could potentially prevent fish from reaching breeding or spawning sites, finding food, and acoustically locating mates. This could result in long-term effects on reproduction and population parameters. Further, avoidance reactions might result in displacement away from potential fishing grounds and lead to reduced catches. However, reaction thresholds and therefore the impacts of pile-driving on the behaviour of fish are completely unknown.” [Footnote 11: Mueller-Blenkle, C., McGregor, P., Gill, A., Andersson, M., Metcalfe, J., Bendall, V., Sigra, P., Wood, D., Thomsen, F. (2010). Effects of Pile-Driving Noise on the Behaviour of Marine Fish. Centre for Environment Fisheries and Aquaculture Science (Cranfield and Stockholm Universities).] The benefit of monitoring noise propagation during pile driving will be enhanced if the data generated is incorporated into concurrent research studies relative to specific target species of concern.

Articulation of a noise threshold at the early stages of planning will provide time and flexibility for the developers to choose how to keep construction noise below that threshold, perhaps even steering project applicants to foundation and turbine technologies that (will not exceed) automatically fall? below the threshold at the start. Without a detailed description of what the anticipated pile driving noise will be at its source, all stakeholders involved are challenged to ascertain whether and how mitigation will be achieved by any specific noise reduction requirement. Therefore, absent articulation of a specific noise threshold, required noise mitigation should not be limited to a set dB reduction but instead should include use of best technology available or combination of approaches which have the potential to far exceed a minimal dB reduction. We urge requiring testing of the efficacy of noise mitigation approaches, mandatory public sharing of testing results, and making continual adjustments and improvements within and among projects using an adaptive management approach.

In addition, as the Conservancy has previously recommended, requiring a thorough network of non-proprietary sound monitoring stations within the Offshore Project Area is key to providing real-time data

that can support ongoing research and monitoring projects, and can inform foundation and turbine technology requirements for future projects, best management practices, permit conditions, and make adaptive management more than a theoretical tagline. Ultimately, this kind of monitoring will enable BOEM to establish noise thresholds for pile driving and operation and maintenance activities associated with the offshore wind industry. NOAA and BOEM recently released recommendations for using passive acoustic monitoring for offshore wind[Footnote 12:

<https://www.frontiersin.org/articles/10.3389/fmars.2021.760840/full>], which we encourage BOEM to operationalize into required permit conditions.

We are aware that there are still some uncertainties around the magnitude and extent of the sound fields that will be generated by the first offshore wind projects constructed in the United States and recommend use of applicable sound field measurements from other locations that could help more clearly articulate anticipated pile driving noise for this project in the EIS and the Incidental Harassment Assessment (IHA), including analyses of sound field measurements taken earlier this year during the installation of the two turbine Coastal Virginia Offshore Wind (CVOW) project[Footnote 13: https://espis.boem.gov/final%20reports/BOEM_2021-025.pdf] in federal waters off Virginia.

Comment Number: BOEM-2021-0057-0105-14

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 12

Comment Excerpt Text:

The EIS should articulate specific monitoring and mitigation requirements for the protection of Atlantic sturgeon during the construction, operation and decommissioning phases of this project. The EIS should pay special attention to the temporal effects of seabed disturbance on foraging habitat and prey availability relative the migratory patterns of Atlantic sturgeon and seasonal prevalence in the New York Bight during construction activities. The preferred alternative in the EIS should include requirement for additional acoustic tagging of Atlantic sturgeon to further enhance the ongoing BOEM Atlantic sturgeon telemetry study.

Comment Number: BOEM-2021-0057-0105-16

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

A monitoring scope of work that would assess risk to various migratory bird species at the Atlantic Shores project should be developed and data coordinated with similar ongoing efforts in Rhode Island, Massachusetts, and Virginia. The need is clear for nano tagging of individuals of various species, including the piping plover to increase the likelihood that they will be detected by the Motus network receivers and to better understand their migratory pathways along the coast.

There is clear overlap between site specific monitoring and regional monitoring, and they should not be considered as separate silos. The proximity of multiple large-planned projects in southern New England, New York and New Jersey wind energy areas calls out for an integrated monitoring approach. Monitoring to assess potential impacts to migratory birds and other avian species should be a high priority.

Thoughtful consideration for integrating efforts that under other circumstances might be done on a project-by project bases has potential to simultaneously increase efficiency and improve the scientific integrity of the information obtained. Large-scale and long-term monitoring is essential to track both environmental and human features of the ecosystems that overlap multiple planning areas and leases.

Comment Number: BOEM-2021-0057-0105-5
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 19.2

Comment Excerpt Text:

BOEM should require monitoring for the magnitude and extent of sound propagation during pile driving to inform future foundation technology choices;

Comment Number: BOEM-2021-0057-0105-7
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM should require more robust monitoring as part of regional monitoring efforts to allow for proper evaluation of construction-related and operational impacts to marine life.

Comment Number: BOEM-2021-0057-0107-13
Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council
Commenter:
Commenter Type: Federal Agency
Other Sections: 8

Comment Excerpt Text:

We found no reference in the COP or the Fisheries Communication Plan (Appendix II-R) to availability of mitigation funds if impacts such as fishing gear loss occur. Mitigation funds must be available to all affected vessels and ocean users who rely on this project area for revenue. The availability of such funds and their influence on impacts determinations should be explained in detail in the EIS.

Comment Number: BOEM-2021-0057-0107-20
Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council
Commenter:
Commenter Type: Federal Agency
Other Sections: 8

Comment Excerpt Text:

Section 6.2 of the COP describes decommissioning and states that some components of the project will be fully removed, while other components may remain in place after decommissioning (e.g., piled foundations may be cut below the mudline, with only the portions above the mudline removed and some sections of offshore cables may be “retired in place”). These decisions will be made based on future environmental assessments and future consultations with various agencies. All project components should be removed from the offshore environment to the extent possible. 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-2021-0057-0109-1
Organization: BlueGreen Alliance
Commenter: Jason Walsh
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

To comply with state and federal policies and achieve all necessary permits, all offshore wind energy must be developed in an environmentally responsible manner that avoids, minimizes and mitigates impacts to ocean wildlife and habitat and traditional ocean uses, meaningfully engages stakeholders from the start, and uses the best available science and data to ensure science-based and stakeholder-informed decision making

Comment Number: BOEM-2021-0057-0109-3
Organization: BlueGreen Alliance
Commenter: Jason Walsh
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Avoiding sensitive habitat areas, requiring strong measures to protect wildlife throughout each state of the development process, and comprehensive monitoring of wildlife and habitat before, during, and after construction, are all essential for the responsible development of offshore wind energy.

Comment Number: BOEM-2021-0057-0112-9
Organization: New York State Department of State
Commenter: Kisah Santiago-Martinez
Commenter Type: State Agency

Comment Excerpt Text:

Measures that minimize individual and population-level impacts to biological resources, such as seasonal construction windows (e.g., time-of-year and time-of-day) and operational restrictions (e.g., cut-in wind speeds) should be evaluated.

Comment Number: BOEM-2021-0057-0114-20
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

If BOEM proceeds to prepare an EIS for this project, a detailed list of mitigation measures that should be included as explicit alternatives to the proposed action is provided in the final section of this letter.

Comment Number: BOEM-2021-0057-0114-23

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

Atlantic surfclam and ocean quahog are the dominant species fished with mobile gear in the Atlantic Shores lease area. In order for these fisheries to operate after construction, a minimum spacing of 2 nm between turbines must be maintained, due to the specific way gear is deployed and hauled back, chain lengths, vessel maneuverability, and other conditions. [Footnote 10: This does not mean that spacing of 2 nm would lead to no impacts from the project, but that gear cannot effectively operate at all in denser layouts.] Turbine spacing less than 2 nm will be considered a complete closure for this fishery, including for purposes of determining compensatory mitigation.

Comment Number: BOEM-2021-0057-0114-28

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

Atlantic Shores will not be developed in isolation and cannot be treated as a stand-alone project. To date, RODA is not aware of any plans for the project to coordinate cooperative research and monitoring plans with developers of geographically relevant lease areas, including Ocean Wind.

Comment Number: BOEM-2021-0057-0114-35

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt 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-2021-0057-0119-103

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

In addition to accounting for potential avian impacts in the Draft EIS, as we have reiterated repeatedly herein, the developer must provide its plan to monitor bird activity in the Project area and the surrounding area before, during, and after construction. We suggest that BOEM clearly outline monitoring requirements and coordinate with other stakeholders, including New York, Rhode Island Connecticut, and Massachusetts state agencies, and the Regional Wildlife Science Entity, to support the development of a regional monitoring plan for birds and other wildlife.

Monitoring for adverse effects requires multiple modes of evaluation in a coordinated framework pre- and post-construction. Radar, vessel and aerial surveys, acoustic monitoring, and telemetry are all complementary tools that provide data necessary for evaluating impacts, though none of these tools provides the full picture when used alone.

Comment Number: BOEM-2021-0057-0119-104

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

Post-construction fatality monitoring onshore is a key component of Tier 4 of the USFWS Land-Based Wind Energy Guidelines [Footnote 299: U.S. Fish and Wildlife Service. 2012. U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines. OMB Control No, 10180148. U.S. Department of Interior, Fish and Wildlife Service, Hadley, MA. Available from https://www.fws.gov/ecologicalservices/es-library/pdfs/WEG_final.pdf]. Many wind projects onshore conduct post-construction monitoring, especially on public lands managed by the Department of Interior's Bureau of Land Management. Developers survey for carcasses around a radius from the turbines, under an a priori protocol, to determine avian mortality rates. The data are adjusted for searcher efficiency, carcass persistence, and other sources of bias.

This practice is entirely impractical at sea for obvious reasons, however, that does not relieve BOEM from requiring post-construction fatality monitoring—an obligation that the onshore wind industry has committed to and is required to fulfill. There is ongoing, rapid development of imaging and bird strike technologies used in the European Union and the United Kingdom, and such technologies are also being developed in the United States. Grant funding from the Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy, state energy agencies, and others supports technical and economic advancement of offshore and onshore wind. The DOE Wind Energy Technologies Office invests in energy science research and development activities that enable the innovations needed to advance wind systems, reduce the cost of electricity, and accelerate the deployment of wind power.

DOE has recently funded development of collision detection technology from the Albertani Lab [Footnote 300: Clocker K, Hu C, Roadman J, Albertani R, Johnston ML. 2021. Autonomous Sensor System for Wind Turbine Blade Collision Detection. IEEE Sensors Journal:1–1] at Oregon State University and WT Bird from WEST, Inc. [Footnote 301: Verhoef JP, Eecen PJ, Nijdam RJ, Korterink H, Scholtens HH. 2003. WT-Bird A Low Cost Solution for Detecting Bird Collisions:46]. Similar technologies are being tested at Block Island Wind Project and other offshore locations in the European Union and United Kingdom and are making rapid gains in being effective, officially verified, commercially available, and affordable at scale in the near future, possibly at the same time as the Project would be ready for construction and operation [Footnote 302: Dirksen S. 2017. Review of methods and techniques for field validation of collision rates and avoidance amongst birds and bats at offshore wind turbines. Sjoerd Dirksen Ecology]. However, these technologies must be fully integrated into turbine design before they can be deployed. DOE is currently evaluating the development status of these integrated systems based on their readiness for offshore wind deployment [Footnote 303: Brown-Saracino J. 2018. State of the Science: Technologies and Approaches for Monitoring Bird and Bat Collisions Offshore. RENEWABLE ENERGY:23. Available at https://www.briloon.org/uploads/BRI_Documents/Wildlife_and_Renewable_Energy/NYSERDA_worksh op_JocelynBrown- Saracino.pdf]. BOEM must support the development of these technologies and must drive turbine developers to integrate these systems into their turbine designs. We cannot wait on offshore wind project developers to drive the market, BOEM must require this type of collision monitoring and work with the industry to support the development of these technologies to make deploying them a reality.

The incorporation of these new monitoring technologies, and hopefully a standardized technology, should be a required element in the post-construction monitoring plan for the Project. BOEM should require standardized methodology for using these new technologies across all projects in the Atlantic OCS to incorporate mortality data, and possibly displacement data, into ongoing cumulative effects analyses and adaptive management strategies, to validate collision risk models, and to measure impacts on ESA-listed species and other species of conservation obligation by augmenting tracking data with data from on-site detection technology.

Many of the offshore wind projects to date have suggested in their COPs that mortality monitoring can rely on carcass monitoring around the base of the offshore wind turbines. This is contrary to the standard protocol for post-construction monitoring at onshore wind projects, where a radius from the turbine is prescribed as the search area and includes where birds may be propelled or thrown from the actual turbine structure and blades after collision. The offshore structures anticipated to be installed have very little available structure on which a dead or injured bird could land. Defining the structure as a search area, if it means the turbine base or nacelle (since no injured or dead birds could be found on the blades), is woefully inadequate. Only updated technology will detect bird strikes or mortalities in the appropriate range established by onshore post-construction mortality studies. The Draft EIS must address this inadequacy in the COP and mandate a protocol for adequately monitoring mortality events.

The Draft EIS should specifically require the adoption of collision detection technologies when they are verified and commercially available and BOEM should support their development and testing. The shared cost of development and implementation of these technologies across all lessees and with BOEM, if standardized, would avoid an undue economic burden on individual projects.

Additionally, BOEM must require that lease applicants report mortality events promptly and publicly.

Comment Number: BOEM-2021-0057-0119-105

Organization: National Wildlife Federation, Natural Resources Defense Council, National

Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

Within the Final EISs for both the South Fork and Vineyard Wind 1 Projects, BOEM proposed that the industry develop a monitoring framework in coordination with the federal and state jurisdictions, to include, at a minimum:

- Acoustic monitoring for birds and bats;
- Installation of Motus receivers on WTGs in the WDA and support with upgrades or maintenance of two onshore Motus receivers;
- Deployment of Motus tags to track roseate terns, common terns, and/or nocturnal passerine migrants;
- Pre- and post-construction boat surveys;
- Avian behavior point count surveys at individual WTGs; and
- Annual monitoring [Footnote 304: SFWF FEIS at G-6, Table G-2].

We support these admirable expectations and expect that BOEM will expand on this framework in the Draft EIS to specify how this monitoring should be carried out to collect the best available data.

Monitoring pre- and post-construction should be designed in such a way as to be able to discern any changes to avian spatial distribution that might be a result of construction and operation of Atlantic Shores. A monitoring plan should incorporate the suggestions previously provided to BOEM on October 23, 2020 via the Avian Considerations recommendations [Footnote 305: “Re:BOEM’s obligations under Migratory Bird Treaty Act in Vineyard I Construction and Operation Plan Environmental Impact Statement.” Submitted to BOEM Oct. 23, 2020; Available here: https://drive.google.com/file/d/1SNv6_3296W_S-c-OgMsfikDAGFu7fOr4/view?usp=sharing] as well as recommendations provided to BOEM from the Atlantic Marine Bird Cooperative.

More specifically, we recommend that efforts to track avian movement include both satellite and automated radio telemetry, as appropriate, and these efforts should not be limited to Roseate Terns, Common Terns, and nocturnal passerine migrants. Technically speaking, while the passive radio telemetry receivers for these efforts are considered part of the Motus network, the tags themselves are VHF and ultra high frequency radio transmitters. Recommendations by USFWS Northeast Migratory Bird Office should be followed when deploying receivers and tags, using the specifications best able to capture migratory routes in the offshore environment.

As we have specified to BOEM previously, we further suggest that transect surveys be accompanied by telemetry and radar studies. Radar surveys can provide a broad overview for comparison of flight paths, especially for nocturnal migrants which could not be captured during daytime survey efforts, [Footnote 306: Desholm M, Kahlert J. 2005. Avian collision risk at an offshore wind farm. *Biology Letters* 1:296–298. Royal Society] while telemetry, especially satellite telemetry with pressure sensors, can gather high resolution distribution and flight path data for priority species.

Comment Number: BOEM-2021-0057-0119-107

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

The Draft EIS should provide more certainty that the developer will use adaptive management for birds and collect “sufficiently robust” data to inform mitigation strategies to avoid, minimize, and mitigate impacts to birds.

Comment Number: BOEM-2021-0057-0119-108

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

To provide regulatory certainty to lease applicants, the draft EIS should explicitly outline protocols for monitoring, adaptive management, and mitigation.

The South Fork Final EIS suggests “bird deterrent devices to minimize bird attraction to operating turbines [Footnote 311: Id. at G-6, Table G-1]. However, the specifics of such measures are not provided but the South Fork Draft EIS suggested that painting a turbine blade black and widely spacing wind turbines may reduce collision risk [Footnote 312: Id., Table G-1]. Should BOEM make black turbine blades a requirement for Atlantic Shores, it could provide an excellent opportunity to institute adaptive management, by studying their efficacy in reducing collisions in order to inform best management at future wind farms [Footnote 313: Roel May et al., Paint it black: Efficacy of increased wind turbine rotor blade visibility to reduce avian fatalities, ECOLOGY & EVOLUTION (July 26, 2020)]. Painting a blade black to reduce motion smear is likely to be more effective for birds active during daylight hours compared to nocturnally active ones (e.g., nocturnal migrants and nocturnally foraging terns). However, as we have addressed previously, widely spacing turbines is not a minimization strategy, as there is little evidence to suggest that turbine spacing reduces risks to birds. However, this too could provide an opportunity to learn from this management practice and adapt management for future wind developments from this knowledge.

Instituting adaptive management, using the two strategies above as examples, will require robust collision monitoring. As we have noted in this document and in other letters to BOEM, collecting bird carcasses is an inadequate method for estimating collisions in the offshore environment. Instead, collision monitoring will need to use technology from which we can rapidly learn the variables contributing to collision risk and adjust management accordingly—including informed curtailment strategies as necessary. Collisions with turbines over water are unlikely to result in a confirmation of the strike without detection technology. This will continue to be a data deficiency in the monitoring plans. We are concerned that a continued lack of collision data will be misconstrued as a lack of need for collision mitigation. Therefore, BOEM must correct this knowledge gap by requiring a true commitment to collision detection technology deployment at offshore wind developments, Atlantic Shores included.

The framework for adaptive management should include operational adjustments that are reasonable and

cost effective and include advances in detection and avoidance technology. For example, the adaptive management framework should include smart curtailment to constrain loss of energy production, seasonal adjustments based on mortality data as needed to compare with defined thresholds, and other operations that are proven to be effective in case of a rare event of mortality of a significant species or number of birds. These are practices used in adaptive management at some onshore wind facilities and in European Union offshore wind facilities. Their incorporation into the leasing process early will permit BOEM to require their adoption as new technologies become available.

An adaptive management framework requires a level of coordination and commitment that goes well beyond Atlantic Shores. BOEM and USFWS must commit to providing a structure that ensures this across the offshore wind landscape.

Comment Number: BOEM-2021-0057-0119-109

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

Compensatory mitigation is another tool that should be used to offset adverse impacts from Atlantic Shores.

Given the current technology, there are no viable options for effectively minimizing the potential impacts of developing Atlantic Shores to the extent needed to protect birds from harmful and long-term impacts. Furthermore, migratory birds pose significant conservation challenges, as many originate from other regions and actions to increase their populations require significant investment of time and resources to restore equivalent habitat. The breadth of species potentially affected and the migratory nature of these species will require environmental compensatory mitigation.

The number of birds affected is uncertain due to the lack of available technology to accurately measure impacts (e.g., collisions) on a species level or the fate of those birds after a collision event (e.g., injury, morbidity, or mortality). We further note that, as discussed above, the agencies still have conservation obligations under frameworks, including ESA and MBTA. Based on studies of ESA-listed species alone (discussed above), it seems likely that birds protected by federal laws will be killed in collisions with turbines under the currently anticipated industry build-out scenario. As such, compensatory mitigation should be provided for bird mortality resulting from development of the WEAs, and particularly for species of conservation concern.

Directed mitigation can result in meaningful beneficial outcomes. For example, the Montrose restoration, a \$63 million mitigation package compensated for migratory seabirds in Mexico, contributed to efforts which led to the recovery and delisting of Pacific Brown Pelican [Footnote 314: Endangered and Threatened Wildlife and Plants; Removal of the Brown Pelican (*Pelecanus occidentalis*) From the Federal List of Endangered and Threatened Wildlife, 74 Fed. Reg. 59444 (November 17, 2009). <https://www.federalregister.gov/documents/2009/11/17/E9-27402/endangered-and-threatened-wildlife-and-plantsremovalof-the-brown-pelican-pelecanus-occidentalis>].

Mitigation more effectively compensates for impacts when conducted on a project and population-specific basis. This model is encouraged for offshore wind energy development impacts. However, if a

project-by-project approach proves difficult to operationalize, a compensatory mitigation fund could be developed and administered by trustees of federal agencies. Following the model of other forms of development, this would most appropriately be funded by the developers whose actions are resulting in the impacts, with funding amounts based on likely or actual impacts (see below).

Quantifying compensatory mitigation for birds should initially be based on a generous estimate of the number of birds that could be killed in collisions with turbines, including ESA-listed species and nocturnal migrants. Evaluating mitigation necessary to effectively compensate for these losses should utilize resource equivalency analysis, which accounts for the fact that birds at different life stages do not functionally equate in conservation importance (e.g., one additional hatchling does not functionally replace a breeding adult bird). This approach has been used extensively for addressing bird losses resulting from oil spills and contaminants in California. For example, under NEPA, the Damage Assessment and Restoration Plan / Environmental Assessment for the Luckenbach Spill called for a number of mitigation projects to compensate for the losses of migratory birds in distant countries where those species originate, such as Mexico, Canada, and New Zealand, in the amount of \$21 million [Footnote 315: Luckenbach Trustee Council. 2006. S.S. Jacob Luckenbach and Associated Mystery Oil Spills Final Damage Assessment and Restoration Plan/ Environmental Assessment. Prepared by California Department of Fish and Game, National Oceanic and Atmospheric Administration, United States Fish and Wildlife Service, National Park Service]. Quantities and supporting analyses should be re-evaluated as collision monitoring data become available and additional mitigation provided as necessary.

Compensatory mitigation requirements under the ESA were essentially ignored by the previous administration. We urge the current administration to observe compensatory mitigation requirements for species currently listed and under listing consideration for the ESA which may be impacted by offshore wind development: Piping Plover, Red Knot, Roseate Tern, and Black-capped Petrel.

Seabirds are long lived and have delayed maturity and low fecundity. This life history means that adult survival is the main driver of population change. Mortality from offshore wind energy development is likely additive and, if skewed to breeding adults, will likely have a greater potential to drive declines in population trajectories. These unique life-history traits require a substantial and long-term commitment to reach the offset needed. Given that compensatory mitigation is time-consuming from concept to success, we urge the developers and agencies to commit to this and initiate action as soon as possible.

Comment Number: BOEM-2021-0057-0119-111

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 3

Comment Excerpt Text:

Recognizing that much remains unknown regarding the impacts to bats from offshore wind in the United States, BOEM must require an explicitly defined monitoring and adaptive management plan. This plan must include a commitment to standardized monitoring both before construction and during operations and be made available for public review and comment. Additionally, because technologies to improve understanding of and reduce bat risk offshore (e.g., strike detection and deterrent technologies) are likely to be developed over the life of Atlantic Shores, the Draft EIS for Atlantic Shores should specifically require the adoption of monitoring technologies when they are verified and commercially available as part of the Project's monitoring framework and protocol.

Determining risk and adaptively managing to minimize impacts relies on monitoring, but traditional fatality monitoring is not feasible offshore. Given the challenges of conducting fatality assessments at offshore sites [Footnote 325: Kunz, T.H., Arnett, E.B., Cooper, B.M., Erickson, W.P., Larkin, R.P., Mabee, T., Morrison, M.L., Strickland, M.D., and Szewczak, J.D., “Assessing impacts of wind energy development on nocturnally active birds and bats: a guidance document,” *Journal of Wildlife Management*, vol. 71, pp. 2449-2486 (2007); Rydell, J., Bach, L., Dubourg-Savage, M., Green, M., Rodrigues, L., and Hedenstrom, A., “Bat mortality at wind turbines in northwestern Europe.” *Acta Chiropterologica*, vol. 12, pp. 261–274 (2009)], many dead or injured bats would most likely go unrecorded, either falling into the water or becoming prey to marine scavengers or predators [Footnote 326: Assessing bat fatalities based on carcasses found on vessels and structures is unlikely to provide a meaningful estimate of bat fatalities, as carcasses can fall far from the wind turbine, based on carcass size, wind speed, turbine height, and other factors. We recommend BOEM consult with Manuela Huso, Research Statistician at United States Geological Survey Forest and Rangeland Ecosystem Science Center prior to making any inferences about total fatalities based on carcasses recovered from structures]. BOEM's assessment of the impacts to bats should, therefore, be conservative, and employ the best available scientific methods, such as autodetection, acoustic monitoring at nacelle height, targeted tagging of bats, and thermal imaging technology. BOEM should also support research into monitoring methods for bats that are better suited to the offshore environment.

Acoustic surveys are an important tool for understanding bat activity offshore. We appreciate that Atlantic Shores is conducting acoustic surveys in the Project Area as part of their Bat Survey Plan and will share results in their 2021 COP supplement [Footnote 327: ASOW COP Volume II at 4-49]. BOEM should require Atlantic Shores to not only share the survey results, but the collected data, too. If BOEM uses these acoustic surveys in their impact analyses, these data should be made publicly available in order to facilitate a full and fair discussion of impacts to bats. In addition to requiring developers and their consultants to publish the full dataset collected, BOEM should encourage the submission of all bat acoustic data to the Bat Acoustic Monitoring Portal, BatAMP [Footnote 328: <https://batamp.databasin.org/>].

While preliminary acoustic surveys represent an important first step to assessing bats' use of the Project Area, pre-construction acoustic surveys are inappropriate for predicting post-construction fatality risk for bats. At land-based wind facilities, pre-construction bat activity surveys do not correlate with post-construction fatalities [Footnote 329: 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 energy facilities: A synthesis, *NAT'L RENEWABLE ENERGY LAB. (NREL)* (Mar. 2013)], possibly due to bats' attraction to turbine structures (see Section III.H.5). Furthermore, low levels of bat calls do not necessarily indicate that bats are not present [Footnote 330: Aaron J. Corcoran et al., Inconspicuous echolocation in hoary bats (*Lasiurus cinereus*), *PROCEEDINGS ROYAL SOC'Y B* (May 2, 2018)]. Although Atlantic Shores' COP relies heavily on offshore bat acoustic surveys to predict low bat presence, BOEM should not overly base its risk assessment for bats on pre-construction offshore surveys.

Comment Number: BOEM-2021-0057-0119-119

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 3

Comment Excerpt Text:

While these comments provide some additional resources on bat movement offshore and bat interactions with wind turbines for BOEM to include in their analysis, there remains insufficient research on bats and offshore wind to accurately assess cumulative risk and impact from the 22 GW buildout scenario used in the Vineyard Wind 1 and South Fork NEPA analyses, let alone the broader scope outlined in Section II.E.1.

Because of this knowledge gap, it is imperative that BOEM require offshore wind facilities to commit to pre- and post-construction monitoring and to integrate novel technology for monitoring as it becomes available. Monitoring data must be made readily and promptly available to the public.

Although we now know that population-level impacts to bats are possible from land-based wind, these impacts to bats from onshore wind energy were not anticipated and were only discovered because of monitoring for avian impacts [Footnote 378: Arnett et al. 2008.]. While post-construction monitoring should occur at the project-level, BOEM and their partner agencies should support coordinated and regional surveys of bat use of the OCS and WEAs. Should further monitoring and research efforts reveal that impacts to bats are non-negligible, BOEM and other agencies should support the development and deployment of minimization strategies and deterrent technologies.

The following is a list of recommendations for BOEM and its partner agencies to support successful understanding of offshore wind's impact on bats, modified and expanded upon from Peterson et al. (2016) [Footnote 379: See Peterson et al. 2016, §5]. BOEM and its partner agencies should:

- Support supplemental field surveys for bats on the OCS, using similar methodology as described in Peterson et al. (2016) [Footnote 380: Peterson et al. 2016.].
- Require acoustic detectors to be placed at nacelle height on a subset of turbines constructed along the Atlantic OCS and require that the data collected be made publicly available.
- Support research to determine whether it is possible to improve acoustic monitoring to enable better species identifications, such as being able to differentiate calls between the ESA-listed northern long-eared bat and other *Myotis* species.
- Support continued advances in radio telemetry equipment, nanotag transmitters, and GPS tags so that more bats can be tracked offshore (e.g., support the development of smaller GPS tags with longer battery lives).
- Support deploying Motus towers and/or other nanotag receiving towers in the coastal and offshore environment, including on structures in WEAs.
- Support efforts to tag additional individual bats with nanotag transmitters and GPS tags.
- Support the development of bat monitoring technology for offshore WTGs, such as strike detection technology and thermal video.
- Support research on and testing of bat deterrent devices for offshore WTGs, such as ultraviolet lighting or ultrasonic noise emitters.
- Require offshore wind projects to support testing and deployment of best available monitoring and deterrent technologies, once developed.
- Require offshore wind projects to promptly report and make publicly available all monitoring and testing data.

The Draft EIS for Atlantic Shores should specifically require the adoption of monitoring technologies

when they are verified and commercially available as part of the Project's monitoring framework and protocol. BOEM should further support and encourage their development and testing at Atlantic Shores. The shared cost of development, testing, and implementation of these technologies across all lessees and with BOEM, if standardized, would avoid an undue economic burden on individual projects.

Comment Number: BOEM-2021-0057-0119-120

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 3

Comment Excerpt Text:

However, bat activity in the Project Area prior to turbine installation may not accurately predict bat fatalities during turbine operation. As discussed earlier, at land-based wind facilities, pre-construction bat activity surveys are poorly correlated with post-construction fatalities [Footnote 381: Solick, D., Pham, D., Nasman, K., Bay, K. (2020). Bat Activity Rates do not Predict Bat Fatality Rates at Wind Energy Facilities. *Acta Chiroptera*, 22(1); Hein, C. D., Gruver, J., & Arnett, E. B. (2013). Relating pre-construction bat activity and post-construction bat fatality to predict risk at wind energy facilities: a synthesis. A report submitted to the National Renewable Energy Laboratory]. Because of this, the commitment to post-construction monitoring is critical to yielding a better understanding about how bats interact with offshore wind turbines. An important component to this will be programmatically supporting the tagging of individual bats, such as through Motus, requiring receiving towers in the WEA, and requiring installation of acoustic detectors, preferably at nacelle height.

Data on bat activity and calls within the rotor-swept zone of offshore WTGs would allow better understanding of which bat species are at risk and during what environmental conditions, which could inform mitigation measures. Because bat activity offshore seems to be predominantly restricted to warm, slow wind speed nights and is highly seasonal [Footnote 382: RWF COP Appendix AA, 2.3.1, p. 27; Peterson et al. (2016). In their study, the majority of bat activity in the Gulf of Maine and the Mid-Atlantic occurred below 10 m/s average nightly wind speed and above ~7°C.], if bat minimization measures are needed and targeted curtailment is shown to be effective in the offshore environment, periods of operational curtailment could be restricted to these highest risk times to decrease loss in energy generation.

In addition to operational curtailment, it is possible that deterrent technologies to prevent bats from approaching wind turbines could be useful in minimizing bat fatalities offshore. Deterrent technologies are being developed for land-based turbines, including turbine coatings (to counteract any attraction to smooth surfaces which might be perceived as water) [Footnote 383: Texturizing Wind Turbine Towers to Reduce Bat Mortality DE-EE0007033, <https://www.energy.gov/sites/prod/files/2019/05/f63/TCU%20-%20M17%20-%20Hale-Bennett.pdf> (last visited Oct. 04, 2021).], ultraviolet lighting (which many bat species can see) [Footnote 384: NREL Wind Research, Technology Development and Innovation Research Projects <https://www.nrel.gov/wind/technology-development-innovation-projects.html> (last visited Oct. 04, 2021).], and ultrasonic noise emitters (to possibly 'jam' bats' radars and make wind facilities unappealing to bats) [Footnote 385: <https://www.osti.gov/biblio/1484770>; Weaver, S. P., Hein, C. D., Simpson, T. R., Evans, J. W., & Castro-Arellano, I. (2020). Ultrasonic acoustic deterrents significantly reduce bat fatalities at wind turbines. *Global Ecology and Conservation*, e01099. <https://doi.org/10.1016/j.gecco.2020.e01099>; Arnett, E. B., Hein, C. D., Schirmacher, M. R., Huso, M. M. P., & Szewczak, J. M. (2013). Evaluating the Effectiveness of an Ultrasonic Acoustic Deterrent for

Reducing Bat Fatalities at Wind Turbines. PLoS ONE, 8(6), e65794. <https://doi.org/10.1371/journal.pone.0065794>. One of the ultrasonic deterrent technologies, NRG Systems, has been commercially deployed at land-based wind facilities [Footnote 386: <https://news.duke-energy.com/releases/duke-energy-renewables-to-use-new-technology-to-help-protect-bats-at-its-wind-sites>]. None of these technologies have been assessed yet in the offshore environment nor on turbines with such large swept areas, which may present a challenge for effective deterrent use offshore.

Comment Number: BOEM-2021-0057-0119-128

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Such an analysis will allow BOEM to determine if existing mitigation measures are adequate or if potential impacts need to be managed as projects are developed concurrently and sequentially. For example, considering vessel collision risk for the entire East Coast may illuminate that more comprehensive vessel speed mitigation measures need to be in place at the project level in order to reduce the overall cumulative risk.

Comment Number: BOEM-2021-0057-0119-130

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM should work with the National Marine Fisheries Service 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.
- BOEM should prohibit pile driving during times of highest risk for North Atlantic right whales, set diel restrictions on pile driving, require protective clearance zones and shutdown requirements, and require all vessels to adhere to a 10-knot speed restriction (see Section IV.E.4.a for more detailed recommendations).

Comment Number: BOEM-2021-0057-0119-18

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Likewise, the Draft EIS must include more specific information related to how monitoring impacts of offshore wind development and operation on wildlife and their habitats will inform management practices as new information becomes available. As monitoring should inform management practices, BOEM must require continued monitoring and employment of adaptive management practices in the Draft EIS as a condition of continued operation and maintenance by Atlantic Shores. This will ensure that BOEM can

swiftly minimize damages of unintended or unanticipated impacts to coastal ecosystems or wildlife, as well as inform strategies for future wind projects to avoid potential impacts.

Comment Number: BOEM-2021-0057-0119-44

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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.

The ability to reliably detect North Atlantic right whales and other species on a near real-time basis and adjust survey/construction activities accordingly (e.g., if an endangered whale species is detected within X meters distance of the survey/construction area, then no survey/construction activity will be undertaken within a defined time period) would enable BOEM and NMFS to adaptively manage and mitigate risks to protected species in near real-time while affording flexibility to offshore wind energy developers. This approach could be used in conjunction with seasonal restrictions in North Atlantic right whale primary foraging areas (e.g., off southern New England) or potentially year-round in the Mid- Atlantic region (as long as a mandatory 10-knot vessel speed restriction is in place) where a changing climate is leading to novel spatial and temporal habitat-use patterns. A near real-time monitoring and mitigation approach would also minimize risks posed by North Atlantic right whale seasonal restrictions to other protected species that may be present at high densities at times when North Atlantic right whales are expected to be present in lower numbers (e.g., fin whale foraging that occurs in the summer months east of Montauk Point when North Atlantic right whale presence may be relatively low). An added benefit is that the biological data collected could be used to inform future wind energy development activities and adaptive management.

There are several technologies in various stages of development that would allow near real-time detection of protected species (e.g., Robots4Whales [Footnote 151: Woods Hole Oceanographic Institution WHOI and WHOI/WCS, “Robots4Whales,” supra note 39], SeaTrac [Footnote 152: <https://www.seatrac.com/>]) and convey that information to decision makers (e.g., “Mysticetus” [Footnote 153: Available at: <https://www.mysticetus.com/>]) to inform mitigation action. Near real-time monitoring systems are already being deployed to mitigate risks to North Atlantic right whales. For example, 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 in the Laurentian Channel. Ten-knot speed limits can be issued within an hour of North Atlantic right whales being detected [Footnote 154: 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>]. 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.

It is also of paramount importance that BOEM encourages and promotes adaptive management and robust long-term monitoring to assess impacts as offshore wind energy is developed and operational. This is imperative considering the effects of a changing climate on large whale species and other cumulative anthropogenic stressors. With U.S. offshore wind energy still in its infancy, it is critical that the impact of offshore wind operations on marine wildlife and the ocean ecosystem be closely monitored to guide the industry's adaptive management and future development. It is vital that we gain an understanding of baseline environmental conditions prior to large-scale offshore wind energy development in the U.S. To this end, BOEM must coordinate with NMFS to establish and help fund a robust, long-term scientific plan to monitor the effects of offshore wind energy development on marine mammals and other species before, during, and after large-scale commercial projects are constructed. Without strong baseline data collection and environmental monitoring in place, we risk losing the ability to detect and understand potential impacts and risk setting an under-protective precedent for future offshore wind energy development. Such monitoring must inform and drive future mitigation as well as potential practical changes to existing operations to reduce any potential impacts to natural resources and wildlife.

Comment Number: BOEM-2021-0057-0119-48

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Monitoring of the clearance and exclusion zones should be undertaken using near real-time PAM, 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.

Comment Number: BOEM-2021-0057-0119-56

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Real-time monitoring requirements and protocols during pre-clearance and when pile driving activity is underway (all large whale species):

i. Monitoring of the acoustic clearance and exclusion zone will be undertaken using near real-time PAM [Footnote 162: 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], assuming a detection range of at least 10,000 m, and should be undertaken from a vessel other than the pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by the pile driving vessel or development-related noise.

ii. Monitoring of the visual clearance and exclusion zone will be undertaken by vessel- based PSOs stationed at the pile driving site and on additional vessels circling the pile driving site, as required. On each vessel, there must be a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon per pile driving location. Additional vessels must survey the clearance and exclusion zones at speeds of 10 knots or less.

iii. Acoustic and visual monitoring should begin at least 60 minutes prior to the commencement or re-initiation of pile driving and should be conducted throughout the duration of pile driving activity. Visual observation should continue until 30 minutes after 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, thermal cameras, drones, hydrophones, 25x150 power “big eye” binoculars) should be undertaken, as needed, to ensure the ability to effectively monitor the established clearance and exclusion zones.

Comment Number: BOEM-2021-0057-0119-72

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

It is vital that we gain an understanding of baseline environmental conditions prior to large-scale offshore wind development in the United States. To this end, BOEM must help establish and fund a robust, long-term scientific plan to monitor effects of offshore wind development on marine mammals before the first large-scale commercial projects are constructed.

Comment Number: BOEM-2021-0057-0122-22

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Working to avoid and minimize impacts on the ocean and coastal environment is essential and must be a main goal of offshore wind energy development, as it is with any offshore or onshore activity. Therefore, the COP EIS must identify measurable, meaningful, and actionable effective mitigation measures for when impacts cannot be avoided or minimized.

For example, the COP asserts that Atlantic Shores may need to mitigate cable exposure by re-burying multiple cables over the lifetime of the projects. The COP also indicates that impacts to onshore and coastal ecosystems is likely. Specific mitigation of impacts to wetlands, seagrass beds, and other habitat should be specifically analyzed in the EIS. Particular attention should be paid to the seasonality of seagrass beds. Further, analysis of the impacts to seagrass beds should be analyzed beyond turbidity. The spatio-temporal variability in the distribution of vulnerable species should also be considered.

Atlantic Shores' COP states that they will be applying for authorizations under the Endangered Species Act, Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, Rivers and Harbors Act, Clean Water Act, Coastal Zone Management Act, and more. COA will provide feedback on these permitting decisions to the relevant authority as they become available.

Comment Number: BOEM-2021-0057-0125-16
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

Current plans also call for separate transmission infrastructure for each project which should be negotiated to minimize the potential impact to commercial and recreational fishing grounds. Existing projects have already shown the problems that can arise when cables are only minimally buried. The need for deep cable burial suggests that a six foot burial depth be maintained and micro-siting with fishers' input is required in order to build these projects with limited impacts on fishing.

Comment Number: BOEM-2021-0057-0125-6
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

BOEM, through this document and working with the developers must ensure the NMFS Survey is fully funded going forward and must account for the mitigation to amend this historic scientific study. Without this mitigation the resulting survey and supporting data will result in additional uncertainty which will directly impact fish stocks and allocations to the State's and the commercial and recreational fishing industries relying on these allocations. These natural resources are a common good and impacts on new development must address these historic uses.

Comment Number: BOEM-2021-0057-0125-8
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

There is also a lack of science as to the longer-term impacts of these proposed industrial scale developments in US Waters. At a minimum BOEM working with the developers must require scientific fisheries monitoring for the life of the project. This will help address data gaps identified above, but also help address un expected effects of turbine placement and development in these waters.

Comment Number: BOEM-2021-0057-0130-5
Commenter: Denise Brush
Commenter Type: Individual

Comment Excerpt Text:

Mitigation measures to protect the ocean wildlife and their habitats are known and available.

Comment Number: BOEM-2021-0057-0144-2
Organization: Anglers for Offshore Wind Power
Commenter: Paul Eidman
Commenter Type: Non-Governmental Organization
Other Sections: 8 19.2

Comment Excerpt Text:

Fisheries impacts from noise primarily pile driving are likely to be localized and temporary. Operational noise and vibration impacts are minimal, and we are hoping that developers like Atlantic Shores implement underwater noise mitigation measures during installation like bubble curtains and other devices to reduce noise levels for not only game fish but marine mammals as well.

Comment Number: BOEM-2021-0057-0169-3
Organization: Sierra Club, NJ Chapter
Commenter: Richard Isaac
Commenter Type: Non-Governmental Organization
Other Sections: 14

Comment Excerpt Text:

While the Sierra Club supports offshore wind and the proposed Atlantic Shores project, the use of bubble curtains should be at least considered as it may help mitigate the issue of possible harm to marine mammals, such as the coastal form of bottle nose dolphins from the noise generated from driving pylons into the seabed.

Comment Number: BOEM-2021-0057-0199-3
Commenter: Daniel LaVecchia
Commenter Type: Individual

Comment Excerpt Text:

When the windmill folks start digging, we will need to closely monitor and watch them as they tear up our ocean. Digging and uprooting millions of yards and thousands of miles of ocean floor. Digging dredges that will kill and displace millions of marine life and animals. Most likely they will irreparably harm a huge part of our nation's valuable and sustainable food supply.

Comment Number: BOEM-2021-0057-0216-4
Commenter: Paul Eidman
Commenter Type: Individual

Comment Excerpt Text:

Our hope is that developers like Atlantic Shores will implement underwater noise mitigation measures during the installation process. Bubble curtains and other devices could be used to reduce the noise levels

not only for game fish but also marine mammals as well. Given the overall minimal temporary impacts and likely benefits from the reef effect, recreational vessels will see little to no detrimental effects and many positive.

Comment Number: BOEM-2021-0057-0234-18

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

The EIS must clearly identify what mitigation measures are included as part of the proposed action and thus evaluated in the analysis, which measures are proposed as required, and measures that are optional and could be implemented by the developer to potentially reduce impacts. The document should provide information on how mitigation measures are considered in the context of the definition of effects levels (*e.g.*, negligible, minor, moderate, major), and how mitigation would offset those levels of effect. An analysis of the effectiveness of any proposed mitigation should also be included in the NEPA document. Measures to avoid and minimize impacts such as speed restrictions for project vessels, soft start procedures, noise dampening technologies, construction time of year restrictions, anchoring plans, or micro-siting should be discussed in detail, including what resources would benefit from such mitigative measures and how/when such benefits (or impact reductions) would occur. The EIS should analyze temporary effects and anticipated recovery times for marine resources within the impacts analysis.

While the Projects should be planned and developed to avoid and minimize adverse effects to marine resources and existing uses (*i.e.*, fisheries habitat, fishing, and NMFS scientific survey operations) to the greatest extent practicable, compensatory mitigation should be proposed to offset unavoidable permanent and temporary impacts. This should include discussion and evaluation of potential compensatory mitigation for unavoidable adverse impacts to fisheries habitats and the lost functions and values resulting from those impacts. Compensatory mitigation for both ecological losses as well as social and economic losses should be discussed in the EIS, including any loss of fisheries revenue resulting from the construction and operation of the Projects and conservative quotas set in response to reduced scientific survey access and associated increasing 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. Finally, mitigation necessary to offset negative impacts to longstanding marine scientific survey operations (*e.g.*, loss of access to the Projects' areas, changes to sampling design, habitat alterations, and reduced sampling due to increased transit time) and fisheries dependent data collections must also be considered and evaluated in the document (see description of scientific survey impacts below).

Comment Number: BOEM-2021-0057-0234-23

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 19.4

Comment Excerpt Text:

Given the extent of potential offshore wind development on the OCS and in this region in particular, the cumulative effects analysis will be a critical component of the EIS. Establishing a regional monitoring program will be important to help understand potential impacts of wind energy projects and identify potential mitigation measures for any future projects. As you are aware, we have been working with state agencies, developers, and research institutions through the Responsible Offshore Science Alliance to develop a regional scientific research and monitoring framework, including project-specific monitoring plan/study guidance to better identify and understand cumulative impacts and interactions between marine resources, fisheries, and offshore wind energy. Similarly, we are engaged in the development of the Regional Wildlife Science Entity in an effort to address regional science and monitoring of impacts to wildlife and protected species. It is imperative that project-specific monitoring efforts are integrated into existing regional monitoring programs throughout the OCS, unless there is a project or location specific research question explicit to characteristics and dynamics unique to the site and relevant to trust resources management. Monitoring at multiple scales that takes an ecosystem-based approach to assessing monitoring needs of fisheries, habitat, and protected species should be required. This will be important in assessing the cumulative impacts of the Projects' development and informing any future development. You should also coordinate with our agency early in the process regarding any potential effects of monitoring activities on NOAA trust resources; we note that survey or monitoring activities may require permits or authorizations from us.

Comment Number: BOEM-2021-0057-0234-29

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

Additionally, the EIS should consider effects of any surveys that may occur following potential COP approval that may affect listed species (e.g., gillnet or trawl surveys to characterize fisheries resources), as well as any pre- or post-construction monitoring that may affect listed species. For further information on effects to consider, please refer to the ESA Information Needs document.

Comment Number: BOEM-2021-0057-0234-31

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 19.4

Comment Excerpt Text:

We encourage you to require minimization and monitoring measures that minimize the risk of exposure to potentially harassing or injurious levels of noise to marine mammals, sea turtles, and Atlantic sturgeon. Mitigation measures should be required during pile driving that will act to reduce the intensity and extent of underwater noise and avoid exposure of listed species to noise that could result in injury or behavioral disturbance. The use of protected species observers and other relevant technologies (e.g., Passive Acoustic Monitoring) to establish and monitor clearance zones prior to pile driving is essential. Project scheduling should take into account the need for adequate visibility during the pre-pile driving clearance period, as well as for the duration of pile driving activities. Real-time and archival passive acoustic

monitoring should also be used as a secondary detection/monitoring system during construction, to increase situational awareness in vessel corridors and around the Projects' area, and to monitor the distribution of marine mammals in the lease area during construction and operation. We encourage you to work with Atlantic Shores to develop a schedule for the Atlantic Shores Projects that minimizes potential impacts to North Atlantic right whales. Specifically, you should consider time of year restrictions for pile driving that would avoid pile driving during the months when the density of North Atlantic right whales is highest in the lease area and the development of robust measures for other times of year that would minimize the exposure of right whales to noise that could result in behavioral disturbance. Marine mammal responses to sound can be highly variable, depending on the individual hearing sensitivity of the animal, the behavioral or motivational state at the time of exposure, past exposure to the noise which may have caused habituation or desensitization, demographic factors, habitat characteristics, environmental factors that affect sound transmission, and non-acoustic characteristics of the sound source, such as whether it is stationary or moving (NRC 2003)[Footnote 9: National Research Council (NRC). 2003. Ocean noise and marine mammals. National Academy Press; Washington, D.C.]

While BOEM and Atlantic Shores will need to consider effects to all listed species, given the imperiled status of North Atlantic right whales, implementing measures to ensure that no right whales are injured or killed as a result of the Atlantic Shores Projects is critical.

Mitigation measures should also be included that minimize the risk of vessel strike for whales, sea turtles, and Atlantic sturgeon, including consideration of vessel speed restrictions regardless of vessel size and robust measures to monitor vessel transit routes for North Atlantic right whales. Recent events and new information [Footnote 10: see Kelley, D. E., Vlastic, J. P., & Brilliant, S. W. (2021). Assessing the lethality of ship strikes on whales using simple biophysical models. *Marine Mammal Science*, 37(1), 251-267. <https://doi.org/10.1111/mms.12745>]. demonstrate that large whales are susceptible to lethal vessel strikes from vessels of all sizes. Any surveys or monitoring that are carried out related to the Projects (e.g., gillnet or trap surveys to document fisheries resources) must carefully consider the effects to North Atlantic right whales and other ESA-listed species, and mitigation measures should be considered to eliminate the potential for entanglement of whales and to minimize risk to sea turtles and Atlantic sturgeon during such activities.

Comment Number: BOEM-2021-0057-0234-39

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 12

Comment Excerpt Text:

Given the anticipated development of offshore wind in our region, it is critical to expeditiously establish and implement a regional federal scientific survey mitigation program to address this significant issue. Such a survey mitigation program would include the following elements:

1. Evaluation of scientific survey designs;
2. Identification and development of new survey approaches;
3. Calibration of new survey approaches;
4. Development of interim provisional survey indices;

5. Integration of project-specific monitoring plans to address regional survey needs; and
6. Development of new data collection, analysis, management, and dissemination systems.

Information from project-specific mitigation plans could be critical inputs to the development and implementation of any future regional survey mitigation program. Project-level impacts on scientific surveys should require project-level mitigation measures for each of the seven scientific surveys disrupted by the Atlantic Shores projects. As project monitoring plans are further considered and developed, these approaches should be standardized, meet existing scientific survey protocols and develop new methods using independent-peer review processes, calibrate methods to and integrate them with federal regional scientific surveys, and implement annual data collections for the operational life span of the Projects or until such time as a programmatic federal scientific survey mitigation program is established. Text provided in documents prepared for other projects with similar impacts can be used to inform the assessment of scientific survey impacts for these projects. Consistent with work we have done with you in the past, the NEPA document should include a full description of scientific surveys to be impacted, the history of each time series, and relative importance of the impacted scientific surveys on management advice, decision-making, and other end-users. We encourage you 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.

A.3.16 Navigation and Vessel Traffic

Comment Number: BOEM-2021-0057-0052-14

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt 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

Comment Number: BOEM-2021-0057-0052-15

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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 7: 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 this in the range of wildlife observing alternatives.

Comment Number: BOEM-2021-0057-0052-16
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Research suggests that reducing vessel speed will reduce risk of vessel collision mortality up to 86 percent for large whales like the NARW. [Footnote 8: 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.

Comment Number: BOEM-2021-0057-0052-19
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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 and using a Class A Automatic Identification System (AIS) at all times while on the water. This should apply to all vessels, regardless of size, associated with the offshore wind siting, development, 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 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-2021-0057-0052-43
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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.

Comment Number: BOEM-2021-0057-0066-6

Commenter: Peter Hartney
Commenter Type: Individual

Comment Excerpt Text:

In closing the last issue to consider is the issue of safety. The proposal submitted by Atlantic Shores fails to address safety issues associated with the transiting of fishing vessels, recreational vessels and, as the proposed wind farms are situated in or near to the the sea lanes of large ocean going vessels such as container ships and cruise ships transiting to and from the Ports of New York and New Jersey.

Comment Number: BOEM-2021-0057-0107-11
Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council
Commenter:
Commenter Type: Federal Agency
Other Sections: 8

Comment Excerpt Text:

Commercial and recreational fishermen may not be able to take full advantage of any increased availability of target species due to concerns about safely maneuvering, drifting, or anchoring near turbines and offshore substations. The proposed 1 by 0.6 nautical mile grid layout of the projects will not eliminate all safety concerns. Safety considerations will vary based on weather, gear type, vessel size, and specific fishing practices which can vary by target species. Although some fishermen may have experience fishing near the five turbines off Block Island or the two CVOW pilot project turbines off Virginia, this may not prepare them for fishing safely within the Atlantic Shores Wind Projects 1 and 2, which could include up to 200 turbines. The EIS should evaluate these safety considerations and their potential variations across different fisheries. In addition, if fishermen 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.

Comment Number: BOEM-2021-0057-0110-1
Organization: American Waterways Operators
Commenter: Brian Vahey
Commenter Type: Other

Comment Excerpt Text:

Our commitment to sustainability includes strong support for the development of renewable energy resources, including offshore wind. However, it is critical that such projects not produce navigational hazards that put vessels and their crews at risk or obstruct the movement of commodities on which the nation's economy depends. It is with these concerns in mind that we have worked closely with the U.S. Bureau of Ocean Energy Management and the U.S. Coast Guard on previous requests for comment on wind energy developments offshore the Atlantic Coast.

To fully understand how the proposed Atlantic Shores Lease Area (OCS-A 0499) will impact the environment, BOEM must consider the impact that offshore wind energy developed in this lease area will have on transportation safety. If this wind energy development constricts traditional traffic lanes or encroaches into the safety buffer of the Cape Charles to Montauk Point Fairway, the risk of towing vessels striking other vessels or wind energy assets could increase, causing harm to mariners and the

environment. During this EIS, BOEM should consider alternatives that will minimize the risk to towing vessel safety.

The Atlantic Shores lease area coincides with one of the most highly transited areas for towing vessels on the Atlantic coast, as AIS track data demonstrates. [See original attachment for image]

Most traditional towing vessel transits run very close to the outer boundaries of the wind energy area, and portions of the lease area conflict with the Coast Guard's proposed towing vessel fairway. While the Coast Guard now proposes to shift the fairway further inshore to eliminate these conflicts, the proposed fairway width (less than 5 NM) is dangerously inadequate for navigation safety. In the Atlantic Coast Port Access Route Study (ACPARS), the Coast Guard recommended towing vessel fairways that are 5 NMs wide with a 2 NM safety buffer on either side. This 9 NM width is necessary to accommodate towing vessels transiting abreast during a variety of sea states. This width gives operators more time to adhere to the Rules of the Road and react in the case of an unforeseen safety incident. Greater width allows operators in both directions to safely navigate past one another while avoiding vessels crossing the fairway.

AWO has and will continue to engage with the Coast Guard as the agency works to finalize its proposed Atlantic Coast Fairway. In addition, we urge BOEM to emphasize the importance of developers allocating a 2 NM set back from the boundary of any future fairway to the outermost boundary of the wind farm. This is consistent with Coast Guard recommendations and would go a long way towards facilitating safe navigation – especially if the Coast Guard fails to allocate sufficient fairway space through its rulemaking. We do not believe that the conflicts demonstrated in the picture above can be mitigated by the wind developers' commitment to include Coast Guard-required lighting on the wind turbines or other similar measures. BOEM should encourage developers to avoid areas that will either force vessel operators into more congested waters or force them further offshore than is safe for towing vessels to transit.

AWO actively supports the development of offshore wind energy while maintaining maritime safety. Many AWO members are making large investments to take part in this burgeoning industry. To ensure continued safe operations along the Atlantic Coast, the placement of the Atlantic Shore lease area must not impede the towing vessel traffic along the New Jersey Coast.

Comment Number: BOEM-2021-0057-0112-2
Organization: New York State Department of State
Commenter: Kisah Santiago-Martinez
Commenter Type: State Agency

Comment Excerpt Text:

Potential impacts to commercial shipping and safety of navigation, search and rescue operations, and offshore and land-based radar. BOEM's analysis should incorporate findings from the Northern New York Bight and Seacoast New Jersey PARS reports. [Footnote 3: *Id.* See also 86 FR 37339 [July 15, 2021] for Draft Port Access Route Study: Northern New York Bight.] The analysis should consider a suite of impact minimization and/or mitigative measures with the goals of reducing navigation risks, identifying protocols to overcome impacts to search and rescue, addressing impacts due to differing turbine orientations with adjacent projects (i.e., Ocean Wind), identifying methods to correct for anticipated radar interference, and conducting mandatory cable monitoring and maintenance.

3. Potential impacts to New York ports due to restricted port access from increased vessel traffic and

construction activities. The COP notes nine (9) existing New York port facilities which may be considered (Table 4.10-2) for construction and staging areas for the Projects. These include several facilities in or proximate to the NY Harbor and at least two situated north along the Hudson River. Potential use conflicts, safeguarding navigational safety, and evaluation of potential impacts to New York's communities, including to Environmental Justice and low-income communities, should be considered in the EIS.

Comment Number: BOEM-2021-0057-0114-25

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

RODA members have continually explained the importance of continued safe navigation and sufficiently wide transit lanes to allow for other ocean users to safely transit through wind lease areas. Transit requirements are separate from those related to whether a vessel can actively fish in an area. Since the direct risks associated with turbines, cables, and associated protection methods mean that commercial fishing operations are unlikely to continue within a wind array unless conditions are ideal, the maintenance of safe transiting conditions to access fishing grounds outside of the project area is of paramount importance.

Lease area OCS-A 0499 (Atlantic Shores) is directly adjacent to OCS-A 0498 (Ocean Wind) and the two areas together cover 343,833 acres. Directly at the lease boundary between the two is an area heavily transited by multiple vessels primarily from Atlantic City and Cape May. The need for a transit lane in this location is supported by the "Fishing Route Analytics Reports" produced by Last Tow, LLC previously submitted to BOEM, the New York Bight Transit Lanes Surveys, Workshop, and Outreach Summary prepared by NYSERDA, NY State Department of Environmental Conservation, and RODA (2020). [Footnote 11: https://www.nyftwg.com/wp-content/uploads/2020/06/NY-Bight-Transit-Lanes-Workshop-and-OutreachSummary_-Final-Draft.pdf. This effort primarily focused on NY Bight and not the area further south in NJ; however, survey responses indicate transit in the referenced area.]

Comment Number: BOEM-2021-0057-0114-27

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

RODA submitted comments to the United States Coast Guard (USCG) on the draft report of the Port Access Route Study: Seacoast of New Jersey Including Offshore Approaches to the Delaware Bay, Delaware outlining the reasoning behind this request and other necessary considerations for transit in the region. [Footnote 12: https://rodafisheries.org/wp-content/uploads/2021/11/211025_USCG-PARS-NJ.pdf] BOEM should work with USCG to take a highly conservative approach to safety and navigation for vessels operating and transiting near individual offshore wind projects such as Atlantic Shores and on a broader scale to address regional navigational needs.

Comment Number: BOEM-2021-0057-0119-49

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

All Project-associated vessels should adhere to a 10-knot speed restriction at all times except in limited circumstances where the best available scientific information demonstrates that whales do not occur in the area.

ii. Project proponents may develop, in consultation with NOAA Fisheries, an “Adaptive Plan” that modifies these vessel speed restrictions. However, the monitoring methods that inform the Adaptive Plan must be proven effective using vessels traveling 10 knots or less and following a scientific study design. If the resulting Adaptive Plan is scientifically proven to be equally or more effective than a 10-knot speed restriction, the Adaptive Plan could be used as an alternative to a 10-knot speed restriction.

Comment Number: BOEM-2021-0057-0119-50

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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 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.

Comment Number: BOEM-2021-0057-0119-57

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Vessel speed restrictions (all large whale species):

i. All Project-associated vessels [Footnote 163: The ASOW COP states a minimum of 50 vessels of up to 16 different types will be used during construction and operations of the Project. A hoist equipped helicopter and unmanned aircraft systems may also be used to support operations and maintenance. ASOW COP Vol I at 4-82—4-86] should adhere to a 10-knot speed restriction at all times except in limited circumstances where the best available scientific information demonstrates that whales do not use the area [Footnote 164: The ASOW COP Vol. II at 4-203 states: “Atlantic Shores will follow Federal guidelines to avoid vessel interactions with whales and adhere to all NOAA-mandated Seasonal Management Areas (SMA) or Dynamic Management Areas (DMA). Currently, in the Mid-Atlantic, all

vessels 65 ft (19.8 m) or greater operating within a SMA must travel at 10 knots or less between November 1 and April 30.” This mitigation measure is inadequate (see Section IV.E.5.b for further discussion of the limitations of the NOAA Fisheries Vessel Speed Rule)].

ii. Project proponents may develop, in consultation with NOAA Fisheries, an “Adaptive Plan” that modifies these vessel speed restrictions [Footnote 165: The ASOW COP states: “Atlantic Shores is also investigating the application of near real-time monitoring, autonomous underwater vehicles, and unmanned aerial systems to support the detection of marine mammals within the Offshore Project Area. With these monitoring measures and the implementation of vessel strike avoidance measures, the risk of marine mammal interactions with Project vessels is considered low to very low.” These systems are costly and require specific skills and expertise to operate. The COP does not mention how likely these systems are to be utilized for the project. Without concrete information on what systems are actually going to be used and how they are to be used, the COP provides sufficient evidence to state that vessel impacts are to be low to very low]. However, the monitoring methods that inform the Adaptive Plan must be proven effective using vessels traveling 10 knots or less and following a scientific study design. If the resulting Adaptive Plan is scientifically proven to be equally or more effective than a 10-knot speed restriction, the Adaptive Plan could be used as an alternative to a 10-knot speed restriction.

Comment Number: BOEM-2021-0057-0119-58

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 14

Comment Excerpt Text:

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).
-

Comment Number: BOEM-2021-0057-0119-64

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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 travelling below this speed still pose a serious risk

Comment Number: BOEM-2021-0057-0119-68

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Fourth, BOEM’s assertion that existing federally required mitigation measures will “minimize” collision risk is flawed. NOAA requires a mandatory vessel speed restriction of vessels 65 feet and greater within Seasonal Management Areas (SMAs) to reduce the risk to North Atlantic right whales and voluntary 10-knot speed reduction zones (i.e., NOAA DMAs and North Atlantic right whale “Slow Zones”) offer an additional layer of protection [Footnote 185: 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 186: National Marine Fisheries Service, “North Atlantic Right Whale (*Eubalaena glacialis*) Vessel Speed Rule Assessment,” supra]. BOEM recently required additional sector-specific vessel speed restrictions for the Vineyard Wind 1 project, including a requirement that project-related vessels of any length must adhere to SMAs and DMAs and that all vessels must travel at 10 knots or less when transiting to, from, or within the project site, except for certain geographic areas and crew transfer vessels, that may travel faster than 10 knots upon submission of a North Atlantic right whale “strike management plan.”

Comment Number: BOEM-2021-0057-0122-14

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 14

Comment Excerpt Text:

(3) Vessel Strikes

- a. Increased vessel activities may result in increased strikes with marine mammals, such as the Northern Atlantic right whale. This includes from construction and O&M.
 - b. There is also concern that the wind farms will displace other marine commerce and transit, funneling those vessels into narrower lanes which may increase strikes.
 - c. The COP EIS must account for competing uses and navigation impacts of offshore wind facilities. With increased or altered traffic patterns, the risk of collisions and spills of gas, oil, and chemicals may increase, with negative effects to water quality and marine life. Exposure to oil and other hydrocarbons from oil spills can drastically affect marine mammals and ecosystems.
 - d. Further, vessel strike mitigation is vital to reducing collision between both commercial and noncommercial vessels and North Atlantic right whales. [Footnote 10: T.M. Grothues and E. A. Bochenek, 2011: Fine scale spawning habitat delineation for winter flounder (*Pseudopleuronectes americanus*) to mitigate dredging effects –Phase II (Cycle 8), 2/2011.] The COP EIS should also consider increased spacing between offshore wind turbines and high-traffic areas through either increased spacing or based on consultation with the National Marine Fisheries Service and the United States Coast Guard.
-

Comment Number: BOEM-2021-0057-0122-19

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

(1) Navigation Impacts – Funneling Navigation into Narrow Corridors

In addition to the many potential impacts to wildlife and marine and coastal resources, Atlantic Shores' COP EIS should consider the top-down impacts of the increased vessel activity, increased onshore activity, shifts in recreational and commercial ocean uses, and the foundation, cabling, and interconnection infrastructure associated with the projects. In sum, the Atlantic Shores COP EIS must consider changing traffic patterns, navigational safety, and port access conflicts. More specifically:

- a. The Port of New York and New Jersey is a massive economic enterprise that is a hub for vessel traffic. There are four container terminals in the port, whose combined volume makes it the largest on the East Coast, the third busiest in the United States.
- b. A large area of the Outer Continental Shelf (OCS) has been leased for offshore wind development without any comprehensive analysis of the fishing industry's need for safe transit or how the installation of large numbers of offshore structures will impact the operations of fishing vessels.
- c. The port imports petroleum, plastics, chemicals, oils and perfumes, pharmaceuticals, and other materials that if spilled into the ocean would be devastating. The port of NY/NJ is the largest U.S. petroleum product port.
- d. There is also concern that the development of these wind projects in close proximity will displace transit corridors and create narrow lanes where vessels are expected to travel. This could lead to increase accidents and spills.
- e. One danger is that vessel density – ships operating within the same sea space – would be increased by the funneling effect of constricting traffic between turbine arrays.
- f. Another consideration is the radar shadow effect of rotating turbine blades that can affect navigation radars.
- g. Consider these port statistics: 577,649 vehicles • 6.3 Million TEUs of containerized cargo • 730,617 cruise ship passengers • 8,596 deep-sea vessel transits • Over 4,000,000 smaller vessel harbor transits.
- h. Another consideration is the speed and agility of large ships maneuvering a small, competitive space. For example, it can take an ultra large 2.5 miles of full astern to brake to a halt.

Comment Number: BOEM-2021-0057-0125-11

Organization: Garden State Seafood Association

Commenter: Scott Mackey

Commenter Type: Other

Comment Excerpt Text:

The GSSA has always supported the need for transit lanes proposed in the lease area. Based on our experience transit corridors of a minimum of 2nm are necessary in order to keep our state's fishermen safe at sea and to lessen the economic impact. It is also worth noting that without transit corridors there is a significant impact to fishermen who operate under a day's at sea quota. Specifically, in the case of Scallop fishery identified a lack of a transit corridor would have direct impact on the time constrained permit of the industry with a limited number of days at sea and running 24-hour clocks. Therefore, we strongly support the inclusion of an alternative with transit lanes from Atlantic City, NJ and Barnegat Light. Additionally, BOEM should require a transit corridor between the two existing leases (Orsted and Atlantic Shores).

Comment Number: BOEM-2021-0057-0152-2

Commenter: Kirk Frost
Commenter Type: Individual

Comment Excerpt Text:

I'd also ask what about vessel traffic, what about submarines, what about all the other traffic that goes on in the ocean, we are not exactly stopping shipping. Right? But windmills are substantially less of an impact than the natural gas transmission and distribution network.

Comment Number: BOEM-2021-0057-0158-1
Organization: Maritime Association of the Port of NY and NJ
Commenter: Edward Kelly
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We have submitted comments on many occasions in many forums with many agencies over many years on this topic as it develops. We are therefore significantly distressed to notice that despite the continued comments of both the U.S. Coast Guard and the maritime commercial industry, there are still mentions of one nautical mile set backs, a lack of established pass through lanes and cable - unacceptable cable burial depths. We are concerned about these items because they represent the safety of operating together.

We will funnel traffic which could cause potential problems. This is not just aimed at Atlantic Shores but these are projects cannot be looked at individually but rather they have to be looked at on a cumulative basis with total build out in the New York Bight.

We have to remind all parties involved that safety and environmental safety and is our utmost concern. The environmental impact of even a small to mid size marine casualty would be devastating to the New Jersey economy, to our environment, to the tourism industry and everyone involved. We continue to put forth our safety recommendations which are directly connected and in tune with what Coast Guard is recommending and we continue to be distressed by BOEM's refusal to actually implement these base requirements.

Comment Number: BOEM-2021-0057-0235-2
Organization: U.S. Dept of Homeland Security U.S. Coast Guard
Commenter: Michael Emerson
Commenter Type: Federal Agency

Comment Excerpt Text:

A change in orientation or spacing without this separation will increase risk for surface and aerial navigation through the wind farms, and could prohibit an aerial search within the wind farms. Spacing along the shared border and the subsequent impacts to navigation and Coast Guard missions should be addressed in each individual Navigation Safety Risk Assessment (NSRA) and Emergency Response Considerations for Search and Rescue.

Comment Number: BOEM-2021-0057-0240-17
Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

Offshore wind farms add navigational challenges for mariners. Not only do they force routine detour routes but more importantly they make traversing in times of foul weather hazardous and, with mechanical failure, possibly life threatening. Turbines interfere with radar, reducing seamanship ability to safely navigate via instrumentation in times of limited visibility. Concerns also arise in emergency situations with high seas rescue via vessel or helicopter.

A.3.17 NEPA/Public Involvement Process

Comment Number: BOEM-2021-0057-0009-17

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

As noted earlier, on July 22, 2021, Atlantic Shores sent correspondence to BOEM submitting an updated and delayed COP Supplemental Filing Schedule. That schedule shows that many key updates, such as the Marine Mammal and Sea Turtle Monitoring Plan, the Avian and Bat Survey Assessment Reports, Cultural and Resource Assessment Reports, and a host of other critical reports will not be available until December 2021, a month after comments are due on the current BOEM NOI. These reports could significantly impact public comments on the scoping for the EIS; hence, the public comment period should be extended at least six months to allow adequate review.

Comment Number: BOEM-2021-0057-0009-7

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

As a final point, on July 22, 2021, Atlantic Shores sent correspondence to BOEM submitting an updated and delayed COP Supplemental Filing Schedule. That schedule shows that many key updates will not be available until December 2021, a month after comments are due on the current BOEM NOI. These reports could significantly impact public comments on the scoping for the EIS; hence, the public comment period should be extended at least six months to allow adequate review

Comment Number: BOEM-2021-0057-0033-4

Commenter: Brenna Fallows

Commenter Type: Individual

Comment Excerpt Text:

You have not reasonably engaged with stakeholders and the lack of transparency or the consideration of alternatives is very upsetting to New Jerseyans

Comment Number: BOEM-2021-0057-0039-11

Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

Additionally, from a procedural standpoint, I would hereby object to this ongoing process, as BOEM has failed to follow its own rules and regulations, including those expressly and inferentially, barring the issuance of a proposed sale notice for said leases, prior to any draft environmental assessment being provided for public comment. Most importantly, I would hereby ask that BOEM rescind this entire process, which in all likelihood is violative of the statutory guidelines provided by the National Environmental Policy Act (NEPA).

Comment Number: BOEM-2021-0057-0039-4
Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

Further, from a procedural, as well as a substantive standpoint, I would hereby strongly object to the manner in which BOEM has conducted the pending leasing process, which contemplates an award, for offshore wind farm sites, prior to a complete environmental assessment of this vast area, as well as the cumulative impacts of the already awarded leased sites off the New Jersey Coast. Initially, I object to the inadequate, and far too short, time period, during which residents, public interest groups, and elected officials, have had the opportunity to have commented on this most recent leasing of 800,000 additional acres in the New York/New Jersey Bight Region. Rather than utilizing the all too convenient cover of the on-going COVID-19 Crisis, BOEM officials should have conducted, and still should consider, holding in-person public hearings in the affected geographic areas of the New Jersey Coast.

Comment Number: BOEM-2021-0057-0050-100
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Programmatic Consultation. A programmatic consultation is called for when there are multiple similar actions expected to be implemented in a particular geographical area. Such is the case here. As shown in Exhibit B, impacts on the right whale will occur from all the Ocean Wind, Atlantic Shores, and Hudson South areas since all their operational turbine noise envelopes interests its migratory corridor.

Therefore, in the interest of providing a scientifically credible analysis of the impact of turbine operational noise on the right whale, the BOEM should pursue a Programmatic Consultation with NMFS to define the best scientific data and methods to be used in offshore wind BA's for determining source noise levels, noise transmission loss and take and harm estimates. Those methods should be used for all three wind energy areas here and perhaps other offshore wind projects as well. These are critical calculations. They should not be left to the discretion of applicants on a project-by-project basis with potential conflicts of interest regarding project size.

Such a programmatic consultation should also develop a method to assess the cumulative impact on

endangered mammals from all current and reasonably foreseeable BOEM offshore wind projects. Notwithstanding the requirements and procedures for ESA consultations, there is no scientific credibility in assessing the impact on endangered mammals in a piecemeal fashion. Regardless of what you call it, “cumulative” or some other word, NEPA requirements for full disclosure and scientific integrity through 40 CFR §1502.23 demand such a look in EIS’s.

Comment Number: BOEM-2021-0057-0050-101
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Interested Party Involvement in Consultation-Request for Participation.

The LBI Coalition for Wind Without Impact, as an interested party representing over a thousand persons, is requesting participation in any discussions and/or meetings held during the formal ESA Section 7, 90-day consultation period regarding the impacts of the action or reasonable and prudent measures or alternatives to mitigate those impacts (USFWS and NMFS Endangered Species Handbook, page 4-6).

Comment Number: BOEM-2021-0057-0050-108
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Since these analyses for turbine operation may lead to conclusions that conflict with the proposed power size of projects and revenues, they create a potential conflict of interest for applicants and should not be left to them to do on a case-by-case basis. The BOEM and NMFS should develop science-based peer reviewed methods for determining source levels, using animal density data, determining transmission loss, and most of all assessing avoidance behavior, and require their use. This could be done through an ESA programmatic consultation (IV.2), a framework programmatic consultation, or the rulemaking required for Letters of Authorization (III.1).

Comment Number: BOEM-2021-0057-0050-18
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

· The EIS should provide a comparable analysis of the no action alternative, using a realistic scenario of where the proposed 1510 mw of turbine power for project 1, and whatever power the BOEM proposes for project 2 and the remaining lease area, would be placed if this project was not approved, since it is not likely that the State’s goal would be abandoned (II.2-3) in that case.

Comment Number: BOEM-2021-0057-0050-20
Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The BOEM should include the State Plan’s connected actions under NEPA rules, and reasonable alternatives within it (II.1,2,3) in the scope of this EIS, end the practices of scoring impacts (II.5) and excessive referencing to other documents (II.6), and focus on presenting significant impacts (II.6) as opposed to lengthy presentations of background information and insignificant impacts.

· The EIS, ITR, BA and BO should present precise “jeopardize” and “negligible impact” criteria (I.2), describe any realistic avoidance scenarios and the scientific basis for them, not just rely on opaque modeling results (I.3), and augment mean take and harm estimates with an uncertainty analysis to provide results close to a 95 percent confidence level (I.4).

Comment Number: BOEM-2021-0057-0050-23
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We also request, as an interested party, to participate in the formal ESA Section 7 90-day consultation period (IV.3), and would appreciate a response to that request

Comment Number: BOEM-2021-0057-0050-24
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Some reciprocity is sought to address the continuing obfuscation surrounding this project: the inappropriate and confusing use of a project design envelope as the proposal (V), the failure to present a federal project purpose and a clear preliminary, reasonable proposal in terms of the intended use of the full lease area, the turbine power, capacity factor, size, make, number, drive type, spacing, foundation type, and locations (V), the use of non-representative and misleading visual renditions (I.10), the lack of any meaningful alternatives (II.1-3), and the clouding of, rather than illuminating the project’s significant impacts (II.5-6).

This lack of clarity and full disclosure, especially regarding the Atlantic Shore’s project full geographical scope, turbine visualizations, and the State’s prior turbine make and foundation-type approvals, does not serve the public nor you as decision-makers. Therefore, we do hope that all our suggestions throughout will be seriously considered in the interest of pursuing a reasonable and transparent offshore wind effort, with opportunity for real public engagement and influence.

Comment Number: BOEM-2021-0057-0050-34
Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Given the severity of these impacts, the analysis of operational noise is perhaps the most important to be undertaken and presented in the EIS, the Biological Assessment (BA) and the Biological Opinion (BO).

Therefore, the EIS, BA and BO should among other changes: (a) establish clear “jeopardize” and “negligible impact” criteria (I.2), (b) provide a realistic avoidance and harm assessment (I.3), and (c) augment its mean take and harm estimates with an analysis of the uncertainties involved to provide results closer to those with a 95 percent confidence level (I.4).

Comment Number: BOEM-2021-0057-0050-46
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Considering all of the above it is recommended that the approach in the BA, BO and EIS be altered and augmented to include:

1. Less emphasis on background descriptions and references to other studies, more actual data on the calculation of and support for take and harm estimates.
2. Referencing other studies only after the key relevant data or information from that study is presented in the BA, BO or EIS itself, and then pointing the reader to the specific place in that study for further information,
3. Presentation of source noise levels, an explanation of how they were arrived at and the uncertainties and any ranges in the numbers.
4. The presentation of the transmission loss equations and assumptions used with an estimate of the uncertainty involved and how that might affect the zones of influence estimates.
5. Inclusion of a table with the noise threshold criteria for injury and behavioral disruption for impulsive, non-impulsive and continuous noise sources.
6. Considering all the turbines proposed as sources, tables and isopleths on maps showing the distances required for noise levels to decline to threshold criteria.
7. The use of animal density data to achieve a 95 percent confidence level. Ranges of mean estimates and covariance data are available ^{w9}.

Comment Number: BOEM-2021-0057-0050-54
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Contracts, Donations, Gifts, Services

It appears that the Atlantic Shores project, or its backers have been providing all of the above to persons and organizations on and off the Island. Again, in the interest of the public getting objective information and having confidence in sources, it should know whether any such information source might have ulterior motives. Therefore, the BOEM should require Atlantic shores, Shell New Energy and EDF renewables to provide a listing of such payments and make it public.

Comment Number: BOEM-2021-0057-0050-88

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The BOEM should dispense with scoring the impacts of the proposed action and alternatives as negligible, minor, moderate or major, and characterizing impacts that way in comparative tables and throughout the entire EIS. There are many reasons for ending this practice.

First, the NEPA regulations at §1502.14 call for a comparison of the “environmental impacts of the proposed action and the alternatives” in an EIS, not the agency’s view of their severity or benefit, which is more appropriate for the Record of Decision (ROD).

Second, a “scored” comparison Table is of no use to readers who want to get an overview of the actual impacts and draw their own conclusions. It actually makes it harder for the reader to make comparisons because it requires the reader to go to many places in lengthy draft or final EISs, including Appendices, and then to many references to find actual impacts, which destroys the very purpose of the summary comparative table.

Finally, and most important, this practice of scoring is jeopardizing the objectivity of the EIS. Once a judgement has been made as to severity, the discussion then supports that score, and whether done consciously or not, data and discussion are being presented selectively to do that.

For example, regarding visual impact, the Supplemental EIS(SEIS) for the Vineyard Wind 1 project acknowledges in Section 3.10.2.1 that the turbines used could be 837 feet tall, or 141 feet higher than the turbines previously assessed and that they will be more visible. But it still ranks this as a minor impact without any new justification and just refers back to the draft EIS.

However, the draft EIS discussion was based on visual renditions in the COP using smaller turbines, the Block Island wind farm, which is not relevant either in turbine size or number, and selected data from the University of Delaware study ^(v2) based on smaller turbines. None of this supports a minor impact conclusion for the larger turbines.

For the SEIS, the BOEM could have extracted impact information from University of Delaware study that is relevant to the larger turbines by selecting data for the smaller turbines at a closer in distance (10 miles) that is visually comparable to the larger turbines at the 14.7-mile Vineyard Wind distance. Had it done so it would have found a 14 percent tourist trip loss from Figure 5, which shore communities would not consider minor. But it did not present this.

It did not present the result of the North Carolina State University Study^(V3) which found that 54 percent of prior oceanfront and ocean view renters would not return even with a rent discount if turbines were in view, again something not minor. It did not present results from BOEM's own visual impact analysis^(V4) for New York State which concluded (for the similar Jones beach observation point scenario) that even smaller turbines, 577 feet high, would have a "dominant" visual impact, its worst visible ranking, at about the same distance as Vineyard Wind. It did not present the results of the report done for NJ by Global Insight, Inc.^{V1} which showed significant losses in property values.

The SEIS provided none of these adverse data, apparently driven by the need to prove that the effects were minor. This tendency occurs throughout the EIS for other impact factors as well, and it appears to be largely the result of attempting to justify the scorings. This is not the full disclosure, objective presentation required for an EIS, and is dangerous territory for an EIS preparer to enter.

Therefore, it is recommended that comparative tables and the presentation of impacts throughout the EIS dispense with the scorings. The comparative tables should present for each impact factor, the one or two most important impacts themselves, quantitatively wherever possible, using percentages to create a degree of proportion, and where numbers are not available and cannot be reasonably obtained, through a very brief qualitative description. Each cell in the Table should reference the reader to the supporting section in the EIS for more detail. Any judgments by the BOEM as to what is negligible, minor, moderate and major should be left to the Record of Decision.

Comment Number: BOEM-2021-0057-0050-90
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

EIS Length and Content

An EIS should provide [bold and italics: full] and fair discussion of [bold and italics: significant environmental impacts, §1502.1 and only [bold and italics: briefs] discussion of [bold and italics: [bold: other than significant issues] §1502.2. It should be concise, clear and to the point and supported by evidence that the agency has made the necessary environmental analysis, §1502.1. It should not be encyclopedic and shall be analytic and concise, §1502.2. It should be less than 150 pages or 300 for a project of unusual scope or complexity, §1502.7. It should inform federal decision making and the public, §1502.1. it should avoid useless bulk and concentrate effort and attention on important issues, §1502.15. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an EIS, §1502.15.

The EIS's being prepared for offshore wind projects are not meeting these criteria. The body of the EIS is far too long, and yet despite its length presents few significant environmental impacts. There is far too much presentation of background information, the affected environment, and insignificant impacts.

Comment Number: BOEM-2021-0057-0050-91
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Lack of Significant Impacts. The affected environment and environmental consequences sections are dominated by discussion of the affected environment i.e., the thing being impacted as opposed to an actual impact itself. Numbers appear when describing technical equipment to be used but very few quantitative environmental impacts are provided. Graphs and visual portrayal of impacts are missing.

When impacts are presented, it is very often in the form of qualitative conclusory statements as to the severity or the lack thereof of an impact, again the focus on scoring discussed above. Some of these conclusions are not supported at all. Some are purportedly supported by references to other documents, but on reading those documents they often are not relevant to the proposal and do not support the conclusion. In many cases mitigating measures or caveats regarding what the actual proposal will include are not pinned down so the actual environmental impact is further obscured.

Comment Number: BOEM-2021-0057-0050-92

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Emphasis on Insignificant Issues. There is too much focus in these EIS's on insignificant issues. For example, in the Vineyard Wind 1 final EIS comparison of alternatives Table on page ES-13, seventy five percent of the one hundred and twelve impact cells are rated as negligible or minor, only twenty five percent as moderate or major. That proportionality is reflected in the discussion in the EIS. The focus of the EIS should be predominantly on the latter, the former should be presented in one place and then dismissed, not repeated over and over. The focus on the negligible and minor also turns the document towards an advocacy one as opposed to a neutral one in terms of just presenting credible impact information.

Excessive Referencing. Throughout these EISs, the reader is referred to hundreds of references apparently for further information on impacts or to find support for the conclusions stated. But often these references just repeat the conclusion and/or provide no impact information relevant to the EIS proposal or alternatives. It is not the readers job to secure and sift through hundreds of technical documents and thousands of pages to try to ferret out relevant environmental impacts. [bold and italics: It is BOEM's job to do that, show that it has done the "necessary environmental analysis", and to present the relevant impact itself in the EIS proper.]

Taking the above characteristics together, the EISs being prepared descend more into a literature review, with virtually no presentation in them of significant environmental impacts. They are not useful to a serious decision-maker and unreadable and incomprehensible to the public.

Comment Number: BOEM-2021-0057-0050-93

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

First, the BOEM should adhere to the 150-page EIS body limit, using appendices as needed.

Second, it should separate out the affected environment and the environmental consequence sections so that the impacts themselves are distinct and clear. It should reduce the verbiage on the affected environment and enhance the presentation of the environmental consequences.

Third, it should discuss and dismiss insignificant issues in one place in the EIS and not repeat that discussion for every alternative. The rest of the EIS should focus on significant impacts.

Fourth, it should rely much less on referencing the reader to other studies. It should only reference a document after the BOEM has extracted a piece of relevant impact information from it and presented it in the body of the EIS, then it could reference the reader [**bold and italics: to a specific section of the study**] for further detail. When it does reference it should provide for direct web access to the document being referenced.

Fifth, it should provide much more quantitative impact information and make greater use of impact tables and graphs.

Finally, as mentioned above, it should avoid conclusory statements in the EIS as to what is minor, major etc. The BOEM need not fear presenting significant impacts, that is the very purpose of an EIS. Those conclusions can await the Record of Decision.

Comment Number: BOEM-2021-0057-0050-94

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

NEPA regulation 40 CFR §1502.24 requires that to the fullest extent possible draft environmental impact statements shall be integrated with other environmental reviews such as those under the Marine Mammal Protection Act (MMPA), the Historic Preservation Act in the Endangered Species Act (ESA).

As discussed above in section I.1 the impact of operational noise levels on endangered whales is a long-term continuing issue, more than 5 years at least, and the larger gearbox turbines require significant distance for noise levels to reduce to safe levels. Therefore, any incidental take authorizations must be done through an Incidental Take Regulation (ITR) and Letters of Authorization (LOA).

Under these conditions one mitigating measure and perhaps the only effective one will be the creation of turbine exclusion zones. This would directly affect the proposed project in terms of number of turbines and power level and potentially create conflict in terms of formulating reasonable proposed actions and alternatives in the EIS. Therefore, coordination of the EIS, ESA, and MMPA processes is especially important here.

Therefore, the BOEM should avail itself of preliminary ITR determinations regarding the means of effecting the least practical adverse impact under the ITR and associated LOA process, and preliminary biological opinions regarding reasonable and prudent measures and alternatives developed under the ESA consultation, prior to releasing the draft EIS.

Suggestions on how to do that and coordinate the EIS process with the ESA section 7 consultation and

with the MMPA ITR process are provided below.

Comment Number: BOEM-2021-0057-0050-97
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Endangered Species Act (ESA), Coordination with the EIS process.

With regard to the ESA and marine mammals, the BOEM should enter into an early consultation process pursuant to 50 CFR§402.11 with NMFS to secure the benefit of a preliminary biological opinion in formulating its proposed action for the draft EIS.

It should then proceed to submit the biological assessment (BA) to NMFS at least 30 days prior to release of the draft EIS so the draft EIS can inform the public as to whether the proposed action is likely to adversely affect the whales and whether a formal consultation will be pursued.

It is also recommended that the BOEM release the BA with the draft EIS, and assuming that a formal consultation is required, initiate it at that time. This will allow the BOEM and NMFS to have the benefit of public comment on the BA as the biological opinion is formed.

Comment Number: BOEM-2021-0057-0050-98
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Magnuson-Stevens Fishery Conservation and Management Act, Coordination with the EIS Process.

The consultation requirements of §305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 16 U.S.C. 1855(b)) provide that federal agencies must consult with the Secretary on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect essential fish habitat (EFH);

The process of satisfying the Federal agency consultation and response requirements of section 305(b)(2) and 305(b)(4)(B) of the MSA, and the EFH Conservation Recommendation requirement of section 305(b)(4)(A) of that Act generally consists of: 1) notification to NOAA Fisheries of a Federal action that may adversely affect EFH, 2) an EFH assessment provided to NOAA Fisheries, 3) EFH Conservation Recommendations provided by NOAA Fisheries to the Federal action agency, and 4) the Federal agency's response to NOAA Fisheries' EFH Conservation Recommendations.

Since the impacts of turbine operational noise may have long term impact on fish and their habitat (see I.15) and restrict the placement of turbines there and the scope of the proposed action, the EFH assessment should be provided to NOAA Fisheries before the release of the draft EIS so that at least preliminary NOAA conservation recommendations can be provided to the BOEM prior to the release of the draft EIS, and incorporated in the proposed action

Comment Number: BOEM-2021-0057-0051-11

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

The COP describes efforts by Atlantic Shores to engage tribes that claim cultural affiliation to the potentially affected area including: the Absentee-Shawnee Tribe of Indians of Oklahoma, Delaware Nation, Delaware Tribe of Indians, Mohican Nation Stockbridge-Munsee Band, Narragansett Indian Tribe, Shawnee Tribe and Shinnecock Indian Nation as well as the State-recognized Lenape Indian Tribe of Delaware, Nanticoke Lenni-Lenape Tribal Nation, Ramapough Lenape Indian Nation, Powhatan Renape Nation, and Unkechaug Nation.

EPA commends the consultation and engagement efforts by the Project proponent to date and we encourage continued outreach and involvement of tribes in evaluating terrestrial and marine archaeological resources, designing marine surveys, and interpreting results. We also recommend that tribes be invited to participate in the development of an unanticipated discovery plan (UDP) for offshore and onshore construction activities.

Comment Number: BOEM-2021-0057-0051-2

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

The construction and operation of the Project could result in a wide range of impacts to resources that are within EPA's areas of jurisdiction and expertise. The COP identifies many of the major environmental issues that should be fully examined during the NEPA process. Our scoping comments are offered to help BOEM develop a comprehensive EIS that identifies and discusses measures to avoid or mitigate impacts and informs project permitting that will follow the NEPA process. The enclosed detailed comments are also intended to be consistent with our ongoing work in the Region to support local communities and reduce environmental impacts.

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 during the development of the EIS. We 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. In particular, we encourage BOEM to take the necessary time to develop and present information in the draft EIS (DEIS) to fully describe existing conditions and to support a discussion of the likely impacts of each alternative. We appreciate BOEM's efforts to date to include our agency in meetings and discussions regarding the NEPA process for the project.

Thank you for the opportunity to provide scoping comments for the Project. We believe the issues identified below can be fully addressed in the NEPA process, and we are willing to work with your agency to develop a strategy to achieve that goal.

Comment Number: BOEM-2021-0057-0051-3
Organization: EPA
Commenter:
Commenter Type: Federal Agency

Comment Excerpt Text:

EPA relies on the information in the Atlantic Shores COP to inform technical comments provided during the scoping process. Therefore, any changes made to the COP may modify our assessment of potential impacts.

Should any updates be made to the COP, EPA recommends another opportunity to review the document and supply additional comments. For example, the COP indicates that Atlantic Shores is conducting a sitespecific sediment dispersion model that will estimate the spatial distribution, duration, plume dispersion and sediment deposition due to potential sediment-disturbing activities that may occur during construction, operations and maintenance (O&M), and decommissioning. As sediment suspension and deposition directly impacts a number of resource areas of concern, including benthic habitat and aquatic organisms of recreational and commercial importance, the results of these models will be particularly relevant in our review of environmental impacts.

Comment Number: BOEM-2021-0057-0052-22
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt 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 North Atlantic right whales and any dead, injured, or entangled marine mammals to NMFS or the Coast Guard as soon as possible and no later than the end of the Protected Species Observer shift.

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 accessible on a publicly available website.

Comment Number: BOEM-2021-0057-0052-8
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Oceana thanks you for the opportunity to submit scoping comments as your agency begins developing its Environmental Impact Statement (EIS) to evaluate options for wind energy development off the New Jersey coast. As you know, National Environmental Policy Act (NEPA) scoping is a critical early step in the EIS process, as it provides an opportunity for all interested stakeholders with a variety of perspectives

to help inform the process. It helps to "determine the scope of issues to be addressed in depth in the analysis," "identify concerns . . . and invite participation from affected entities," "define the alternatives that will be analyzed," and "identify the environmental issues that are pertinent to the proposed action." [Footnote 1: 40 C.F.R. § 1501.9; NOAA, , at 16 (January 13, 2017), <https://www.nepa.noaa.gov/docs/NOAA-NAO-216-6A-Companion-Manual-01132017.pdf>; , 297 F.3d 1012, 1022 (10th Cir. 2002).] A comprehensive and equitable scoping process is essential for identifying the "reasonable range" of alternatives that must be evaluated in the EIS process to address the purpose and need of proposed agency action.[Footnote 2:40 C.F.R. § 1502.14.] Those reasonable alternatives must be rigorously explored and objectively evaluated. Each alternative must be "considered in detail...so that reviewers may evaluate their comparative merits." [Footnote 3: 40 C.F.R. § 1502.14(b).] "What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case." [Footnote 4: Council on Environmental Quality, (Mar. 23, 1981), <https://energy.gov/sites/prod/files/G-CEQ-40Questions.pdf>.] As one court stated, the agency "must look at every reasonable alternative within the range dictated by the nature and scope of the proposal. The existence of reasonable but unexamined alternatives renders an EIS inadequate." [Footnote 5: 464 F.3d 1083, 1095 (9th Cir. 2006).]

Comment Number: BOEM-2021-0057-0052-9
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

To ensure that the projects are developed in a responsible manner BOEM must confirm that the project complies with existing laws, including the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), and the Magnuson Stevens 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-2021-0057-0056-2
Commenter: J Clark
Commenter Type: Individual
Other Sections: 27

Comment Excerpt Text:

This whole project seems to have been done under the radar and without any comment from the public until it was almost a done deal. No discussion or input was had from the southern New Jersey residents whose lives, property, enjoyment of life, and natural resources in the form of marine life will be irreparably harmed

Comment Number: BOEM-2021-0057-0085-5
Commenter: L Stevens
Commenter Type: Individual

Comment Excerpt Text:

Clearly wind power needs to be developed to minimize impact to wildlife and to preserve nature, and the environmental impact statement should include best available science, including learning best practices from the European offshore wind farms. In the US, the Audubon Society has endorsed wind power. I've spoken to a fisheries academic expert who noted that the submerged base of the wind turbines can act as artificial reefs and new habitats for fish and other marine life. Rutgers and other marine experts should facilitate the best available science for this environmental impact statement. Several fishermen at the 10/25 session spoke up in favor of offshore wind. They are in favor due to the reductions in GHG and other pollution.

Comment Number: BOEM-2021-0057-0099-1

Organization: National Wildlife Federation, NJ Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We commend BOEM for initiating review of the Atlantic Shores projects and comment to underscore our support for a rigorous analysis of their potential impacts. As BOEM moves to prepare an EIS, we urge you to be both thorough and expeditious, to consult with expert stakeholders, and to recognize the importance of this stage in ensuring the long-term success of responsible and equitable development of offshore wind power for New Jersey and the region.

We appreciate BOEM's partnership in the pursuit of responsible offshore wind power development and look forward to working with you in the months and years ahead to help this critical clean energy solution reach its full potential.

Comment Number: BOEM-2021-0057-0104-4

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Integrating the conservation of natural resources and protection of biodiversity into all phases of OSW development is essential and urgent to avoid extinction of at-risk species and irreversible collapse of marine and coastal ecosystems. The responsible development framework[Footnote 9: American Wind Energy Association (AWEA). (2020, Mar). U.S. Offshore Wind Power Economic Impact Assessment] ensures successful attainment of national OSW goals without further endangering marine, nearshore, coastal, and terrestrial habitats and wildlife, cultural resources, and communities during OSW development.

Comment Number: BOEM-2021-0057-0105-10

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 20

Comment Excerpt Text:

The Scale of the Spatial and Temporal Impacts Analysis Should be Defined in the EIS and Should Support Agency Decisions with Regard to This Project That Aggressively Protect Biodiversity in the Mid-Atlantic Bight, Inclusive of the New York Bight.

The relatively recent repeal of a definition specific to “cumulative” impacts in the NEPA regulations at 40 CFR §1508.1 does not relieve BOEM of its obligation to make a plan for the appropriate consideration of cumulative impacts or to define the proper scale for those considerations during the scoping phase for the Atlantic Shores project or other offshore wind projects. In fact, albeit more cumbersome than the longstanding original definition of cumulative impact in the regulations, a plain reading of the new “effects” definition requires the same comprehensive cumulative impacts analysis. [Footnote 6: The term effects or impacts used in the September 2020 revisions to the NEPA regulations at 40 CFR 1508.1(g) may include effects that are later in time or farther removed in distance from the proposed action or alternatives.” (Emphasis added). The term effects also is specifically meant to include effects on natural resources and the “functioning of affected ecosystems.” See 40 CFR 1508.1 (g)(1). The term also means “comprehensively the natural and physical environment and the relationship of present and future generations of Americans with that environment.” 40 CFR 1508.1(m).]

Identifying the appropriate scale for the assessment of impacts and benefits is so important because it guides the public, this project applicant and future project applicants in the submission of the most relevant data and information to avoid impacts in the first instance. Ideally, the scale for cumulative impacts assessment would be defined by BOEM prior to the lease sales in a specific Wind Energy Area. Without a definition of scale earlier in the process the reference points used in the Construction and Operations Plans to evaluate likelihood of impacts, and perhaps even in the EIS, are quite varied. For example, when Atlantic Shores evaluates the potential habitat benefits associated with imposing hardened structures in a mostly sand, flat bottom habitat it describes the anticipated benefits relative to the Mid-Atlantic Bight. [Footnote 7: The Mid-Atlantic Bight extends from Cape Hatteras, North Carolina, north to Cape Cod, Massachusetts. The New York Bight refers to the coastal area between Long Island and the New Jersey coast and it is part of the larger geographical area referred to as the Mid-Atlantic Bight.] See COP, Vol. II, p. 4-149 (“Foundations can create a ‘reef effect’ providing ecological benefits and habitat diversity in the Mid-Atlantic Bight.”) (Emphasis added). However, for example when the COP addresses potential project-related impacts to the Atlantic sturgeon it concludes little to no impacts by reference to the Offshore Project Area and not the New York or Mid-Atlantic Bights. See COP, Vol. II, p. 4-128 (there are “no spawning areas or Federally regulated Critical Habitat for Atlantic sturgeon overlap with the Offshore Project Area (NOAA 2020b). Therefore, no eggs or larvae of Atlantic sturgeon are expected to be present in the Offshore Project Area. Seasonal migratory patterns allow the potential for juvenile and/or adult Atlantic sturgeon to be present in the Offshore Project Area. However, they are not expected to be a regular visitor or occupant in large numbers.”). (Emphasis added). BOEM’s identification of the preferred project alternative in an environmental impact statement context should be based on more than just considerations of the specific project related impacts and benefits in a defined project area.

Comment Number: BOEM-2021-0057-0105-17

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 20

Comment Excerpt Text:

The 1993 CEQ Biodiversity Considerations Report also emphasized that determining the appropriate

scale for impacts assessment is the most important step in effectively using an ecosystem approach, and the scoping stage is the best point to set the scale of the assessment. An impact assessment that includes only the project footprint will be too narrow and will not allow for appropriate consideration of ecosystem wide impacts in the WEA and adjacent WEAs. For this reason, the EIS should address the appropriateness and relative importance of the selected scale to which impacts are being assessed and do so in terms of temporal and spatial stressors and receptors. The Conservancy recommends that the geographic scale selected be aligned with the scale of the ecosystem impacted by the project and the scale of the systems necessary to support the biodiversity of the regional ecosystem.

Offshore wind development is taking place in an environment where the full range of habitat and species vulnerabilities to continuous, repetitive and long-lasting effects associated with construction and operation is not yet fully understood. In this vein, it is important to note that the biodiversity crisis has only worsened since the CEQ looked at this issue in 1993. In fact, the Intergovernmental Science-Policy Platform on Biodiversity & Ecosystem Services (IPBES) recently reports that nature is deteriorating at an unprecedented scale and that biodiversity and climate change must be addresses together as two tightly interconnected issues. [Footnote 9: IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 1148 pages. <https://doi.org/10.5281/zenodo.383167>] It is prudent therefore to recognize that other offshore wind construction and operational activities in locations nearby the Atlantic Shores project could result in additive effects on habitat and species, especially migratory species, such that the scope of those effects should be fully evaluated. The identification of best mitigation measures and practices during and after construction activities, is dependent on evaluation of the most current and complete data, and should take into account the potential cumulative impacts of continuous and simultaneous development activity

This is especially the case with respect to pile driving noise, operational noise associated with WTG design, and the incorporation of nature-based designs into project elements.

In its prior comments, the Conservancy has pointed to several relevant papers that describe the challenges and possible approaches to offshore wind cumulative impact analysis.

Comment Number: BOEM-2021-0057-0105-3
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 2

Comment Excerpt Text:

1) BOEM should reconsider the sole reliance on the Project Design Envelope (PDE) approach for reviewing COPs; 2) BOEM should individually evaluate each foundation technology identified as viable by the project applicant as a reasonable alternative in the EIS and the best alternative should be selected as the preferred alternative;

Comment Number: BOEM-2021-0057-0105-8
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 21

Comment Excerpt Text:

BOEM’s January 2018 Guidance Regarding How it Reviews the PDE for COPs Should be Reevaluated.

BOEM’s approach to the review of the PDE should allow it to provide direction and articulate preferences for specific foundation-types, installation methods and mitigation approaches so that our collective understanding of impacts associated with these varied approaches evolves.

Through its guidance in 2018, BOEM reinforced a project review approach that allows a permit application to describe a reasonable range of project designs, referred to as the PDE approach. While the PDE approach is described as a voluntary option for project applicants, all project applicants to date have relied on the PDE approach for NEPA review. This is because the PDE approach allows a project applicant to identify a range of designs within a single permit application without committing up front to one specific design during construction. As long as BOEM analyzes the maximum impacts that could occur from any of the proposed designs, and as long as the project is ultimately constructed within that approved range of impacts, any approach proposed in the COP is allowed.

While the Conservancy recognizes the need to provide project applicants with flexibility, especially given the challenging construction environment the ocean presents, evaluation of only the maximum impacts that could occur within the PDE misses the opportunity to identify preferred available technologies that will be less impactful and perhaps even more cost-effective (assuming cost of mitigation and related permit conditions are calculated and factored into project costs). Identification of available technologies is one of the regulatory approaches that ensures an equal economic playing field among competitors while also allowing for a more comprehensive means of reducing cumulative impacts. For example, the technology standards set by the federal Clean Air Act and the federal Clean Water Act reflect economic availability, technological feasibility, and the ability of a particular technology to achieve reductions that are necessary to achieve cumulative benefits in either air quality or water quality while also preventing immediate harms. A full evaluation of the impacts and benefits associated with each of the technologies proposed within the PDE is important if we are to improve long-term outcomes for the offshore wind industry and the ocean environment.

Comment Number: BOEM-2021-0057-0105-9

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 2

Comment Excerpt Text:

Each Foundation Technology Identified as Viable in the COP Should be Evaluated Individually by BOEM as a Reasonable Alternative and the Best Technology Should be Selected as Part of the Preferred Alternative in the EIS.

The Conservancy has consistently recommended that while the PDE approach seems valid for factors such as considering the view-scape impacts associated with the largest possible turbine height, the PDE approach does not allow for effective evaluation of impacts and benefits associated with different foundation types consistently offered by project developers as within the “reasonable range” of designs within the PDE (i.e., gravity-based, suction bucket, and monopile foundations). The Conservancy recommends again that with respect to proposed foundation types, BOEM evaluate each foundation type and/or combination foundation types as separate reasonable alternatives in the EIS, inclusive of anticipated permit conditions.

Anticipated environmental impacts and the effect on corresponding permit conditions should be specified for each option, particularly concerning steps necessary to minimize and mitigate impacts. The scope of each alternative should evaluate how the project may impact benthic habitats in the project area and consider, for example, how Nature-Based Design of scour protection and cable mattresses might potentially provide benthic/fishery habitat mitigation and enhancement opportunities, necessary mitigation for marine mammals, marine life and benthic habitat, and other operational permit conditions relative to each alternative. Structuring the EIS in this manner is critical to identifying and fully understanding the benefits and impacts associated with each foundation type. In order to transition from an offshore wind industry that routinely selects monopiles as the standard foundation to an industry that completely avoids pile driving noise impacts during installation, then project applicants' determinations that gravity-based and suction bucket foundations are reasonably available and viable options must also be translated by BOEM into alternatives that clearly spell out the varying applicable permit conditions so that project complexity, costs and viability are more assessable by the project applicants and the public. For example, projects that do not require pile driving may not be constrained by permit conditions aimed at minimizing and mitigating pile driving noise, such as seasonal or daily construction windows, exclusion zones, and expensive noise mitigation techniques. It is important to illuminate these distinctions as early as possible for this project, and to inform other developers that are still factoring the cost/benefit of various types of alternative quiet foundation types for other projects, including, but not limited to, the projects anticipated to occur within the existing and pending lease areas in the Mid-Atlantic Bight.

It is incumbent on BOEM to utilize the NEPA process in a way that directs developers to design their projects in the first instance to avoid environmental impacts by selecting the best foundation and turbine types for avoiding those impacts. Selecting design options that avoid impacts in the first instance is without question the primary objective of the mitigation hierarchy and then, only after all reasonably available options for avoiding impacts have been employed, do the "minimizing" and then "mitigating" impacts come into frame. Avoiding exposure of marine wildlife to pile driving noise unequivocally represents the best practice. BOEM affirmatively determining that an alternative that uses a foundation design other than monopiles is the preferred alternative is also one way to achieve minimization of cumulative impacts from pile driving activities associated with multiple projects that may overlap both temporally and spatially.

More in-depth analysis of the foundation types coupled with an indication of preference in the context of BOEM's COP review will also inform the appropriate hierarchy of decision-making relative to technology determinations and acceptable environmental impacts for offshore wind projects. [Footnote 1: It is of equal importance that coastal states' consistency review determinations pursuant to their respective Coastal Zone Management programs align with the NEPA review process in a way that adds to the fulsome assessment of offshore wind projects with the potential to impact and benefit states' coastal resources and uses. To this end, a project applicant's consistency certification should not be forwarded to a coastal state for a determination until BOEM issues a draft EIS that defines the scale and scope of the environmental assessment.] Without an option for BOEM to steer the project applicant toward preferred foundation and turbine types in the NEPA process, the specifics of each project's design can easily and rather concretely be determined outside and prior to the NEPA environmental review process entirely. This already may be the case for this project.

Atlantic Shores represents in its COP that it conducted "an extensive evaluation of all viable foundation types." (Emphasis added). [Footnote 2: COP Vol. II at p. 2-18] Atlantic Shores' evaluation was comprehensive, considering technical and logistical considerations, economic viability and market availability, as well as seafloor and other siting characteristics. Specifically, Atlantic Shores did not include foundation types in the PDE, including floating foundations, that it considered not technically mature or which were not expected to be commercially available in time for the projects' expected

development schedules. [Footnote 3: COP at Vol. I p. 3-16] Because the PDE approach allows the project applicant the option to submit a “reasonable” range of design parameters within its permit application, it follows that Atlantic Shores proposed the use of only foundation types that it considered to be reasonably available and economically viable. Atlantic Shores represents to BOEM that Wind Turbine Generators (WTGs) and offshore substation foundations could consist of either gravity-based jackets, suction buckets or monopiles – that any one of these options is equally available and economically viable.

But it is clear that Atlantic Shores indicated to the New Jersey Board of Public Utilities (NJ BPU) commitments for a specific foundation type. Atlantic Shores has already agreed to purchase monopiles from New Jersey based suppliers and to use a new monopile fabrication facility at the Port of Paulsboro. [Footnote 4: June 30, 2021 Order In the Matter of the New Jersey Board of Public Utilities Offshore Wind Solicitation 2 for 1,200 to 2,400 MW Atlantic Shores Offshore Wind Project 1, LLC, Docket No. QO21050824 (Agenda Item: 8A-1) at p. 18.] While reference to the term “monopiles” may not always translate to foundation type and corresponding need for pile driving, in this case it appears that it does. [Footnote 5: Id. at p. 17 (making reference to Atlantic Shores’ commitment to “minimize acoustical impacts to marine mammals, sea turtles, and fisheries, [by] implement[ing] “soft starts” and explor[ing] the use of various sound attenuation technologies for use during construction); see also, id. at p. 18 (referring to EEW American Offshores Structure, Inc.’s “proposal for foundation supply sent to Atlantic Shores.”).] Atlantic Shores financial assurances to the NJ BPU to purchase locally fabricated monopiles suggests a fait accompli with respect to the foundation types to be used for this project – and one that is completely outside of the federal environmental review process. If Atlantic Shores has already made contractual commitments with suppliers to use monopile foundations and BOEM can only review maximum impacts in a PDE approach, then state public utility commissions and boards and private contractual arrangements between the project applicant and local suppliers and not BOEM are determining the best practices and setting the technology standards for the offshore wind industry as a whole.

Comment Number: BOEM-2021-0057-0107-1

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

The pace and number of offshore wind projects in development in our region pose challenges for thorough analysis of potential impacts, informed public input, and adopting lessons learned from each project. Fifteen leased areas are in the COP development and review phase, 3 lease areas are in the site assessment phase, and multiple additional areas in the New York Bight are planned to be leased soon. Eight projects, including this one, entered the EIS development phase through issuance of NOIs since March 2021, and the NOI for Mayflower Wind publishes today. In October, BOEM announced plans to hold up to seven additional new offshore lease sales by 2025, including in the Central Atlantic (2023) and Gulf of Maine (2024). Consulting and coordinating on these projects are already taxing available resources in the fishing, fishery management, and fishery science communities, and we expect at BOEM as well. Consistency in approaches, while adopting lessons learned from one project to the next will benefit stakeholders who engage in the review process for these complex projects.

In addition to the challenges posed by multiple projects, Atlantic Shores raises unique questions because it is two separate projects. The EIS should describe how BOEM’s process for this project may differ from the standard process given two electrically distinct projects are proposed through one COP. The COP

indicates a desire for Project 2 to be constructed immediately after Project 1. Permit issuance, terms and conditions, and mitigation measures identified via the federal consistency process should be adaptive such that lessons learned during Project 1 can be adopted and applied to Project 2, especially in terms of minimizing negative impacts to marine habitats and existing uses such as commercial and recreational fisheries.

Comment Number: BOEM-2021-0057-0107-19

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 12 8

Comment Excerpt Text:

Through modeling work, the physical presence of turbines has been estimated to alter the near- surface and near-bottom temperatures, and thus, habitat conditions for marine species, as well as juvenile transport of commercially important species like sea scallop. [Footnote 9:

[https://s3.amazonaws.com/nefmc.org/Doc.14.a-](https://s3.amazonaws.com/nefmc.org/Doc.14.a-UMASSD_WHOI_short_report_05_6_12_2021_revison.pdf)

[UMASSD_WHOI_short_report_05_6_12_2021_revison.pdf](https://s3.amazonaws.com/nefmc.org/Doc.14.a-UMASSD_WHOI_short_report_05_6_12_2021_revison.pdf)] The EIS should acknowledge both the individual's project potential to materially affect oceanographic and hydrodynamic conditions based on ongoing research efforts and the project's contribution to cumulative effects from development of several wind farms on a regional scale. The EIS should also utilize the findings from ongoing research funded by BOEM in its impact assessment to understand how wind energy facilities will likely affect local and regional physical oceanographic processes.

Potential impacts to the Mid-Atlantic Cold Pool and resulting impacts on fishery species are of concern to the Councils and other fishery stakeholders. This is also an area of ongoing research. [Footnote 10: For example, two recent reports on potential impacts of offshore wind energy development on the Cold Pool which do not appear to be referenced in the draft EA are available at the following links:

<https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf>;

https://rucool.marine.rutgers.edu/wp-content/uploads/2020/10/PartnersWorkshop_WhitePaper_Final.pdf]

The EIS should clearly document what is known about potential impacts to the Cold Pool and resulting potential impacts to marine species and fisheries. The EIS should acknowledge data gaps and ongoing research and should consider potential impacts resulting from this project, as well as cumulative impacts from all planned wind energy projects in the Mid-Atlantic. We appreciate that the COP acknowledged this as an issue of concern and an area of ongoing research.

Comment Number: BOEM-2021-0057-0107-2

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 8

Comment Excerpt Text:

The PDF "posters" in the online virtual page [Footnote 2: <https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-scoping-virtual-meetings>] are very valuable for providing a summary of the project at a glance in a more easily accessible format than searching for the relevant sections of the over

900-page COP (not including appendices). We appreciate that posters on commercial fishing were included. Posters on recreational fishing should have also been provided as these project areas overlap with important recreational fishing areas, as described in the COP. We recommend consistency in the information provided in these posters across projects and we recommend that posters on both commercial and recreational fishing be provided moving forward.

Comment Number: BOEM-2021-0057-0107-3

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt 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. In addition, both magnitude and direction of impacts should be specified when characterizing impacts and the EIS should define short and long term in the context of impacts.

We understand that BOEM regulations allow offshore wind project developers to revise their COPs throughout the environmental review process. Volume 2 of the Atlantic Shores COP states that a revised Volume 2 and all associated appendices, including the Affected Environment, providing additional details on the differentiation between Projects 1 and 2, will be provided to BOEM in December 2021. It is unclear when this revised document will be available to the public. This poses significant challenges for stakeholders and partner agencies to understand and provide input on the likely impacts of the project.

Comment Number: BOEM-2021-0057-0107-4

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 21

Comment Excerpt Text:

We understand that the final project design must fall within the analyzed project design envelope. The project design envelope approach is logical given the time needed to complete environmental review and continuous advances in technology. However, as described in more detail in later sections of this letter, we are concerned that allowing flexibility in final project design has resulted in too wide of a design envelope for this COP and uncertainty in the actual impacts of the project. To address these concerns, we request that BOEM publicly announce whenever a COP has been revised and include a list of the specific changes. We also recommend that the EIS consider a narrower design envelope than that described in the COP based on developments that will likely occur between the drafting of the COP and the EIS (e.g., phasing out of smaller turbine sizes and decisions regarding cable corridor locations, foundation types, and the number and size of offshore substations).

Comment Number: BOEM-2021-0057-0107-7

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 12

Comment Excerpt 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. 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).

The EIS should clearly and repeatedly acknowledge the limitations of each data set, should include recent data, and analyze multiple years of data (e.g., 10 years) to capture variations in fisheries and environmental conditions. Important data limitations, including but not limited to the location of private recreational fishing effort, should be supplemented with stakeholder input.

Important caveats regarding fisheries data for 2020 should be taken into consideration given most commercial and recreational fisheries were severely impacted by the COVID-19 pandemic (e.g., severely reduced market demand, lower prices, social distancing restrictions, and reduced fishing effort for many species). Important data collection programs were also negatively impacted (commercial fishery discard surveys, shore-side recreational catch sampling, and for- hire sampling).

Comment Number: BOEM-2021-0057-0111-1

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

1. ADDITIONAL TIME FOR PUBLIC COMMENTS: I urge BOEM to extend the time for public comments before the COP EIS process continues further. This request was made by at least one commenter during the virtual public scoping meetings and I seconded/joined in that request. For Projects of this magnitude the 30 day period is not sufficient and valuable input of community stakeholders and concerned citizens is not possible absent additional time

Comment Number: BOEM-2021-0057-0111-11

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

12. ADDITIONAL INFORMATION MUST BE ACCESSIBLE TO CITIZENS AND COMMUNITY STAKEHOLDERS CONCERNING THE RESPECTIVE ROLES AND RESPONSIBILITIES OF THE VARIOUS GOVERNMENT AGENCIES: I urge BOEM to provide clear delineation of roles and responsibilities as between federal and state goals and interests. While soundbites of “partnering” are seemingly positive, it leaves confusion as to whether state interests are being protected. Specifically, state officials must be actively engaged in the protection of our beaches and coastline. If the fervor of the Governor’s pronouncements and the economic interests created through funding initiatives interfere with

the duty to protect our ocean, beaches, coastline, and seascape then those interests must be guarded by citizens and community stakeholders. The necessity of such involvement is underscored by combative rhetoric of certain speakers in public comments. Our ocean, beaches, coastline, and seascape are public treasures to be protected. A comprehensive and thoughtful analysis, not the financial interest of the operator of the Projects or the special interest groups drawn in with promises, must guide the process so our public treasure of our pristine and fragile barrier island are not sacrificed without careful consideration.

Comment Number: BOEM-2021-0057-0111-12

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

13. IN EACH OF THE ABOVE COMMENTS I URGE BOEM TO EXTEND THE PROCESS AND CONSIDER FURTHER BEFORE THE COP EIS PROCESS CONTINUES BUT, ALTERNATIVELY, I SUBMIT EACH OF THE ABOVE COMMENTS FOR CONSIDERATION IN THE EIS PROCESS AND RESPECTFULLY REQUEST ADDITIONAL TIME FOR FURTHER COMMENTS.

Comment Number: BOEM-2021-0057-0111-2

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

2. ADDITIONAL PUBLIC MEETINGS: I urge BOEM to schedule additional public meetings before the COP EIS process continues further. As included in my comments during the public meeting on October 25, the virtual public scoping meetings were not scheduled and noticed to give sufficient opportunity for many interested citizens and stakeholders. Specifically, the virtual meetings were conducted at 1:00 p.m. and 5:00 p.m., times which are inconsistent with traditional work schedules and family commitments. Furthermore, virtual meetings are a poor substitute for in-person public meetings. As of the date of the NOI (September 30, 2021), COVID protocols had eased for many public meetings and prior concerns which may have justified virtual meetings had eased. Thus, scheduling of only virtual meetings in the NOI could have been otherwise. I request disclosure of any communications which reveal any strategic purpose of having only virtual meetings. Traditional public in-person meetings at customary evening sessions should have been conducted, particularly for Projects of this scope and significance. Transparency and heightened dialogue of traditional in-person public meetings was sacrificed and the orchestrated presentations and participation of special interest groups inhibited the mandated public involvement in the process. If there are current BOEM rules, notifications or protocols addressing the transition from in-person to virtual public meetings, I request references to those sources.

Comment Number: BOEM-2021-0057-0111-7

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

8. ADDITIONAL STUDY OF ALTERNATIVE LOCATIONS MUST BE FULLY EXPLORED AND DISCLOSED: I urge BOEM to fully explore and evaluate, subject to public comments and independent

analysis, all possible alternative locations. As noted elsewhere, the transparency of the competitive lease process and various assignments of interest should be fully disclosed. To the extent the Lease Area for the Projects was selected without a complete and extensive analysis, the designation of the lease area must be reevaluated. Moreover, if technology changes since the designation of the lease area increase negative impact, there is further reason to reevaluate. In addition, for purpose of comment here, I also join in the detailed comments submitted by the Coalition for Wind Without Impact citizen group including the suggestion of alternative locations.

Comment Number: BOEM-2021-0057-0112-3
Organization: New York State Department of State
Commenter: Kisah Santiago-Martinez
Commenter Type: State Agency

Comment Excerpt Text:

Documentation and evaluation of outreach to New York communities and affected stakeholders, including fishermen, ports, the State's Port Authorities, shore-side support industries, and the Harbor and River navigation safety committees. [Footnote 4: The Harbor Safety, Navigation and Operations Committee (Harbor Ops Committee) generally meets monthly, additional information at <https://nymaritime.org/harbor-safety-navigation-and-operations/>. The Hudson River Safety Navigation and Operations Committee (HRSNOC) generally meets quarterly, contact the sitting chair Captain Ian Corcoran for additional information (Icorcoran@sandyhookpilots.com).] Public outreach and stakeholder engagement is necessary to properly inform the EIS and future phases of construction and operation. The EIS should consider the need for:

- a. A comprehensive mariner communication plan that addresses all phases of the Projects' development, from pre-construction surveys to decommissioning, to ensure sufficient outreach and engagement.
 - b. An adaptive management plan and strategy for ongoing citizen participation: Community involvement throughout construction, operation, and decommissioning is essential for co-existence with existing maritime industries to be realized, particularly in environmental justice areas and disadvantaged communities.
-

Comment Number: BOEM-2021-0057-0114-10
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

BOEM Must Work Closely with Cooperating Agencies for the EIS

Comment Number: BOEM-2021-0057-0114-12
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

BOEM Must Prepare a Programmatic EIS Including All Atlantic Leasing Activities

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 opportunities. [Bold: 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-2021-0057-0114-14
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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 the earliest projects (Vineyard Wind 1, South Fork, and Ocean Wind 1) BOEM's NEPA review focused 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 combined analysis for Phase 1 and 2 (both with PPAs) of Empire Wind. For this Atlantic Shores NOI and for Vineyard Wind South, BOEM has merged EISs for one phase with a PPA and a later phase that will, ambiguously, provide some more energy. 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-2021-0057-0114-36
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

OSW-related activities, which have not undergone mandatory environmental review, are already occurring in the lease area where the Atlantic Shores project and others are proposed. These activities must be considered, analyzed, and authorized under appropriate NEPA practices including a Programmatic EIS.

Comment Number: BOEM-2021-0057-0116-2
Organization: NextEra Energy MidAtlantic Holdings, LLC
Commenter:
Commenter Type: Other
Other Sections: 2.2

Comment Excerpt Text:

however, BPU also stated in the June 2021 Order that they would consider alternative transmission solutions to interconnect the ASOW and Ocean Wind 2 projects, and on August 31, 2021, PJM updated its competitive transmission window to accept transmission proposals that would offer an alternative way to interconnect the ASOW and Ocean Wind 2 projects. [Footnote 6: See PJM RTEP – 2021 NJ Offshore Wind SAA Transmission Proposal Window Overview (8/31/21 update)] PJM officially closed the window on September 17, 2021. As outlined in the filing with FERC, PJM expects to make a final recommendation on the selected project between February 2022 and September 2022. [Footnote 7: See Order Accepting Study Agreement, FERC Docket No. ER21-689-000 at 3 (issued on 2/16/21)]

Considerations for ASOW COP

NEETMA agrees with BPU that a more effective transmission solution can be attained when trying to achieve New Jersey’s 7,500 MW offshore wind goal. In response to BPU and PJM’s request for alternative transmission solutions to connect offshore wind to New Jersey, thirteen entities submitted a total of 79 bids in response to the SAA, including NEETMA. For example, the estimated gen-tie lengths for both the ASOW and Ocean Wind 2 projects are estimated to be a total of 147 miles of new routes. [Footnote 8: NEETMA estimates approximately 110 miles for the Ocean Wind 2 connection to Smithburg, and 37 miles for ASOW Project 1 according to the ASOW COP.] Alternatively, NEETMA has proposed an option that will reduce the required miles of right-of-way needed to interconnect the ASOW and Ocean Wind 2 projects by almost 70%. This means fewer environmental impacts, and a more cost-effective project. Considering this, NEETMA respectfully suggests that BOEM confer with BPU prior to any definitive action on ASOW’s COP.

Further, if BPU decides to select an alternative transmission project to move forward, BOEM should consider how the ASOW EIS would incorporate the transmission alternatives so that the National Environmental Policy Act (“NEPA”) process for both ASOW’s COP and the alternative transmission projects’ general activities plan (“GAP”) would be coordinated and not be delayed. At this time, it is not clear how the coordination/interaction of a GAP and an offshore wind COP would interact with each other; therefore, BOEM should provide guidance on how this could be achieved. Addressing this interaction will be key in efficient siting of infrastructure and in helping to ensure minimization of environmental and natural resources are protected as states move forward with both transmission and offshore wind development.

Comment Number: BOEM-2021-0057-0117-1

Commenter: Maureen Keating

Commenter Type: Individual

Other Sections: 2.3

Comment Excerpt Text:

Opposed as currently written and proposed (specifically distance- placement is too close to NJ shoreline, timeline, process related to community disclosure/involvement)- thank you: For transparency and since stated a few times on the 10/25/21 evening's public call requesting BOEM team clarification: Was there or will there be clarification/ a basic fact sheet for publication in appropriate news outlets to afford the public/residents understanding re the key facts/processes, research, timelines to date and allow appropriate response time re: impact and how the location of 8.7 to 9 mi off the coast of LBI was chosen (vs the noted 29 to 30 + mile minimum mentioned numerous times during the call/transcript, as is in place in Europe- understood that there is significant research available as to the benefit for further off shore placement of turbines, that would also afford the local/union's jobs economy boost- which all support-

although, there was also loss of business concerns raised by business owners re: placement-why less than 9 miles off the coast of a barrier island/LBI was chosen vs more open seas (like Europe/research) and preserve the wild life as was repeatedly noted in comments/research;

Comment Number: BOEM-2021-0057-0117-6

Commenter: Maureen Keating

Commenter Type: Individual

Comment Excerpt Text:

how the meetings for public information, timeline and comment were/will be communicated/publicized - other than once or twice general topic noted in the (Sandpaper) local paper over the past few years; and lastly how will the next steps and as noted numerous times in the public meeting transcript -the respectful request for appropriate extension and notification of Long Beach Island residents and disclosure to sister communities with potential impact re: all proposed phases-ie. Seagirt, Monmouth, re: overall phased project/cabing landfall etc, tax payer associations, business owners, fishing community, re: opportunity for public comment be thoroughly communicated (realistically- folks do not read the federal register routinely or possibly know how to access it, for review/comment). Group needed/requested more convincing detail re: impact to wildlife and NJ seascape-sounded like there was still significant negative impact in relation to the current proposal/current leases/location- residents/taxpayers respectfully deserve transparency re: the facts. The comment on the call re: not hearing anything substantial/re: call to action/comment and inconvenience of any available public mtg/forum scheduled midday or close of business re: this multi year/impactful topic with "leases presented as done deals/awards" over multiple meetings mentioned, was a common comment thread that needs to be addressed.

Comment Number: BOEM-2021-0057-0119-100

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

We expect that BOEM will apply collision risk models (CRMs) to evaluate avian impacts from Atlantic Shores. While limited, CRMs are one of the only tools available to hypothesize potential impacts to birds from collision in the offshore environment. As such, CRMs provide a mechanism for testing outcomes (e.g., observed collision rates) against the model predictions (e.g., expected collision rates), and BOEM must address the need to collect the data necessary to test these hypotheses. We appreciate how BOEM addressed our concerns in the Final EIS for Vineyard Wind 1 and reiterate our expectation that BOEM's collision risk analysis in the Draft EIS be complete and transparent.

The Draft EIS should include a CRM-driven analysis for all species of conservation obligation which may occur within 20 km of the Atlantic Shores footprint and for which a current CRM would be appropriate, even if the species has not been documented within the footprint of Atlantic Shores This should include a recent stochastic derivation of the Band model, such as the McGregor (2018) [Footnote 277: McGregor RM, King S, Donovan CR, Caneco B, Webb A. 2018. A Stochastic Collision Risk Model for Seabirds in Flight:61. <https://tethys.pnnl.gov/sites/default/files/publications/McGregor-2018-Stochastic.pdf>] version.

BOEM must be transparent in its CRM application. These models are extremely sensitive to the input parameters. A study by Cook et al. (2014) found that estimations of avoidance and collision risk from Band models were highly sensitive to the flux rate (total number of birds passing through the wind farm), corpse detection rate, rotor speed, and bird speed. Factors such as weather (i.e. wind speed and visibility) and habitat use would also affect the accuracy of these estimates, as such factors would greatly influence avian flight patterns and behavior [Footnote 278: Cook ASCP, Humphreys EM, Masden EA, Burton NHK. 2014. The Avoidance Rates of Collision Between Birds and Offshore Turbines. *Scottish Marine and Freshwater Science* 5:263]. Therefore, the Draft EIS must provide the inputs used in its analysis for public comment and transparency. Providing CRM results without transparency to the inputs and analytical process would never be acceptable from a scientific perspective and, therefore, should not be acceptable from BOEM. Providing inputs would show whether BOEM followed the guidance provided by Band in assessing collision risk. These details regarding inputs should include, but not be limited to, avoidance behavior, flight height, flight activity, flux rate, corpse detection rate, rotor speed, bird speed, and collision risk.

Additionally, CRMs should consider differences in daytime and nighttime flight patterns. As Band himself stipulates:

"For some species typical flight heights are dependent on the season, and in such a case it will be best to use seasonally dependent typical flight heights in assessing collision risk for each month, rather than average flight heights across the year...Flight activity estimates should allow both for daytime and nighttime activity. Daytime activity should be based on field surveys. Night-time flight activity should be based if possible on nighttime survey; if not on expert assessment of likely levels of nocturnal activity...collision model[s] should take both day and night flights into account. Where there is no nighttime survey data available, or other records of nocturnal activity, for the species in question, (or for other sites if not at this site), it should be assumed that the Garthe and Hüppop/ King et al. 1-5 rankings apply. These rankings should then be translated to levels of activity at night which are respectively 0%, 25%, 50%, 75% and 100% of daytime activity. These percentages are a simple way of quantifying the rankings for use in collision modelling, and they may to some extent be precautionary [Footnote 279: Band, B. 2012. Using a collision risk model to assess bird collision risks for offshore windfarms. SOSS report for The Crown Estate, Norway. https://www.bto.org/sites/default/files/u28/downloads/Projects/Final_Report_SOSS02_Band1ModelGuidance.pdf]."

There are new derivations of the Band model under development, namely the 3-D CRM for seabirds by the Shatz Energy Research Center [Footnote 280: Seabird Distribution in 3D: Assessing Risk from Offshore Wind Energy Generation, Shatz Energy Research Center (2020), <https://shatzcenter.org/2020/04/seabird3dstudy/>] and stochastic CRM specific to ESA-listed species in southern New England from the University of Rhode Island [Footnote 281: Transparent Modeling of Collision Risk for Three Federally-Listed Bird Species to Offshore Wind Development, US Fish and Wildlife Service with University of Rhode Island (Oct. 29, 2020) https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/Transparent-modeling-of-collisionrisk-for-three-federally-listed-bird-species-to-offshore-wind-development_1.pdf]. These models should be applied, once available, in BOEM's assessments of avian impacts for future offshore wind developments, as they will be better able to incorporate variation in input parameters.

Moreover, collision risk models provide a starting point, not an end point, from which to predict cumulative, population-level impacts across wind farms in the Atlantic OCS. CRMs are not found to be reliable in predicting mortality:

"Siting and permitting decisions for many European offshore wind facilities are informed by collision risk

models, which have been created to predict the number of avian collisions for offshore wind energy facilities. However, these models are highly sensitive to uncertainties in input data. The few empirical studies at land-based wind facilities that have compared model-estimated collision risk to actual mortality rates found only a weak relationship between the two, and due to logistical difficulties, the accuracy of these models has not been evaluated in the offshore environment [Footnote 282: Allison, T. D., Diffendorfer, J. E., Baerwald, E. F., Beston, J. A., Drake, D., Hale, A. M., Hein, C. D., Huso, M. M., Loss, S. R., Lovich, J. E., Strickland, M. D., Williams, K. A., & Winder, V. L. (2019). Impacts to wildlife of wind energy siting and operation in the United States. *Issues in Ecology*, vol. 21, Ecological Society of America]."

BOEM should pursue studies to not only verify CRM utility in the offshore environment, but should also move toward viable collision detection requirements for Atlantic Shores and future offshore wind developments.

Comment Number: BOEM-2021-0057-0119-101

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

There is no substantial evidence to suggest that larger turbines, spaced farther apart, reduce risks to birds, and it should be a goal of BOEM to understand the effects of displacement and mortality relative to turbine size and spacing.

Studies, like those from Krijgsveld et al. (2009), [Footnote 283: Krijgsveld KL, Akershoek K, Schenk F, Dijk F, Dirksen S. 2009. Collision Risk of Birds with Modern Large Wind Turbines. *Ardea* 97:357–366. Netherlands Ornithologists' Union] Smallwood and Karas (2009), [Footnote 284: Smallwood KS, Karas B. 2009. Avian and Bat Fatality Rates at Old-Generation and Repowered Wind Turbines in California. *The Journal of Wildlife Management* 73:1062–1071] and Johnston et al. (2014), [Footnote 285: Johnston, A., A.S.C.P. Cook, L.J. Wright, E.M. Humphreys, and N.H.K. Burton. 2014. Modeling Flight Heights of Marine Birds to More Accurately Assess Collision Risk with Offshore Wind Turbines. *Journal of Applied Ecology* 51, 31-41] which suggest that fewer, larger turbines reduce avian collision risk, are based on turbines less than 5 MW. Conversely, studies by Loss et al. (2013), [Footnote 286: Loss SR, Will T, Marra PP. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. *Biological Conservation* 168:201–209] Choi et al. (2020), [Footnote 287: Choi DY, Wittig TW, Kluever BM. 2020. An evaluation of bird and bat mortality at wind turbines in the Northeastern United States. *PLOS ONE* 15:1–22. Public Library of Science] and Huso et al. (2020) [Footnote 288: Huso MMP, Conkling TJ, Dalthrop DH, Davis M, Smith H, Fesnock A, Katzner T. 2020. Bigger not necessarily better for wind turbines: Wildlife mortality scales with energy production. In review] find that bird deaths not only increase with turbine size, but also suggest that the number of bird deaths from collision with wind turbines is proportional to the number of MW produced in a wind farm.

As turbines increase in size, they are more likely to encroach on airspace occupied by nocturnal migrants [Footnote 289: Id] while not necessarily avoiding airspace occupied by relatively lower flying foraging marine bird species. Turbulence above and below the rotor swept zone can also affect flight performance. If this should make birds more susceptible to physical interactions with turbines, then larger turbines would only increase that risk. Additionally, limiting risk evaluations to the rotor swept zone neglects the

risk of collision from the tower itself and turbulence around the rotor swept zone.

The size of turbines has grown substantially over the past decade, and this trend is expected to continue. In its current COP, Atlantic Shores proposes to use turbines with nameplate capacity between 8 and 20 MW, for a maximum blade tip height of 320 m above mean sea level and maximum rotor swept zone of 280 m [Footnote 290: ASOW COP, Table E-1, p. E-6]. For comparison with neighboring proposed projects, Vineyard Wind expects to use turbines of up to 16 MW nameplate capacity in its Park City Wind (Phase One) Project, with a potential rotor swept diameter of 255 m and maximum potential height of 319 m [Footnote 291: VWS COP, Volume I, Table S-1, p. S-4]. In Phase Two of the Vineyard Wind South project, Vineyard Wind proposes to use turbines up to 19 MW in nameplate capacity, which could reach a maximum height of 357 m above sea level, with a rotor swept diameter of 285 m [Footnote 292: VWS COP, Volume I, Table S-2, p. S-9]. University of Virginia is currently developing 200 m long blades to power a 50 MW turbine, with a potential rotor swept zone of approximately 400 m. Given that the tower height would need to be more than 200 m in height to accommodate rotor blades of this size, turbines could soon reach heights greater than 400 m above sea level.

It will be important for BOEM to consider the full range of possible turbine parameters expected for the Atlantic Shores project. Any changes to the project design envelope, especially those that result in changes to the rotor swept zone or maximum blade tip height, could require additional review under NEPA.

Suggestions that increased spacing (1 nm) between turbines would reduce risks to birds from both collision and displacement is unfounded, as offshore wind farms in Europe do not provide this level of spacing, and therefore, there is no operational comparison to be made. Instead, increased spacing means fewer turbines and less energy production within the footprint of the project, so more projects (and more space) will be necessary to meet state and national energy goals. Furthermore, greater space between turbines may increase collision risk if species vulnerable to collision end up using the wind farm more frequently. Unfortunately, these are all unknowns until these configurations are developed and operational. BOEM should require and approve a monitoring plan to answer these questions.

The Draft EIS should include a risk assessment, considering the full range of the potential rotor swept zone provided in the COP, to assess 1) impacts from collision and barrier effects to migrating birds, and 2) potential increased habitat loss that may need to occur in order to reach offshore wind energy goals.

Comment Number: BOEM-2021-0057-0119-12

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The NEPA process should inform all interested parties about the environmental impacts from offshore wind projects and can ensure the responsible development of the promising and abundant resource of offshore wind power. Several decades of offshore wind development in Europe suggest that offshore wind power can be developed responsibly, provided that all siting and permitting decisions are based on sound science and informed by key experts and stakeholders. The European experience shows us that avoiding sensitive habitat areas, requiring strong measures to protect wildlife throughout each stage of the development process, and comprehensive monitoring of wildlife and habitat before, during, and after construction are essential for the responsible development of offshore wind energy [Footnote 21: O'Brien,

Sue. “Lessons learned from the European experience.” Presentation at the State of the Science Workshop on Wildlife and Offshore Wind Energy Development. Nov. 13-14, 2018].

Despite offshore wind’s rapid growth in Europe, United States offshore wind remains a new industry, with the nation’s first commercial project – the Block Island Wind Farm (30 MW) – only coming online in

December 2016. BOEM recently issued a Record of Decision approving a major project to the north of Atlantic Shores–Vineyard Wind 1—and is considering multiple other projects off the east coast. Commenters have provided ample comments on those projects which should provide guidance for this NEPA process as well.

BOEM needs to rigorously review the potential impacts of offshore wind development on wildlife and their habitats, including potential impacts related to future projects at the scale envisioned by the President’s offshore wind goals, to ensure appropriate mitigation measures are developed and adopted. Various potential impacts associated with offshore wind construction and operations could directly, indirectly, and cumulatively impact species and habitats in the coastal zone and offshore environment along the coast.

Comment Number: BOEM-2021-0057-0119-125

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Robust consultation with states and tribes under Section 106 is paramount to ensuring the Project appropriately considers impacts on historic state and tribal resources [Footnote 410: Successful compliance with Section 106 involves identifying state, tribal, and private interests involved in historic preservation within the development areas. Relevant State or Tribal Historical Preservation officers (SHPO or THPO respectively) must be involved in the Section 106 process, along with any private preservation groups with appropriate legal or economic interests. BOEM must identify which historic properties are listed, or are eligible for listing, on the National Register of Historic Places that could be affected by the project. BOEM must assess the project’s impact on these properties to determine if any adverse effects “diminish the characteristics qualifying a property for inclusion in the national register.” (36 C.F.R § 800.5.) Collaborative efforts between BOEM, SHPO, THPO, and any private preservation groups can result in agreed upon measures to minimize or mitigate known adverse effects. These collaborations should continue throughout project development in case any unknown cultural or archeologic resources are discovered during development]. Additionally, it is necessary that during development proper precautions are taken in case unknown cultural resources are uncovered [Footnote 411: If any additional or previously unidentified cultural resources are located during project implementation, the find must be protected from operations and reported immediately to the SHPO or THPO staff. All operations in the vicinity of the find will be suspended until the site is visited and appropriate recordation and evaluation is made by the SHPO or THPO staff.]. It is critical that the project include best management practices developed collaboratively with tribes for cultural resource protection in order to avoid, minimize, and mitigate any potential adverse impacts to cultural resources.

Executive Order 13175 mandates all executive agencies recognize and respect tribal sovereign status and engage in “regular, meaningful, and robust consultation with Tribal officials in the development of Federal policies that have Tribal implications [Footnote 412: Exec. Order No. 13,175, 65 Fed. Reg.

67,249, 67,249–50 (Nov. 6, 2000) (mandating that agencies “respect Indian tribal self- government and sovereignty” when “formulating and implementing policies” that affect tribal interests). Reinforced in the Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships. Jan. 26, 2021. [https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-tribal-consultation-and- strengthening-nation-to-nation-relationships/.](https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-tribal-consultation-and- strengthening-nation-to-nation-relationships/)]” We encourage BOEM to also adopt early consultation as envisioned in Secretary Haaland’s recent Secretarial Order:

"Bureaus/Offices will proactively begin consultation with potentially impacted Tribes, both those currently in the proposed area and those with a historic presence, as well as engage potentially impacted environmental justice communities early in the project planning process. “Early in the project planning process” includes when a Bureau/Office has enough information on a proposed action to determine that an environmental assessment or an environmental impact statement will be prepared [Footnote 413: Secretarial Order No. 3399, at § 5(c). Apr. 16, 2021. https://www.doi.gov/sites/doi.gov/files/elips/documents/so-3399- 508_0.pdf] ."

Native American and Alaska Native Tribes are sovereign governments recognized as self-governing under federal law, and the U.S. government has a “trust responsibility” to those tribes [Footnote 414: Id.]. The federal government has special fiduciary obligations to protect Native resources and uphold the rights of Indigenous peoples to govern themselves on tribal lands [Footnote 415: *Eric v. Sec'y of U. S. Dep't of Hous. & Urban Dev.*, 464 F. Supp. 44 (D. Alaska 1978)]. In carrying out this duty, federal officials are “bound by every moral and equitable consideration to discharge the federal government’s trust with good faith and fairness.”[Footnote 416: *United States v. Payne*, 264 U.S. 446, 448 (1924); accord *Yukon Flats School Dist. V. Native Village of Venetie Tribal Govt’t*, 101 F.3d 1286 (9th Cir. 1996) rev’d on other grounds 522 U.S. 520 (1998); see also 84 Fed. Reg. 1200–01 (Feb.1, 2019) (including 229 Alaska Native entities in the list of tribes recognized as having the immunities and privileges of “acknowledge Indian tribes by virtue of their government-to-government relationship with the United States.”) Note that the trust doctrine includes duties to manage natural resources for the benefit of tribes and individual landowners, and the federal government has been held liable for mismanagement. (See *United States v. Mitchell*, 463 U.S. 206 (1983) (holding that the Department of the Interior was liable for monetary damages for mismanaging timber resources of the Quinault tribe in violation of the agency’s fiduciary duty.)] 416 Acting in accord with these trust responsibilities requires nation-to-nation consultation from the first opportunity.

Comment Number: BOEM-2021-0057-0119-17

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM must collaborate with state efforts and agencies (e.g., New Jersey Board of Public Utilities, New Jersey Department of Environmental Protection, New Jersey Department of Transportation), scientists, non-governmental organizations, the wind industry, and other stakeholders to use information from monitoring and other research and evolving practices and technology to inform cumulative impacts analyses moving forward.

Comment Number: BOEM-2021-0057-0119-62

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 14

Comment Excerpt Text:

To best account for the impacts of the simultaneous development of multiple lease areas on the North Atlantic right whale, we stress that the agency must prepare a full Programmatic EIS encompassing all United States' East Coast renewable energy development as soon as possible to inform future offshore wind development. Currently, impact analyses are undertaken, and mitigation measures prescribed, on a project-by-project basis leading to inconsistency and inefficiency. It would be highly beneficial to collectively consider available information on North Atlantic right whales in United States' waters to build a picture of responsible development accounting for the lifespan and migratory movements of the species, which have the potential to overlap with every WEA along the United States' East Coast on a twice-yearly basis (i.e., northern and southern migration). A Programmatic EIS is also particularly timely given the climate-driven shifts in North Atlantic right whale habitat use observed over the past decade [Footnote 172: Albouy, C., Delattre, V., Donati, G. et al. "Global vulnerability of marine mammals to global warming" Scientific Reports, vol. 10, No. 548 (2020); Silber, G.K., Lettrich, M.D., Thomas, P.O., et al., "Projecting Marine Mammal Distribution in a Changing Climate," Frontiers of Marine Science, vol. 4, no. 413 (2017)] as well as significant changes in their conservation status and major threats [Footnote 173: EarthTalk, January 18, 2010, "Despite Gains, One Third of the World's Marine Mammals Seen at Greater Risk," Scientific American, <https://www.scientificamerican.com/article/earth-talks-marine-mammals/>, accessed July 22, 2020.; Marine Mammal Commission, "Status of Marine Mammal Species and Populations," <https://www.mmc.gov/priority-topics/species-of-concern/status-of-marine-mammal-species-and-populations/>]. Such an approach will ensure that alternatives and mitigation measures are considered at the scale at which impacts would occur and may potentially help increase the pace of environmentally responsible offshore wind development along the United States' East Coast.

Comment Number: BOEM-2021-0057-0119-93
Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 5

Comment Excerpt Text:

Given that there are no studies within the United States that document the responses of local avian populations to offshore wind development in United States' waters, BOEM should adopt a conservative approach in the Draft EIS's avian impact analysis. In doing so, BOEM must address the limitations of the survey methods used within the COP to assess avian impacts.

Comment Number: BOEM-2021-0057-0119-95
Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 5

Comment Excerpt Text:

As stated above and in previous comments to BOEM, raw data from transect surveys is not appropriate for addressing potential environmental impacts. The Draft EIS must address the biases of each monitoring method used in the COP and Draft EIS and present published results from the associated studies that account for imperfect detection. Distance sampling is the most obvious method to address imperfect detection in transect surveys and we recommend that BOEM and developers incorporate this accepted method into their survey protocols [Footnote 268: Bradbury G, Trinder M, Furness B, Banks AN, Caldwell RWG, Hume D. 2014. Mapping Seabird Sensitivity to Offshore Wind Farms. PLOS ONE 9:e106366. Public Library of Science]. Personnel and digital aerial surveys, as well as vessel surveys, are unable to reliably distinguish between similar-looking species in all cases. Digital area surveys may be able to attribute observations to species more frequently, but so far there are no peer-reviewed publications which document the reliability of this method. Vessel surveys, while occasionally better for attributing observations to species, are biased against species which sit on the water (sea ducks, waterbirds, alcids) and are more likely to flee from approaching vessels [Footnote 269: Henkel LA, Ford RG, Tyler WB, Davis JN. 2007. Comparison of aerial and boat-based survey methods for Marbled Murrelets *Brachyramphus marmoratus* and other marine birds: 8]. Because of these biases, it would be inappropriate to assess Atlantic Shores using raw data alone. It is also inappropriate to base an impact analysis on lumping the data together into species groups if species-specific extrapolations are available and statistically sound. The Draft EIS must not rely on the presentation of raw lumped data and instead rely on models produced from these standardized collection methods and by species when appropriate.

Currently the COP does not provide any adequate risk assessments for passerines and shorebirds. Except for phalarope, shorebirds and passerines do not spend a significant time in the offshore environment, but could potentially experience significant interactions with turbines during migration. Therefore, survey methods are not appropriate for evaluating risk to these species groups. While risk evaluations to loons, seaducks, and gannets incorporated distribution results from satellite transmitter studies, this type of evaluation was not extended to terns, gulls, cormorants, or other seabirds.

Flight height estimates from vessel surveys are generally biased low and should not be relied on to estimate average flight height to assess collision risk [Footnote 270: Harwood AJP, Perrow MR, Berridge RJ. 2018. Use of an optical rangefinder to assess the reliability of seabird flight heights from boat-based surveyors: implications for collision risk at offshore wind farms. *Journal of Field Ornithology* 89:372–383]. Radar, LiDAR, and pressure sensor technologies should be relied upon in the Draft EIS and the limitations of each data collection method should be explicit within the Draft EIS.

Comment Number: BOEM-2021-0057-0119-97

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

The Draft EIS should include a collision risk analysis, including risk to birds as they migrate through the Project, on species that occur within a 20 km radius of the WEA and that trigger conservation obligations: ESA-listed endangered and threatened species, state-listed threatened, endangered, and species of concern, and IUCN-listed endangered, threatened, and near threatened. These species include, but are not limited to, Roseate Tern, Piping Plover, Red Knot, Common Tern, Least Tern, American Oystercatcher, and Upland Sandpiper. The Draft EIS should include the most recently available scientific information.

Based on MDAT models, the Atlantic Shores project may not likely have consistent impacts to avian

populations during operation. However, these MDAT distribution models have limited reliability across species, and better methods for predicting impacts have not yet been applied in the offshore environment in the United States. Additionally, while collision events during migration are likely to occur less frequently, these events have the potential to have large, population-level consequences during a short time period. All the current lease areas and call areas occur within migratory pathways for trans-Atlantic migratory songbirds and shorebirds. BOEM's EIS needs to evaluate this cumulative risk, as the likelihood of large migratory collision events will increase as the total offshore wind footprint increases.

Comment Number: BOEM-2021-0057-0122-1
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 20

Comment Excerpt Text:

The EIS process is critical here as the Proposed Action has a litany of expected impacts that are germane to COA's interest. The expected impacts include, without limitation:

Air quality, water quality, bats, benthic habitat, essential fish habitat, invertebrates, finfish, birds, marine mammals, terrestrial and coastal habitats and fauna, sea turtles, wetlands and other waters of the United States, commercial fisheries and for-hire recreational fishing, cultural resources, demographics, employment, economics, environmental justice, land use and coastal infrastructure, navigation and vessel traffic, other marine uses, recreation and tourism, and visual resources. [Footnote 2: Federal Register, Vol. 86, No. 187, September 30, 2021, page 54233.]

While offshore wind energy represents a long overdue progression from fossil fuels, the Proposed Action threatens many serious consequences that must be carefully and diligently reviewed through the EIS process.

Comment Number: BOEM-2021-0057-0122-10
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Separately, BOEM has asserted the engagement of the public by way of an "Intergovernmental Renewable Energy Task Force" (hereafter "Task Force"). The Task Force's membership roster includes various local officials, many of whom are unaware of the Task Force—much less their appointment to the entity. Additionally, access to Task Force meetings was extended to only a few select public interest groups. Considering its activities, role, and roster, the Task Force appears to be subject to the Federal Advisory Committee Act ("FACA"), but the Task Force has not met all FACA requirements called for by the Atlantic Shores projects.

Comment Number: BOEM-2021-0057-0122-2
Organization: Clean Ocean Action
Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

First, due to the scope, size, and location of these projects, COA requests an extension to the comment period to review the 4000+ pages of materials. Based on the COP, it is clear that many onshore communities will be affected, and it is likely they are unaware of this proposal. The public had only 30 days to review, assess, affirm, share, consider, absorb, understand, and provide comments. BOEM providing this bare minimum for public comment is not good governance. This process must include meaningful community engagement; therefore, a minimum 30-day extension to the comment period would allow time to properly review the documents and inform the EIS.

Comment Number: BOEM-2021-0057-0122-6

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 20

Comment Excerpt Text:

COA recommends the EIS apply:

- Identifying and assessing cumulative environmental impacts from Atlantic Shores projects as well as the cumulative impacts from all projects being considered in the region. The land use experience over the last 200 years has proven that piecemeal development will lead to mistakes and ecological harm.
- Transparency to the public at all levels of design, construction, operation and maintenance, which means more disclosure of onshore and offshore activities with minimal redaction,
- Meaningful public involvement —not just hosting meetings but actual measurable evidence of project modification to meet public concerns.
- Meeting legal requirements through the lens of maximizing opportunities for environmental protection;
- Fully complying with New Jersey’s enforceable policies for purposes of the Coastal Zone Management Act, especially those concerning the protection of endangered and threatened species’ habitat and critical wildlife habitat;
- Refraining from soliciting or accepting any state agency approvals for the Atlantic Shores projects which may be arbitrary or capricious under the Administrative Procedures Act by virtue of their issuance prior to all pertinent information being made available to the public and the agencies of decision;
- Implementation of coastal resiliency and adaption for sea level rise and storm surges for all onshore and offshore facilities, especially as the life span of these projects is 35 years;
- Meaningful interagency review is essential at the local, state, and federal levels; this is especially important during the EIS development with natural resource agencies, as well as community and citizen resources agencies to ensure environmental justice, public health, or over-development issues are identified and addressed;
- Protection of submerged lands that fall under the scope of the Public Trust Doctrine, as these facilities are occupying, altering, and obstructing the use of resources that were (and remain) treasured public resources, and habitat for extraordinary marine life; therefore, they must have the utmost respect and care.
- Identifying and considering true, proper alternatives, such as the onshore production of solar and wind energy.
- Strong measures to protect the North Atlantic right whale, and other species, including but not limited to regional construction calendars to reduce noise from construction, operation, and maintenance.
- Using the best available science to determine and evaluate the environmental impacts of the Atlantic Shores projects to protect marine resources and refraining from accelerating the projects’ environmental

review process.

Comment Number: BOEM-2021-0057-0122-7
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The public, policymakers, appropriate research entities, and organizations must be informed of construction, operation, maintenance, and decommissioning details in the draft EIS.

Comment Number: BOEM-2021-0057-0122-9
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 19.1

Comment Excerpt Text:

Moreover, the BOEM-designed process by which the agency intends to develop an offshore lease proposed by Atlantic Shores requires the State of New Jersey and the public to provide their input on the projects' federal consistency for purposes of the Coastal Zone Management Act ("CZMA") prior to having a comprehensive final account of the operation's potential environmental impacts. To illustrate this point, the state agency responsible for CZMA federal consistency certifications in New Jersey, the Department of Environmental Protection ("the Department"), provided public notice that it received a request for federal consistency certification from Atlantic Shores on October 20, 2021, allowing the public to review Atlantic Shores' application for Federal Consistency Certification only by appointment at the Department's Trenton office or by submitting a request under the Open Public Records Act to the Department. [Footnote 4: N.J. Dept. of Environmental Protection, Notice of Receipt – Federal Consistency Certification, 45 DEP Bulletin 20, 5 (Oct. 20, 2021), https://www.nj.gov/dep/bulletin/bu2021_1020.pdf.] In addition to the considerable hurdles that an average member of the public must overcome in order to submit an informed comment on Atlantic Shores' proposed Federal Consistency Certification, BOEM slating the CZMA federal consistency review for this stage of the process is arbitrary and an abuse of discretion because, according to BOEM's own regulations, Atlantic Shores will be able to continue amending its COP in later stages of the offshore wind lease issuance process. Soliciting certification of the federal consistency for purposes of the CZMA at this stage of the process unnecessarily precludes the public and the State of New Jersey from ensuring that their comments reflect the most recent and accurate representations of Atlantic Shores' operations and their potential impacts.

Comment Number: BOEM-2021-0057-0139-1
Organization: New Jersey Organizing Project
Commenter: Alison Arne
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We believe that directly impacted and frontline communities should be at the table when it comes to

decisions that affect our lives. We do have some concerns about how our communities will be impacted by offshore wind, however we believe with community leadership and involvement, we can make sure the projects are done right.

Comment Number: BOEM-2021-0057-0142-5
Organization: Save Long Beach Island, Inc.
Commenter: Wendy Kouba
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The BOEM EIS process will be of little use, of little to no use for us. Construction will begin in two years or less and it's time to act now. We and many others have proposed to move the turbines further out to sea where they will have significantly less damage. We have requested realistic visible renderings of the project and raise numerous other concerns none of which have been addressed.

In the past BOEM's EIS's on other wind projects have been virtually incomprehensible. They don't provide real alternatives to proposed projects and intentionally obscure the very worst and most devastating aspects and impact. This current situation with Atlantic Shores is no different. It can only be resolved through legal intervention which we are actively pursuing.

Comment Number: BOEM-2021-0057-0146-2
Commenter: Jim Binder
Commenter Type: Individual

Comment Excerpt Text:

Atlantic Shores' correspondence July of this year says that - certain reports aren't going to be available relative to mammals and avians that will impact the COP, in fact it was said today the COP would be modified in December of this year, that's after this public comment period closes. I think this public comment period should be extended at least six months to allow the public to understand and read those new changes before this period closes.

Comment Number: BOEM-2021-0057-0147-1
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization
Other Sections: 19.4

Comment Excerpt Text:

Clean Ocean Action is concerned with the proposed locations of these offshore wind projects to busy port areas, vessel traffic as well as of course the species that live and thrive in and around the ocean.

It is essential that BOEM include information from the U.S. Coast Guard to ensure safety, National Marine Fisheries Service and Regulatory Fisheries Council as well as the Atlantic States Marine Fisheries Commission to identify and protect the marine species in the New York New Jersey bite throughout the EIS scoping process. We are concerned on the noise and the navigational risk and the potential impacts from collisions, elisions and accidents and spill that can result and harm our marine ecosystem.

Many species such as whales are already at grave population and survival risks and let's not forget even the tiniest of animals, the bottom dwelling sub strait dwelling organisms that are the base of the food chain that will be disrupted by offshore activities.

Comment Number: BOEM-2021-0057-0147-5
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

With so many concerns and unknowns 30 days is not enough time to review and consider all the potential impacts and comment on the lengthy COP. We respectfully request BOEM extend the public comment period to give sufficient time for citizens and organizations and experts to provide their feedback on the multiple aspects and complicated aspects of this project, and seeing that the lease is for 25 to 30 years, that's quite a long time to consider the impacts to the cumulative impacts to marine ecosystems.

Comment Number: BOEM-2021-0057-0152-1
Commenter: Kirk Frost
Commenter Type: Individual

Comment Excerpt Text:

We need to move on these things as quickly as possible, but I also hear all the people that are very concerned about this and feel like we haven't done enough investigation on this. I agree with that too, and it's important to make sure that the engagement with the public is holistic and gets every community.

FERC doesn't do that very well, federal agencies don't do that very well, so I really hope that this group of agencies working together make a unified attempt to connect the public on an ongoing basis, don't limit the time span on the comment period, instead make it open, also publish the lessons learned that were discussed as soon as possible, get those out to people, let them know about the Virginia windmill turbines and how they are working.

This needs to be moving faster. We are in a climate crisis. We have no idea how much greenhouse gas emissions are happening from natural gas. I don't know if the folks here realize it but none of the agencies, not EPA, not EIS not NJDEP, none of them have any idea of the methane emissions and the inventories are way understated, so it's urgent we because we have no clue to the extent of damage that's occurring right now.

Comment Number: BOEM-2021-0057-0152-3
Commenter: Kirk Frost
Commenter Type: Individual

Comment Excerpt Text:

I want to also just mention that the draft EIS, I hope it -- if you look at FERC, they tried to rush a draft EIS for natural gas expansion through and regardless they determined there is impact to humanity to health and environment and also climate, they still just approve it because economics, it's good economics and -- for the company proposing it. That's not right, and we shouldn't be doing this for economics even

for wind, we should be doing it to get off us off of things like fossil fuels.

I am excited, I see the good that's coming out, I hope that the agencies, get a monthly call going, fast track this, make sure your attending, you're responding to the public and the people who are concerned, you need to help make sure that people understand what is happening and see what has happened at existing ones.

The word is not out, this has been an industry-led approval process for all types of energy, let's do this one differently.

Let's engage people, let's get the -- make sure that all the organizations that are concerned are getting, being heard but then let's also move as quickly as possible and weigh it against the impacts associated as a natural gas distribution line emitting tons and tons, we have one compressor station emitting 820 tons of methane every year and FERC knows about it, EPA has no clue, they say it's 33 tons, NJDEP says it's 34 tons, it's a abominable.

Let's switch to this and let's engage the public and I very push appreciate this seminar

Comment Number: BOEM-2021-0057-0157-1

Commenter: Rick Bushnell

Commenter Type: Individual

Other Sections: 8

Comment Excerpt Text:

But my comment today really is more about matching up things that are well minded, well intentioned people have put together in the solicitation that the power providers, wind power providers are responding to. My concern is with the complexity of all of these documents, I believe that we need kind of cliff's notes, if any of you remember that, of where -- how do we match up the items in the solicitation with the items that are covered in the documents and the responses to the solicitations.

So I believe that we need to have a point for point match up, especially in two areas, one is the environmental impact which in that solicitation is section 3.9, it's found on about page 20 and the fishery protection plan which is section 310 and that's found on page 22.

One of the things that's really important about that is that if we match up all those requirements with what is being presented, we have some level of assurance that things will go forward.

Most importantly is the last paragraph, at least for me and my commercial buddies, is the last paragraph section 3.10, it says they are to provide the application is to provide a plan for addressing lost or damage of fishing gear or vessels from interactions with offshore wind structures, arrays or export cables, survey activities, concrete mattresses or other project related infrastructure and equipment, and there is also a paragraph about change in species availability.

So I want to make sure that those things are matched up

Comment Number: BOEM-2021-0057-0176-2

Organization: Mayor of Borough of Seaside Park

Commenter: John Peterson Jr

Commenter Type: Local Agency

Comment Excerpt Text:

I feel that the no action alternative is far preferable and indeed I would even go further and suggest that bidders should not be sought out before a full, complete and exhaustive environmental assessment and I appreciate and understand the need to segregate off and to -- what has been described earlier as block off certain areas of the ocean, but I would view this in a far more global fashion, and far more expansive fashion that suggest you cannot block off areas of the ocean, there are already leases that have been awarded, there are already areas that have not been studied and should be studied fully and adequately at the very least with small pilot projects, test projects to see that environmental impact and common sense along with science certainly supports the fact that dollars and cents are perhaps the motivating factor why the sites have not been located in farther areas off the shore thereby not jeopardizing marine life, also the quality of life itself of the coastal environment,

Comment Number: BOEM-2021-0057-0176-5
Organization: Mayor of Borough of Seaside Park
Commenter: John Peterson Jr
Commenter Type: Local Agency

Comment Excerpt Text:

suggest the need to go extremely slow with scientific research and pilot projects along the way in support of the fullest most extensive and exhaustive review of the potential for negative irreparable impacts from this massive industrial project.

I realize that going against the concept of wind farms in general which I do not do is seemingly going against whether it's mom and apple pie or otherwise -- wind energy in particular certainly may ultimately may be part of the ultimate solution for our country in terms of energy resources but this is not the manner in which that should be accomplished and effectuated especially with the first part of energy to be realized from any project at least a decade if not more away.

Comment Number: BOEM-2021-0057-0178-2
Organization: New Jersey Audubon
Commenter: Drew Tompkins
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

it needs to be done right and we think that the BOEM and the other federal agencies as well as the DEP are taking appropriate steps moving forward doing significant review, we are really excited to see where we go with research. We do believe more research needs to be done, that funding is in place, are happy to comment and we have commented and will continue to on what species we should be looking at as well as potential ways that we should be going about doing that research to make sure that we do do offshore wind correctly, it is a huge opportunity for our state to move forward with clean energy but it has to be done right and we think it can be and we appreciate the developers working on this as well as all the federal agencies to make sure that we are doing our best to, you know, as best we can mitigate and eliminate damages to wild life and other natural resources as we move forward with again this really important technology and important resource that will move us to a clean energy future and like I said, we will be submitting more detailed comments with specific species and other specific things that should be

going into the EIS moving forward.

Comment Number: BOEM-2021-0057-0194-10
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Clean Ocean Action works to prevent the severest impact on marine life and the ecosystem which help support a liveable planet, as we seek to find and implement alternatives to reduce climate change. We urge others to do the same and we ask for an extension of the comment period once again

Comment Number: BOEM-2021-0057-0194-3
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Consider the subject of this hearing, Atlantic Shores Operation and Construction Plan is over 4,000 pages long with hundreds of -- with pages of appendices, documents and plans. Based on the COP, it is clear that many onshore communities will be affected, and it is likely they are unaware of this proposal.

The public has only 30 days to review, assess, affirm, review, share, consider, absorb, understand, and provide comments. BOEM providing this bare minimum for the public is not good government. This process must include meaningful community engagement. Therefore, a minimum 30-day extension to the comment period would allow some additional time to properly review the document to provide input to the form draft EIS.

Comment Number: BOEM-2021-0057-0194-4
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization
Other Sections: 20

Comment Excerpt Text:

The extent of harm to the marine environment from Atlantic Shores offshore wind proposal will include short term and long-term impacts from the depths of the benthos to the sky, they require time to ensure all possible considerations are included moreover there will be considerable cumulative impacts to the multiple projects associated with the unprecedented pace and magnitude of proposed offshore wind development in this region.

In short, the onshore and offshore infrastructure of the project will cause impacts to marine life, upon which so much of the region's ecology depends as well as navigation and vessel traffic, recreation and tourism and even wetlands and local land use. Yet already it's clear that the EIS for the COP will fail to consider these and more importantly it fails to truly evaluate the alternatives to harming the ocean from

this industrialization.

Comment Number: BOEM-2021-0057-0194-6
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

If the agencies believe the Atlantic Shores project is the best solution to meet the climate change challenge, it should not be afraid to have the project evaluated fairly including all alternatives.

Comment Number: BOEM-2021-0057-0200-1
Commenter: Greg Cudnik
Commenter Type: Individual

Comment Excerpt Text:

BOEM and Atlantic Shores, you must do a better job of informing the public and engaging the public. As we have heard, all the Unions, big businesses and investors got the memo, and they are here tonight pushing in favor but only a few will come out to speak up call a spade a spade. Fortunately, just the last few minutes we have heard a few, happy to hear that, because some of the other meetings I have attended, they are very poorly attended.

To this day, the majority of the public does not have a clue what is taking place, they don't know the risks, or the magnitude and I urge BOEM not to approve this project. Slow down, let's be reasonable, let's make the decision the right way the first time and not a mistake.

Comment Number: BOEM-2021-0057-0200-6
Commenter: Greg Cudnik
Commenter Type: Individual

Comment Excerpt Text:

I urge that BOEM definitely does not approve this project, I really urge BOEM and Atlantic Shores do more public outreach, reach out to more stakeholders which I can agree they have done but I do not agree that they have communicated any ways, shape or form with the local communities and residents and towns. Maybe they disagree but being a business owner and a resident of Long Beach Island, the coastal communities here know very little of what is going on.

Comment Number: BOEM-2021-0057-0209-2
Commenter: Kathleen Keating
Commenter Type: Individual

Comment Excerpt Text:

asked for additional time for the comment period and a specific concern of mine is the timing of these public meetings. I don't think that there has been adequate information to the general public, although some of the public interest groups seem well informed and I think that the placing of these meetings at five o'clock hinder the opportunity for people to participate, and also for families to participate if they

have dinner obligations and such with the children. A public meeting, I think, is better placed at a later time in the evening where people have an opportunity to participate.

I do not support this project unless there is additional information, and all the issues of the stakeholders are adequately addressed.

Comment Number: BOEM-2021-0057-0210-1
Organization: Save LBI
Commenter: Joanne Leichte
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

I think that the concerns that have been shared are really not about not doing this project, but how it's being done.

The lack of information to the residents has been mentioned. I talked to the residents, no one has heard about this, not been made aware so their voices have not been heard. So again, slow down, make the community aware, let's all put our heads together for a really successful outcome and solution including all of the -- all of the things that have been mentioned.

Comment Number: BOEM-2021-0057-0213-3
Commenter: Norah Langweiler
Commenter Type: Individual
Other Sections: 10.3

Comment Excerpt Text:

I'd also like to see the DEP and EPA collaborate to figure out how to support tertiary or community level supply chains, how can local restaurants like my husband's be ready to support more business from wind tourism, how can local businesses and charter boat owners collaborate to offer engaging eco tours, it's important to provide opportunities and communities for this kind of economic development as well.

To accomplish all of this, New Jersey should continue to hear from and include community members that could be affected by these projects as they move forward. We also need to keep investing in research and regional collaboration as the plan is finalized and put into action.

Comment Number: BOEM-2021-0057-0214-2
Commenter: Peggy Middaugh
Commenter Type: Individual

Comment Excerpt Text:

We need to weigh the cost and benefits of this project and I believe that this environmental impact statement with full public participation including from groups like the environmental working group and national wildlife foundations, other environmental groups will result in the mitigation of negative impacts including impacts to wildlife with greatest extent possible.

Comment Number: BOEM-2021-0057-0218-3
Organization: Waterspirit
Commenter: Rachel Dawn Davis
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We want every reassurance that wildlife will be and remain top of mind during this lease period. Offshore wind power has the potential to throughout the process really avoid and minimize and mitigate the impacts to habitat every step of the way and we intend to be engaged in the entire process.

As was shared earlier tonight, Atlantic Shores environmental impact statement should demonstrate use of best available innovation and signs that the U.S. offshore wind industry advances responsibly.

Comment Number: BOEM-2021-0057-0221-2
Commenter: Suzanne Fairlie
Commenter Type: Individual

Comment Excerpt Text:

With less than 30 days to make a decision, that's going to be hard to do so I am also suggesting that you have an additional 30 days for people to negotiate and come up with a compromise that would bring this out 20 miles, not nine miles.

Comment Number: BOEM-2021-0057-0232-1
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

The National Park Service (NPS) provides these comments on the Notice of Intent (NOI) to Prepare an Environmental Impact Statement (EIS) for the review of the Construction and Operations Plan (COP) for the Atlantic Shores Wind Projects offshore New Jersey. NPS recently received an invitation from the Bureau of Ocean Energy Management to be a cooperating agency and will likely ask to be a participating agency in the review of these projects under Title 41 of Fixing America's Surface Transportation Act of 2015 (FAST-41) (42 U.S.C. § 4370m), and under the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. § 4321). NPS will also request to be a consulting party under Sections 106 and 110(f) of the National Historic Preservation Act of 1966 (NHPA) (54 U.S.C. § 300101).

Comment Number: BOEM-2021-0057-0232-4
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

The NPS has been an active participant in the interagency meetings for the proposed Atlantic Shores

Wind Projects and has reviewed the available COP documents pursuant to our likely role as a Participating Agency under FAST-41 and in light of our public trust responsibilities under the NPS Organic Act of 1916 (54 U.S.C. § 100101), NEPA, NHPA, and other applicable laws and regulations. The NPS has identified potential areas of interest and concern in regard to the Atlantic Shores Wind Projects. NPS requests that BOEM considers the following comments and incorporates both our recommendations and the baseline information we provide herein as BOEM identifies and analyzes impacts under NEPA and carries out consultation under NHPA.

Comment Number: BOEM-2021-0057-0234-1

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

The mostly recently updated COP was only made available to us through the BOEM website with the publication of the NOI, so our comments related to the updated COP are limited. Furthermore, it is our understanding that Volume II of the COP has not yet been updated to reflect the most recent project changes and you do not anticipate those updates to occur until December. As a result, we may need to provide additional comments and technical assistance upon review of any updated information, including potentially developing additional alternatives to minimize and mitigate impacts of the Projects on marine and estuarine resources. This is a recurring issue, as BOEM continues to publish NOIs without all of the relevant information for the regulatory process, which puts a substantial strain on our ability to review these projects as efficiently as possible. We look forward to continuing to work with you on this issue so we can most effectively inform you of issues and concerns related to NOAA trust resources.

We understand that during the NEPA process, applicants are permitted to make modifications and updates to their COPs, as is the case in this instance. We request, however, that if and when the COP is updated or changed at any time during the regulatory process, you notify the agencies immediately and make the most updated COP available to the agencies and the public. In addition, it is critical that you specify which sections and information in the COP have been updated so we may focus our efforts and provide an efficient review. This updated summary should describe in detail any changes to the proposed action and other information that may affect consultation with our agency. Please note that updates to the COP that occur after initiation of consultation with our agency may affect our consultation timelines. To reduce the potential need for multiple reviews, supplemental consultation and comment, and project delays, it is essential that you ensure that project information is complete before initiating a project or continuing to advance the process for existing projects. Should unexpected revisions to the Projects occur, it is critical that you coordinate with us as soon as possible to prevent inefficiencies and confusion that can result from multiple reviews, as well as delays that may affect the Projects' timelines and consultation initiation and conclusion.

Comment Number: BOEM-2021-0057-0234-12

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 20

Comment Excerpt Text:

The "Affected Environment" section of the EIS should cover a sufficient geographic area to fully examine the impacts of the proposed projects 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 Projects' area. This analysis should also include any necessary landside facilities and the staging locations of materials to be used in construction. You should ensure that findings for each effect/species are supported by references where possible, and in context of the proposed projects, to allow for a well-reasoned and defensible document.

Comment Number: BOEM-2021-0057-0234-14

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 19.4

Comment Excerpt Text:

The section describing the "Affected Environment" for protected species should include information on the seasonal abundance, density (where available), and distribution of marine mammals, sea turtles, ESA-listed marine fish, anticipated habitat uses (., foraging, migrating), threats, and the habitats and prey these species depend on throughout the area that may be directly or indirectly impacted by the Projects. The status of marine mammal stocks (see our stock status reports) [Footnote 2:<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>], population trends, and threats should also be identified. Similar information should also be provided for all ESA listed species (see relevant status reviews on our ESA Species Directory, <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>). [Footnote 3: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.] As the EIS is developed, impact evaluation specificity between species groups (., low frequency vs. mid frequency cetaceans) of marine mammals and sea turtles should be incorporated. A broad grouping approach (., 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 (., minor, moderate) are clearer and better supported if the document describes the degree of impacts to each species (., green sea turtle vs. hawksbill) or groups of species (., mysticetes, odontocetes, pinnipeds). Additionally, for some marine mammal species (., 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 (., injury, behavioral disturbance, disrupted foraging), as well as impacts at the population level.

Comment Number: BOEM-2021-0057-0234-15

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt 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 of impacts (beneficial or adverse) and, where applicable, the duration. This section should consider all of the individual, direct, and indirect effects, including those impacts that may occur offsite as a result of the proposed activities, such as construction of landside facilities necessary to construct and support operations of the Atlantic Shores Projects. Impact producing factors from each phase of development should be considered, including site exploration, construction, operation and maintenance, and decommissioning.

All activities included in construction of the Projects should be considered, including the deposition of fill material, dredging, water withdrawals, pile driving, increased vessel traffic, anchoring, and transmission cable installation. All relevant impact producing factors affecting marine resources should be evaluated, including, but not limited to: elevated noise levels from both construction and WTG operation; increased vessel traffic; turbidity and sedimentation; electromagnetic fields (EMF); habitat alteration; presence of structures (WTGs, substations, and cables); and localized changes in currents. 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 should be evaluated. This should include a discussion of the ecological and economic impacts associated with habitat conversion from the installation of WTGs, offshore substations, cables, and scour protection. Analysis of habitat conversion should include site-specific benthic data collection and an evaluation of the Projects' impacts on different habitat types and on fisheries resources that rely on them. Impacts associated with decommissioning of the Projects should also be included, with details on how decommissioning would occur and the environmental consequences associated with the Projects' removal. The assessment of these impacts should be completed at scales relevant to each impact type to enable meaningful comparisons between alternatives.

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 level and direction of the Projects' impacts should be fully supported by the analysis in the EIS and be consistent with impact definitions identified in the EIS. Importantly, the significance criteria definitions identifying the level of impacts from the Projects (*e.g.*, negligible, minor, moderate, major) should not embed terms defined by other statutes (*e.g.*, the definition of minor should not refer to the MMPA definition of "level A harassment") or apply other statute definitions to the impact criteria used for NEPA purposes. Rather, these definitions should be written in a way that it is clear to a reader how these impact determinations consider the spectrum of effects to individual animals (*e.g.*, temporary behavioral disturbance, injury). Use definitions that are appropriate for the resource being considered (*e.g.*, benthic habitat vs. marine mammals). As you know, we recently worked with you on the South Fork EIS to develop significance criteria definitions for impacts on NOAA trust resources (*i.e.*, marine mammals, benthic habitat, EFH, finfish, and invertebrates). That collaborative work should be carried forward for this and future NEPA documents. 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 if that measure is an option that may be implemented by the developer at their own discretion. In preparation of the NEPA document for the Atlantic Shores Projects, we strongly recommend you review and incorporate similar comments we have made on previous BOEM documents

to ensure a robust and sufficient analysis of NOAA trust resources, as we continue to have concerns regarding the content of recent EISs. Using the best scientific information available for all marine trust resources is critical to analyzing the impacts resulting from these projects. Data used should include a sufficient range of years to reflect natural variability in resource conditions and fishery operations, including 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. This is especially important for marine mammals given recent distribution and habitat utilization shifts.

Temporary, long-term, and permanent direct and indirect impacts to water quality, protected species, habitats, and fisheries (ecological and economic) throughout construction, operation, and decommissioning should be addressed in the EIS. The temporal classification (e.g., short-term or long-term) should be appropriate for the species, habitat types, and impacts considered and should be clearly and consistently defined. The time of year that construction activities occur is also an important factor in evaluating potential biological, economic, and social impacts of the Projects.

In addition to focused evaluations on protected species, fish, invertebrates, and habitats, the "Environmental Consequences" section of the EIS should include a subsection evaluating impacts to commercial and recreational fisheries. The EIS should discuss biological impacts to marine species caused by the temporary or permanent loss/conversion of bottom habitat (*i.e.*, resource distribution, productivity, or abundance changes) and direct or indirect socioeconomic impacts to commercial and recreational fishing activities and support businesses from the Projects' construction and operation such as loss of access to important fishing areas due to the presence of structures (WTGs, substations, cables, scour protection). This evaluation should also include any potential displacement of fishing activities and resulting increased gear conflicts, bycatch, catch rates, and fishing pressure in other locations. When structuring the fishery socioeconomic impact evaluation, you should address all of the elements identified in the checklist we provided in January 2021, or explain why specific elements on that checklist were not included in the EIS. As noted above, our fishery socioeconomic impact summaries can and should serve as the foundation for this analysis in the EIS, although additional project-specific analysis may be necessary to address particular impacts or mitigation/compensation arrangements with affected fisheries.

Comment Number: BOEM-2021-0057-0234-16

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 2

Comment Excerpt 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-2021-0057-0234-19

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency
Other Sections: 20

Comment Excerpt Text:

The EIS should include a complete analysis of the cumulative impacts of the Projects. This analysis should describe the effects of the proposed projects, 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); sand mining; aquaculture; vessel activity; fisheries management actions; disposal sites; and other development projects. Consistent with efforts to evaluate the cumulative effects for both the Vineyard Wind and South Fork Wind projects, offshore wind development projects that have been approved and those in the leasing or site assessment phase should also be evaluated. Specifically, the cumulative effects analysis should consider at a minimum all 16 COPs BOEM recently announced it plans to process by 2025. We encourage you to use the final cumulative impact analysis from the Vineyard Wind project to help inform discussions of cumulative effects on marine resources from other offshore wind development projects for this EIS. Although lease auctions for the New York Bight have not yet been conducted, consideration of the impacts from potential projects in the New York Bight Wind Energy Areas are also warranted, particularly given the fact that lease areas will be defined and auctions completed before the EIS for these projects have been finalized. Further, the EIS should consider additional cumulative impacts from potential future lease areas in the Central Atlantic and Gulf of Maine, as announced in the October 13, 2021, Department of the Interior press release.[Footnote 4:<https://www.doi.gov/pressreleases/secretary-haaland-outlines-ambitious-offshore-wind-leasing-strategy>]

The EIS should evaluate cumulative impacts of the Projects' construction, operation, and decommissioning. Consideration of impacts from multiple projects is particularly important for migrating species, such as marine mammals, sea turtles, fish, and invertebrates that may use or transit multiple proposed project areas. The potential cumulative impacts on the migration and movements of these species resulting from changes to benthic and pelagic habitats and potential food sources due to the presence of multiple projects should be evaluated in the cumulative effects analysis.

Comment Number: BOEM-2021-0057-0234-2

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

BOEM is planning to expedite the review of the COP through a two-year timeline to complete the NEPA process and consultations. While the FAST-41 dashboard has been populated with targeted milestone dates related to our consultations and authorization, we expect these targeted dates to change. The schedule also includes milestones for issuance of a requested MMPA Incidental Take Authorization (ITA) to the developer. Currently these milestone dates assume an Incidental Harassment Authorization (IHA) application, but we anticipate the developer will submit an Incidental Take Regulation/Letters of Authorization (ITR/LOAs) application. Therefore, milestones and timelines will need to be updated. We will work with you and the developer to accurately modify these targeted dates for the permitting dashboard.

Our ability to initiate consultation and meet our milestone dates is contingent upon us making the

determination that we have received complete and adequate consultation documents (Biological Assessment (BA) and EFH assessment) that contain all necessary information to consult on the project. Our Biological Opinion under the ESA will be comprehensive and must consider all proposed actions associated with the Projects, including the proposed issuance of an LOA, as well as any planned survey or monitoring activities. The MMPA timeline is contingent upon NMFS' receipt of an adequate and complete MMPA ITR/LOA application by the agreed upon date, currently targeted for August 2022. To meet this deadline and avoid schedule delays, NMFS strongly recommends the applicant submit a draft application to our Office of Protected Resources approximately six months in advance of the August 2022 adequate and complete milestone date (i.e., no later than early February 2022). If we do not receive the necessary information to initiate our consultations and start processing the ITR/LOA application by the dates outlined in an updated permitting timeline, it will result in delays in the overall project schedule. Note that delays to the MMPA permitting timeline will have consequences for the ESA consultation timeline. We encourage Atlantic Shores to reach out to our Office of Protected Resources early in the process with any questions or concerns related to the ITA.

Comment Number: BOEM-2021-0057-0234-20

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 19.4

Comment Excerpt Text:

An assessment of the potential impacts of the Atlantic Shores project-specific (turbine level) and the full build-out/cumulative offshore wind scenario on hydrodynamics, oceanographic, and atmospheric conditions will help evaluate impacts on species distribution and the effects to hydrodynamic conditions. The potential impact of offshore wind development is not well known, but large scale energy extraction from wind farms and the physical presence of wind turbine foundations could have a significant impact on ocean stratification in this region and, therefore, the ecology, habitat, and egg/larvae and prey distribution of a number of federally-managed fish species and protected species. We recognize there is uncertainty regarding the scope and scale of impacts that may result from the introduction of new structures into the offshore environment and related energy extraction from the wind turbines; however, it is critical that this issue is thoroughly addressed and that the EIS considers the best available scientific information to support any conclusions regarding these impacts, including ongoing studies on this topic. In particular, the EIS should contain a robust assessment of the potential effects of both the Atlantic Shores Projects and the full build-out scenario on prey resources for North Atlantic right whales and other species. Potential impacts to plankton distribution should be clearly discussed as their distribution, aggregation, and possible abundance may shift, and this could have a significant impact on North Atlantic right whales, along with other large whales and numerous species of planktivorous pelagic fish, as zooplankton are the primary source of prey for many higher trophic level organisms. In addition, consideration of impacts to species recruitment and larval distribution due to changes to ocean stratification and circulatory patterns resulting from the development of wind projects should be discussed in this section. This should specifically address, but not be limited to, Atlantic surfclam and ocean quahog; these are economically and ecologically important species that are/have been found in high concentrations in the lease area.

Comment Number: BOEM-2021-0057-0234-21

Organization: United States Department of Commerce National Oceanic and Atmospheric

Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 20

Comment Excerpt Text:

The EIS should evaluate, in detail, the cumulative impacts on protected species, habitat, and fisheries resources associated with overlapping construction activity of regional projects, including elevated noise levels, displaced fishing effort, cable routing and burial, and changes in species abundance, among other impacts. As you know, the Atlantic Shores Projects are immediately adjacent to the Ocean Wind project, and certain impact factors may overlap with other regional wind projects such as Empire Wind, Skipjack, and U.S. Wind. Survey and construction activities by these other projects may temporarily make the habitat unusable for certain species, and may adversely affect certain activities (migration, feeding, spawning) or multiple sub-populations of particular species. 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 and migratory 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 Projects. In addition, an assessment of cumulative impacts of existing and proposed transmission cables should also be considered. Based on the proposed wind development projects in this region, there is the potential for substantial additive impacts associated with the number of required cables. As part of the cumulative effects analysis, measures to minimize the additive impacts should be considered, including the evaluation of designated cable routes and coordination and consolidation with adjacent projects to minimize cumulative impacts.

Comment Number: BOEM-2021-0057-0234-25

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 19.4

Comment Excerpt 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 Atlantic Shores Projects COP (including surveys, construction, operation, and decommissioning) may affect ESA-listed species and/or designated critical habitat, ESA 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 these projects, 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 these projects, it is critical that we receive a draft Biological Assessment (BA) with the cooperating agency review draft of the EIS. Further, the BA must contain a thorough and complete description of the proposed action which includes all proposed mitigation measures. The BA must also reflect consideration of not only the construction, operation, and decommissioning of the planned projects, but also any and all proposed survey or monitoring activities

proposed for any stage of these projects, including surveys of fisheries resources. We have developed a document (Information Needs for Assessing Effects of Offshore Wind Activities on ESA-listed Species) to identify information needs for considering effects of offshore wind projects on ESA-listed species and critical habitat, and we strongly encourage you to use that as you develop the BA.

Comment Number: BOEM-2021-0057-0234-26

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

We expect that any environmental documentation regarding a proposed offshore wind facility in the lease area will fully examine all potential impacts to listed species, the ecosystems on which they depend, and any designated critical habitat within the action area. We encourage you to use the ESA Information Needs document when developing the EIS. We also strongly urge you to carefully consider the information we have provided for the Vineyard Wind 1 and South Fork NEPA documents, as well as the issued Biological Opinions and MMPA authorizations. and incorporate that information and analysis into this EIS, as appropriate.

Comment Number: BOEM-2021-0057-0234-3

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 21

Comment Excerpt Text:

As described in BOEM's project design envelope (PDE) guidance, a "PDE approach is a permitting approach that allows a project proponent the option to submit a reasonable range of design parameters within its permit application." While we understand and support the PDE approach, we note that it is critical to ensure that the range of design parameters are reasonable. A PDE that is too broad would impact your ability to provide a meaningful effects analysis in both the NEPA document and your consultation documents (BA and EFH Assessment). A maximum impact scenario based on an overly broad PDE may grossly overestimate the effects of the action on protected species and habitat, which would likely result in very conservative mitigation measures. The proposed action (e.g., number, type, and size of turbine foundations; schedule) in the environmental review documents (e.g., EIS, EFH assessment, BA, ITA application) should be consistent, comprehensive, and reflect a realistic build out scenario.

The *Federal Register* notice refers to a "preliminary proposed action" described as including up to 200 total turbines (between 105-136 for Project 1, and between 64-95 for Project 2). Atlantic Shores expects to use monopile, suction bucket, or gravity based foundations, or a combination of styles, for the WTGs and OSSs. The WTGs are described as having a rotor diameter of 280 meters. Jacket pile foundations are planned for the ten substations. This description notes that the Projects will include up to ten offshore substations, up to five in each Project, and up to eight transmission cables making landfall at up to two locations in New Jersey. Additionally, more than five types of scour protection, potentially impacting 5,000 acres or more of seafloor, are being considered for the projects. Based on the description in the COP and NOI, the proposed Projects appear to have an overly broad PDE, which will lead to

inefficiencies and potential delays in the regulatory process. It is unclear if the proposed action is expected to be further modified during the NEPA process and at what point in the process any modifications may occur. As we noted above, we must have all necessary information, including an adequate and complete BA and EFH assessment, to initiate these consultations. Modifications to the proposed action after consultation has been initiated is likely to lead to delays in the Projects' timelines, as these changes may affect our analysis in any consultations that are underway, including potential changes to EFH conservation recommendations and/or terms and conditions for reasonable and prudent measures being considered in the ESA consultation. The NEPA document should evaluate a reasonable PDE, with a proposed action that is consistent between the NEPA document, the ITA application, and the consultation documents.

Comment Number: BOEM-2021-0057-0234-30

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

It is our understanding BOEM will develop a BA to support your eventual request for ESA section 7 consultation. While we understand that you intend to prepare the BA as a stand-alone document (., you are not planning for the EIS to serve as the BA), we anticipate and expect that the BA will be an appendix to the Draft EIS. We are not opposed to an approach whereby the EIS would serve as the BA, provided sufficient detail and analyses can be included. We understand the BA and the NEPA document are likely to evaluate effects of activities consistent with a design envelope and are likely to take a "maximum impact scenario" approach to assessing impacts to listed species that may occur. We encourage early coordination with us to determine which impact-producing factors should be analyzed based on a "worst case" or "maximum impact" scenario and which parts of the design envelope would need to be narrowed to carry out a reasonable analysis that would support your request for ESA section 7 consultation.

Comment Number: BOEM-2021-0057-0234-32

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 14

Comment Excerpt Text:

Because activities associated with the construction of the Atlantic Shores Projects have the potential to result in the harassment [Footnote 11: Harassment, (as defined in the MMPA for non-military readiness activities (Section 3(18)(A)), is any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment) or any act of pursuit, torment, or annoyance that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns (Level B harassment). Disruption of behavioral patterns includes, but is not limited to, migration, breathing, nursing, breeding, feeding or sheltering.]of marine mammals, we anticipate that a request for an ITA pursuant to section 101(a)(5) of the MMPA may be submitted to us by the Projects' proponent. NMFS' proposal to issue an ITA that would allow for the taking of marine mammals, consistent with provisions under the MMPA and incidental to an applicant's lawful activities, is a major Federal action under 40 CFR 1508.1(q) [Footnote 12: All references to the

Council on Environmental Quality NEPA regulations included in this letter apply to the 2020 regulations effective September 14, 2020.], requiring NEPA review. 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 Atlantic Shores LLC'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, after independent review and evaluation, determines the document (or portion) satisfies 40 CFR 1506.3.

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 by 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 [Footnote 13:NOAA Administrative Order (NAO) 216-6A "*Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and EO 13690, Floodplain Management; and 11990, Protection of Wetlands*" issued April 22, 2016 and the Companion Manual for NAO 216-6A "*Policy and Procedures for Implementing the National Environmental Policy Act and Related Authorities*" issued January 13, 2017.], and subsequent issuance of an ITA.

As such, the document body must contain the following items: the purpose and need of NMFS' action, a clear description of NMFS' roles and responsibilities as both a cooperating and adopting agency (language we previously provided to BOEM for the South Fork Draft EIS); and a range of alternatives which incorporate a description of NMFS' action, to include the No Action alternative.

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

- The other agency's 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;
- A thorough description of the affected environment including the status of all marine mammals species likely to be affected;
- 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.

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 Projects' 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. For specific marine mammals issues, we refer you to the discussion on marine mammals in the ESA section above. 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-2021-0057-0234-41

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 8

Comment Excerpt Text:

Although some information contained in the COP provides a good overall discussion of commercial and recreational (party/charter and private angler) fisheries affected, the EIS should more comprehensively assess historic and recent 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 (., shoreside support services such as dealers, processors, distributors, suppliers, etc.); and coastal communities dependent on fishing. Specifically, the COP only evaluates five years of data through 2018 and does not include the most recent data available. As noted further below, the EIS should consider a longer time series (at least 10 years) to more accurately capture annual variability in fishery operations and evaluate potential future impacts.

Comment Number: BOEM-2021-0057-0234-48

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 4

Comment Excerpt 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 in the area that may be directly or indirectly impacted by the Projects' construction and operation activities, including complex habitats and prominent benthic features, as described above.

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 these Projects, including species that live within, or seasonally use, the immediate area and adjacent locations. 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.

Comment Number: BOEM-2021-0057-0234-5

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

To the extent possible, we will continue working with you to provide the necessary expertise, advice, and scientific information to avoid areas of important fishing activity and sensitive habitats; minimize impacts to fisheries and protected species; and support the conservation and sustainable management of our marine trust resources. To ensure we can continue to meet our collective objectives and ambitious timelines, it is imperative that we capitalize and build upon our collaboration on recent projects and integrate lessons learned into future project development and review. This will improve the quality of the NEPA document for this and future projects, expedite our reviews, avoid delays, and result in more efficiencies in the process. We appreciate your willingness to work with us to address these challenges and recognize the collaborative work among our agencies to help gain efficiencies in the regulatory process.

Comment Number: BOEM-2021-0057-0234-6

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 2

Comment Excerpt Text:

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 NOAA trust resources. The regulations published by the Council on Environmental Quality (CEQ) 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 as to eliminate from full consideration reasonable alternatives that also minimize and avoid adverse effects.

Comment Number: BOEM-2021-0057-0239-6
Organization: LaMonica Fine Foods
Commenter: Daniel LaVecchia
Commenter Type: Other
Other Sections: 20

Comment Excerpt Text:

Be careful in moving the agenda of offshore wind energy development agenda forward as quickly as is being done now with so little scientific information. This entire process has not been well thought out and explored for the cumulative impacts on the marine ecosystem in the foreseeable future. LFF recommends that offshore wind energy development proceed in an organized fashion, first monitoring the marine resources and habitats as they currently exist, and then researching how the construction of wind energy facilities cumulative impacts on the marine environment and resources might be mitigated. No windmills should be planted in the ocean until a test model is done in our region. There are just too many unknowns.

While LFF does not necessarily see how the thousands of wind turbines being planned for the East coast will reverse climate change to the extent that most subscribe to, we do not want to stand in its way. We ask that our regulators slow down this process, put in place a prudent pilot program of maybe 10 windmills in the test area that will demonstrate the operation over the next five to ten years.

A.3.18 Other Resources and Uses

Comments associated with this issue appear in the sub-issues below.

A.3.18.1. Aviation

No comments are associated with this issue.

A.3.18.2. Marine Minerals

Comment Number: BOEM-2021-0057-0089-7
Commenter: Gina Cobianchi
Commenter Type: Individual
Other Sections: 18.3 19.6

Comment Excerpt Text:

Additionally, the Projects could adversely impact mineral extraction, military use, air traffic, land-based radar services, cables and pipelines, and scientific surveys.

A.3.18.3. Military

Comment Number: BOEM-2021-0057-0089-7

Commenter: Gina Cobianchi

Commenter Type: Individual

Other Sections: 18.2 19.6

Comment Excerpt Text:

Additionally, the Projects could adversely impact mineral extraction, military use, air traffic, land-based radar services, cables and pipelines, and scientific surveys.

A.3.18.4. Research Activities

Comment Number: BOEM-2021-0057-0083-1

Commenter: Hubert Streep

Commenter Type: Individual

Comment Excerpt Text:

I am deeply troubled at the massive size of the offshore wind farms being proposed so close to the shores of New Jersey and the potentially catastrophic environmental effects on our local weather, wind, and water conditions.

Wind is kinetic energy and the wind turbines, by their very design, extract this kinetic energy to produce electricity. This effect, on the scale being proposed, is not negligible. It is huge, has no precedent anywhere in the world, and we have no empirical data to guide us. This is not being done in rural Texas or somewhere where it will go unnoticed. It is being done directly in front of a 22-billion-dollar annual tourism industry affecting the livelihoods of tens of thousands of our citizens and millions of our vacationers. How this is being pushed forward in such a reckless fashion is frankly unconscionable.

Let me begin with a topic that does not receive a lot of concern. We have all been hearing about "global warming" for decades. It is a commonly heard term, and most people recognize it as a potential threat to our environment and way of life. So do I. However, we are about to become familiar with another term that will not take decades or centuries to affect us. It will be immediate. That term is "local warming". And to a multi-billion dollar tourism industry dependent upon vacationers to escape the heat of their cities and towns, "local warming" is a death sentence. Here is what happens.

Many studies have been done on the downstream effects of wind turbines. But they all relate to on-shore wind farms demonstrating the effects of land-atmosphere interactions. Studies in Texas have shown an average increase in air temperature of around 1.3 degrees F. However, water-atmosphere interactions are much more complex and not as well understood as land-atmosphere interactions. In short, as a breeze passes over an offshore wind farm, the turbines will create an atmospheric wake where wind speeds drop, and turbulence increases. The rotors spawn a set of eddies that mix warm air from above with the cool air

next to the cooler ocean below. So now we are lifting the cool air near the ocean and sinking the warm air from above and with the prevailing south-southeast winds, we are sending this warm air to our beaches.

Suffice it to say, the loss of many gigawatts of kinetic wind energy along with the warmer air from the eddy mixing, and we are going to directly affect our shores. Estimates may be as high as 5-10 degrees F on certain summer days. Understand, this "local warming" will not take decades or centuries to hit us. The effects will be instantaneous and disastrous to our communities and livelihoods. The question begs, why has nobody yet bothered to adequately address, much less study, the immediate local warming reality of offshore wind farms constructed so close to land?

Comment Number: BOEM-2021-0057-0083-2

Commenter: Hubert Streep

Commenter Type: Individual

Other Sections: 7

Comment Excerpt Text:

Another area of grave concern is waves and currents. Both of these are affected as wind is a direct contributor to these ocean phenomena. Less wind energy means less wave energy and smaller wave action. How will this affect our shoreline our sand bars, and our ocean currents? And how about the changing wave effects on swimming and surfing? We have zero studies on the effect to our natural wave actions and we are actually entertaining the largest wind farm of this type ever attempted? We also have a Gulf Stream that gets pushed by the prevailing winds into our shores so that our east coast waters are delightfully warmed for our vacationers to enjoy. How the reduced winds and produced eddies will affect the warmer waters of the Gulf Stream coming to our shores is another major area of research that has so far been largely ignored.

Comment Number: BOEM-2021-0057-0083-3

Commenter: Hubert Streep

Commenter Type: Individual

Comment Excerpt Text:

Bottom line, we have created such an urgent need to act, and we have now a society that is so headstrong on going forth with renewable energy technologies, that we are ignoring many warning signs that are right in front of us. We still have far too much work, research, and data to collect and study before we undergo such a massive project. These things are not easily undone, and the extra time taken now to ensure the best long-term outcome is the prudent way forward. Smaller scale and further from shore would be a better start then "all in with no empirical data" to support the venture. Good engineers without a bias know this and we should act accordingly.

Comment Number: BOEM-2021-0057-0104-24

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 15

Comment Excerpt Text:

Due to the complexity of the potential impacts of OSW to the numerous biological resources in OSW siting areas, expedited research and analysis are needed to draft comprehensive data-based avoidance and mitigation strategies, and to adopt a least-impact precautionary approach. We offer the following general recommendations for OSW sector-wide consideration:

- Together with OSW developers, invest in scientific research and development of monitoring technologies to inform proactive adaptive management of impacted species of all taxa and their habitats.
- Develop programmatic, ecosystem-wide Best Management Practices (BMPs) as part of the OSW industry permitting requirements, based on current science and state-of-the-art/emergent technologies to protect natural resources in all OSW projects.
- Create a publicly available centralized data portal to serve as a clearinghouse of real-time data collection and dissemination for all OSW-related scientific and technological data. Make all decision-making data transparent and available for public review.

Comment Number: BOEM-2021-0057-0104-41

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 21

Comment Excerpt Text:

- Address the issue of proposed/confirmed offtake/power purchase agreements prior to permitting decisions on the proposed OSW projects as such agreements could result in inflexibility on the part of the developer in the consideration of least-impactful alternatives, and other requirements, and could also influence the permitting agencies into accepting the proposed project as-is or no project as the only two alternatives available.

Comment Number: BOEM-2021-0057-0122-5

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 19.4

Comment Excerpt Text:

COA maintains that impacts to marine life, from the benthos to the surface and above, must be avoided and the proposed projects must not create unnecessary harm. Unfortunately, there is not enough science to determine the impacts of this new industry on the ocean off the NY/NJ coast. Indeed, scientists in recent conferences have conceded that the scientific community does not know enough about the cumulative impacts the development of offshore wind energy and its associated infrastructure has on marine resources.

Comment Number: BOEM-2021-0057-0231-2

Commenter: Peter Himchak

Commenter Type: Individual

Other Sections: 20

Comment Excerpt Text:

I serve as a commercial fishery board representative to ROSA, Responsible Offshore Science Alliance, and from what I have seen so far on the ROSA board and its advisory council, the construction and operation plans are running too far ahead of the science.

Be careful what you wish for and how quickly you want wind energy being developed in the current manner. There may be unintended consequences. For example, the thousands of scour pads around each wind turbine, well, yes, it will be present increased fishing opportunities but if you don't control effort, you could overfish these resources to oblivion.

Also, consider how these new rubble and scour pads all covered with mussels that filter feed on the microfauna could very well change the lowest trophic level of the food pyramid.

So, in summation, be careful in moving this agenda forward so fast with so little scientific information.

A.3.18.5. Other

Comment Number: BOEM-2021-0057-0027-5
Commenter: Kevin Kernan
Commenter Type: Individual

Comment Excerpt Text:

Also reducing wind speed which will increase the temperatures on LBI.

Comment Number: BOEM-2021-0057-0031-8
Commenter: David Ackerman
Commenter Type: Individual

Comment Excerpt Text:

Other objections suggest that foreign companies will be the main beneficiaries.

Comment Number: BOEM-2021-0057-0114-5
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

Environmental due diligence is required before leasing thousands of square miles of our federal ocean resources to large foreign companies.

Comment Number: BOEM-2021-0057-0117-5
Commenter: Maureen Keating
Commenter Type: Individual

Comment Excerpt Text:

everyone understands the need for timely and responsible environmental action re: clean energy ; summary of facts needed related to the U.S. and European companies and confirm that there was a fair and transparent notification/competitive bid/RFP process open to all companies/including U.S.-as was requested by speakers , and are Union constructs;

Comment Number: BOEM-2021-0057-0119-25

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Draft EIS should not use value-laden terms (e.g., “beneficial”) to describe changes in ecosystems or species. It should instead be objectively described as ecosystem [*Italics: change*]. While we agree that some offshore wind activities may result in a change in the ecosystem and, in some cases, an increase in the abundance of certain species or in overall diversity, we caution against the Atlantic Shores Draft EIS representing these changes as “beneficial.” This is especially the case because it is unclear what implications these changes may have on the wider ecosystem. We recommend that the Atlantic Shores Draft EIS remain objective in language used in its impact analysis (e.g., by using terminology such as “increase,” “decrease,” and “change”).

Comment Number: BOEM-2021-0057-0130-4

Commenter: Denise Brush

Commenter Type: Individual

Comment Excerpt Text:

The offshore wind industry uses technology that has already been proven in Europe.

A.3.19 Other Topics Not Listed

Comments associated with this issue appear in the sub-issues below.

A.3.19.1. Coastal Zone Consistency

Comment Number: BOEM-2021-0057-0122-9

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

Moreover, the BOEM-designed process by which the agency intends to develop an offshore lease proposed by Atlantic Shores requires the State of New Jersey and the public to provide their input on the projects’ federal consistency for purposes of the Coastal Zone Management Act (“CZMA”) prior to having a comprehensive final account of the operation’s potential environmental impacts. To illustrate

this point, the state agency responsible for CZMA federal consistency certifications in New Jersey, the Department of Environmental Protection (“the Department”), provided public notice that it received a request for federal consistency certification from Atlantic Shores on October 20, 2021, allowing the public to review Atlantic Shores’ application for Federal Consistency Certification only by appointment at the Department’s Trenton office or by submitting a request under the Open Public Records Act to the Department. [Footnote 4: N.J. Dept. of Environmental Protection, Notice of Receipt – Federal Consistency Certification, 45 DEP Bulletin 20, 5 (Oct. 20, 2021), https://www.nj.gov/dep/bulletin/bu2021_1020.pdf.] In addition to the considerable hurdles that an average member of the public must overcome in order to submit an informed comment on Atlantic Shores’ proposed Federal Consistency Certification, BOEM slating the CZMA federal consistency review for this stage of the process is arbitrary and an abuse of discretion because, according to BOEM’s own regulations, Atlantic Shores will be able to continue amending its COP in later stages of the offshore wind lease issuance process. Soliciting certification of the federal consistency for purposes of the CZMA at this stage of the process unnecessarily precludes the public and the State of New Jersey from ensuring that their comments reflect the most recent and accurate representations of Atlantic Shores’ operations and their potential impacts.

A.3.19.2. Noise

Comment Number: BOEM-2021-0057-0014-1

Commenter: Sabrina Wilder

Commenter Type: Individual

Other Sections: 15

Comment Excerpt Text:

The issues or impacts that could arise from the construction and use of the wind project include increased underwater noise and vibrations and increased vessel traffic. Both of these issues could potentially drive away sea creatures native to that region. My recommendation to reduce these impacts would be to put dampeners on the structures and the construction equipment and to find other way of transportation than boats to get out to the structure.

Comment Number: BOEM-2021-0057-0014-3

Commenter: Sabrina Wilder

Commenter Type: Individual

Other Sections: 15

Comment Excerpt Text:

My recommendations to possibly reduce the impact that may come about would be to put dampeners to lessen the noise and vibrations and to find a different way to get out to the structures to reduce vessel traffic.

Comment Number: BOEM-2021-0057-0039-10

Organization: Mayor of Borough of Seaside Park

Commenter: John A. Peterson Jr.

Commenter Type: Local Agency

Comment Excerpt Text:

In particular, I join in the well-reasoned comments of the Clean Ocean Action Organization previously communicated to BOEM, as to the cumulative impacts upon marine mammals and fish, an industrial wind farm project may cause. In this regard, the vast impact of noise upon marine mammal life, and fisheries, during the construction phase, the actual operation and maintenance of the massive wind turbines, and the barely explored decommissioning of same, have all been severely discounted, if not ignored. True science would dictate all of these potential impacts be thoroughly studied and monitored, through a comprehensive long-term review process, rather than being subject to a rush to judgment, of the award of leases, and the inevitable noise generated by the impactful construction process ahead. The economic vitality of the Jersey Shore, and our entire region, is at issue

Comment Number: BOEM-2021-0057-0050-27
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Operational turbine noise was previously dismissed by the BOEM as a problem. But that was based on assessment of smaller, much less noisy turbines, e.g., in the Vineyard Wind 1 EIS with source levels of 137 decibels (dB)*.

- Neither this NOI or the Construction and Operations Plan (COP) state the power, manufacturer, or drive type of the turbine proposed to be used or the foundation type. But the New Jersey Board of Public utilities (BPU) approval of 1510 megawatts (mw) for Project 1 was based on the use of Vesta-236 13.6 mw turbines and monopile foundations ^(BG1). We assume that Atlantic Shores is adhering to the conditions of the State's approval so our analysis herein is based on the use of those turbines and foundations.

Comment Number: BOEM-2021-0057-0050-28
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Source sound levels for those 13.6 mw gearbox turbines are predicted at 180 dB^{W2} using the rootmean square trend line of Figure 1 of that study extrapolated out to 13.6 mw turbines, which is about 40 dB higher and 10,000 times* more intense than the noise from the smaller turbines.

- The 180 dB source noise level is confirmed by another study ^{W17}. The authors there also tabulated, correlated and plotted sound levels as a function of wind speed, power, and distance. Figure 3(C) shows the trend in received noise level at 100 meters from the source versus turbine power for monopile foundations. Drawing a trend line through that data and extrapolating it out to 13.6 megawatts results in noise level of 132.5 dB. Back calculating that from 100 meters to the turbine source at 1 meter adds 47.4 dB (page 21) resulting in a 179.9 dB noise source level.

Comment Number: BOEM-2021-0057-0050-30
Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The 6-mile distance above is for a single turbine 180 dB source. At distances close to that source it dominates the received noise level. But at distances 6 miles away the contributions from neighboring turbines become comparable and must be considered. For example, with a one mile spacing, just the six other turbines closest to a receiver 6 miles away will add 8.3 dB to the received noise level, again using the $15 \log_{10}(r/r_0)$ formula.

- That is equivalent to having a single equivalent source for all seven turbines of 188.3 dB, requiring 22.2 miles to bring that level down to 120 dB. This would envelop the entire 12-mile-wide right whale migratory corridor with noise above the 120 dB disturbance criterion. When the entire wind complex is considered, the zone of influence for behavior disruption will be even larger than 22 miles, and the sound levels within the migratory corridor more intense.
- Since the noise zone of influence is much larger than the turbine spacing of about a mile the 120 dB level will also be exceeded everywhere in the project area.
- This creates a “wall” of noise across the turbine complex and the whale’s migration corridor, essentially blocking it.

Comment Number: BOEM-2021-0057-0050-43
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Addressing Temporary and Permanent Whale Hearing Loss

With a turbine source noise level for a 13.6-mw turbine of 180 dB, depending on the route and the time it takes a whale to exit high sound level areas, the received sound exposure level (SEL) could easily exceed the NMFS criteria of 199 dB SEL for permanent hearing threshold loss and 179 dB for temporary threshold loss^{W11}. The EIS, BA and BO need to include this assessment in the noise impact analysis

Comment Number: BOEM-2021-0057-0050-44
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

A different noise impact analysis is needed for the EIS, BA and BO. As discussed above the operational noise impacts from multiple larger gearbox turbines are now a significant problem, and a full quantitative analysis of the noise impact of the entire complex on the surrounding area is required.

The physical setting for operational noise is considerably different from the impacts previously assessed

for turbine installation. The operational noise levels are continuously high and require large distances to bring those levels down to threshold criteria. Instead of one or two noise sources for construction at a time there are multiple turbine noise sources.

The noise levels in the entire wind complex area and at least 22 miles beyond it will subject the whale to behavior disruption, and the whales will have considerable difficulty avoiding that noise. Previous assumptions regarding relatively rapid avoidance from one or two sources for construction noise analysis are no longer valid. Mitigating measures based on observation and shut down are no longer viable.

The analysis also needs to inject a degree of probability since extinction outcomes. can depend on more adverse scenarios as opposed to mean or average estimates

Comment Number: BOEM-2021-0057-0050-45
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Regarding presentation of results, current descriptions of noise impact in EISs, BAs and BOs are lengthy, contain nonessential background material and numerous references to other work, making reading and understanding them extremely hard. At the same time, they lack information in the document itself regarding how key calculations are made and conclusions arrived at.

Comment Number: BOEM-2021-0057-0050-56
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Underwater Noise. The high noise level from these turbines also raises the prospect that persons going underwater at the shore will hear the turbines. Using the same seven turbine sources in I.1 above, the underwater noise level at the shore 10 miles away from inner project area turbines would be 125 dB. That would be audible to a person^{OS3} and above typical background levels of approximately 80 dB.

Underwater noise is received differently than an air, and the impacts of this on a person are not clear. However, this needs to be fully investigated for the EIS lest diving into a wave at the shore becomes a thing of the past.

Comment Number: BOEM-2021-0057-0050-61
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Sounds exposure guidelines in Table 7.7 for fish for continuous noise show temporary threshold shift occurring above 158 dB and recoverable injury above 170 d, as well as a high potential for masking of

communications and behavior modification, including avoiding the area. Those levels and higher will be encountered within the wind complex as discussed above in I.1, so this needs to be fully analyzed in the EIS and EFH assessment

Comment Number: BOEM-2021-0057-0050-64
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Equally important, the larger underwater source noise levels and the significantly greater distances required for those levels to dissipate to background raise serious issues regarding potential interference with Navy underwater acoustical surveillance systems (sonar). Previous studies assumed that underwater noise levels from wind turbines would attenuate to background level well before reaching the edge of the outer continental shelf and open ocean. This may no longer be the case. The Department of Defense should be consulted to make them aware of the higher noise levels and determine their position

Comment Number: BOEM-2021-0057-0052-30
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Gravity-based Foundations

Quiet fixed foundation technology should be used whenever possible to avoid the noise generated by pile driving. Gravity-based foundations have been used successfully for decades in Europe and are a good alternative to louder installation technology. The EIS should prohibit installation of gravity-based foundations when protected species are present in the project area, in addition to any dynamic restrictions due to the presence of NARW or other endangered species. The EIS must analyze the potential for seafloor disruption where foundations are placed and include alternatives to minimize adverse effects.

Comment Number: BOEM-2021-0057-0052-31
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Pile driving

Offshore wind farm construction may include both driven piles and piles installed using vibratory techniques. Each of these produce 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 restrictions due to the

presence of NARW or other endangered species.

Comment Number: BOEM-2021-0057-0104-31
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 20

Comment Excerpt Text:

invest in research to better understand the potential cumulative effects of OSW- related acoustic and barometric disturbances on, and behavioral responses on economically and ecologically important fisheries and benthic resources. This study should focus on a broad representative group of species with the widest “range of hearing capabilities and mechanisms of the fishes present in the OSW areas”.

Comment Number: BOEM-2021-0057-0104-8
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 15

Comment Excerpt Text:

The two likely chronic noise sources of offshore wind projects would be the gearbox noise from the turbines, and noises from the propeller blades, which include continuous noise from air turbulence induced by the blades, the pressure pulse as the blades pass the mast, and the roar of the tip vortices. [Footnote 19: Michael Stocker, Ocean Conservation Research. (2021, Oct 25), Personal communication.] Operation of the ~200 WGs of the 2 Atlantic Shores projects will have a significant acoustic footprint in the marine environment, which will impact species from multiple taxa[Footnote 20: Kim, S-C., & Choi, M. J. (2021). Harmfulness of infrasound and wind turbine noise managements. Journal of the Acoustical Society of Korea, 40(1), 73-83; Pine, M. K., Jeffs, A. G., & Radford, C. A. (2012). Turbine Sound May Influence the Metamorphosis Behavior of Estuarine Crab Megalopae. PLoS ONE, 7(12)] including at-risk species. The EIS must therefore evaluate all established and emergent technologies to minimize continues operational noise both from the gearboxes (e.g. by acoustic decoupling of the turbine from the mast or platform, by installing direct drive turbines, or other technologies) as well as from propeller blades.

Comment Number: BOEM-2021-0057-0105-11
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 15

Comment Excerpt Text:

Monitoring the Magnitude and Extent of Sound Propagation During Foundation Construction via Pile Driving is Critical and Should be Required by BOEM in the Preferred Alternative in the EIS to Further the Progress of Technology Decisions in the Offshore Wind Context.

The initial goal of monitoring sound propagation is to establish pile driving noise thresholds aimed at

avoiding both physiological and behavioral impacts to marine species especially from cumulative noise exposure resulting from temporal or spatial project construction overlaps. But ultimately this information should be used to allow project developers to always choose foundation and turbine types that avoid these physiological and behavioral impacts altogether. Concerns related to the impacts of pile driving on the critically endangered North Atlantic Right Whale (NARW) are well-placed and appropriately consistently raised whenever pile driving is an option for an offshore wind project. The best avoidance and mitigation protocols should be required for this project to ensure protections for the NARW. Pile driving noise is also concerning for all marine mammals, sea turtles, fish, and virtually all other taxa of marine life. Populations of marine mammals, sea turtles, fish and invertebrates stand to experience cumulative impacts resulting from chronic exposure to pile driving noise during construction of this project, and all the other projects in the construction pipeline. The minimization of cumulative impacts of pile driving for multiple projects at the same time or in rapid succession should be given more attention, since construction of these projects could overlap both temporally and spatially.

Ideally, BOEM will be in a position to recommend a pile driving noise threshold aimed at avoiding physiological and behavioral impacts to marine mammals and fish. A 2010 study assessing the effect of pile driving noise on marine fish suggested that pile-driving noise during construction was of particular concern because “the high sound pressure levels could potentially prevent fish from reaching breeding or spawning sites, finding food, and acoustically locating mates. This could result in long-term effects on reproduction and population parameters. Further, avoidance reactions might result in displacement away from potential fishing grounds and lead to reduced catches. However, reaction thresholds and therefore the impacts of pile-driving on the behaviour of fish are completely unknown.” [Footnote 11: Mueller-Blenkle, C., McGregor, P., Gill, A., Andersson, M., Metcalfe, J., Bendall, V., Sigray, P., Wood, D., Thomsen, F. (2010). Effects of Pile-Driving Noise on the Behaviour of Marine Fish. Centre for Environment Fisheries and Aquaculture Science (Cranfield and Stockholm Universities).] The benefit of monitoring noise propagation during pile driving will be enhanced if the data generated is incorporated into concurrent research studies relative to specific target species of concern.

Articulation of a noise threshold at the early stages of planning will provide time and flexibility for the developers to choose how to keep construction noise below that threshold, perhaps even steering project applicants to foundation and turbine technologies that (will not exceed) automatically fall below the threshold at the start. Without a detailed description of what the anticipated pile driving noise will be at its source, all stakeholders involved are challenged to ascertain whether and how mitigation will be achieved by any specific noise reduction requirement. Therefore, absent articulation of a specific noise threshold, required noise mitigation should not be limited to a set dB reduction but instead should include use of best technology available or combination of approaches which have the potential to far exceed a minimal dB reduction. We urge requiring testing of the efficacy of noise mitigation approaches, mandatory public sharing of testing results, and making continual adjustments and improvements within and among projects using an adaptive management approach.

In addition, as the Conservancy has previously recommended, requiring a thorough network of non-proprietary sound monitoring stations within the Offshore Project Area is key to providing real-time data that can support ongoing research and monitoring projects, and can inform foundation and turbine technology requirements for future projects, best management practices, permit conditions, and make adaptive management more than a theoretical tagline. Ultimately, this kind of monitoring will enable BOEM to establish noise thresholds for pile driving and operation and maintenance activities associated with the offshore wind industry. NOAA and BOEM recently released recommendations for using passive acoustic monitoring for offshore wind [Footnote 12: <https://www.frontiersin.org/articles/10.3389/fmars.2021.760840/full>], which we encourage BOEM to operationalize into required permit conditions.

We are aware that there are still some uncertainties around the magnitude and extent of the sound fields that will be generated by the first offshore wind projects constructed in the United States and recommend use of applicable sound field measurements from other locations that could help more clearly articulate anticipated pile driving noise for this project in the EIS and the Incidental Harassment Assessment (IHA), including analyses of sound field measurements taken earlier this year during the installation of the two turbine Coastal Virginia Offshore Wind (CVOW) project[Footnote 13: https://espis.boem.gov/final%20reports/BOEM_2021-025.pdf] in federal waters off Virginia.

Comment Number: BOEM-2021-0057-0105-12

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Effects on Marine Life From Exposure to Consistent Operational Noise Created by WTGs and Related Infrastructure Should be Studied and Addressed as Part of the Mitigation Hierarchy

Numerous recent studies recognize that “while the impact of underwater sound related to construction work has been in the focus of research and regulation, few data exist on the potential impact of underwater sound from operational wind farms.” [Footnote 14: See Stöber, U., and Thomsen, F. (2021). How could operational underwater sound from future offshore wind turbines impact marine life? *The Journal of the Acoustical Society of America* 149, 1791.] Still, we know that during project operation, WTGs will generate non-impulsive sound in the nacelle that will be transmitted down the WTG tower to the foundation and then radiated into the water. Sound (operational and from pile driving) may also propagate in the seabed. For example, at CVOW the sound reduction benefit from the use of bubble curtains for use during pile driving was at distances further away from the turbines themselves. It was speculated that “another possibility is the propagation of sound through the seabed (which would not be attenuated by the bubble curtains in the water) contributed to the peak pressure levels in both foundations at close ranges.”

Underwater sound levels generated by an operational WTG are related to the WTG’s power and wind speed, with increased wind speeds creating increased underwater sound (Wahlberg and Westerberg 2005). [Footnote 15: Wahlberg, M., and Westerberg, H. (2005). Hearing in fish and their reactions to sounds from offshore wind farms. *Mar. Ecol. Prog. Ser.* 288, 295–309. <https://doi.org/10.3354/meps288295>] Under normal conditions, the sound level that results from WTG operation is of low intensity (Madsen et al. 2006), [Footnote 16: Madsen, P. T., Wahlberg, M., Tougaard, J., Lucke, K., and Tyack, P. L. (2006). Wind turbine underwater noise and marine mammals: Implications of current knowledge and data needs. *Mar. Ecol. Prog. Ser.* 309, 279–295. <https://doi.org/10.3354/meps309279>] with energy concentrated at low frequencies (below a few kHz) (Tougaard et al. 2009). [Footnote 17: Tougaard, J., Henriksen, O. D., and Miller, L. A. (2009). Underwater noise from three offshore wind turbines: Estimation of impact zones for harbor porpoises and harbor seals. *J. Acoust. Soc. Am.* 125, 3766–3773. <https://doi.org/10.1121/1.3117444>] Pangerc et al. (2016) recorded SPL measurements at approximately 164 ft (50 m) from two individual 3.6 megawatt (MW) monopile wind turbines over a 21-day operating period. The sound pressure level increased with wind speed up to an average value of 128 dB re 1 μ Pa at a wind speed of about 22.4 miles per hour (mph) (10 meters per second [m/s]), and then showed a general decrease. [Footnote 18: Pangerc, T., Theobald, P. D., Wang, L. S., Robinson, S. P., and Lepper, P. A. (2016). Measurement and characterisation of radiated underwater sound from a 3.6 MW monopile wind turbine. *J. Acoust. Soc. Am.* 140, 2913–2922. <https://doi.org/10.1121/1.4964824>] Additional studies conducted during operation of the Block Island Wind Farm measured sound levels below 120 dB SPL at

wind speeds less than 29 mph (13 m/s) (HDR 2019b). These sound levels are expected to be similar to those reported for cable laying/trenching.

As with the need to evaluate foundation type to promote impact avoidance as a first consideration for project developers, turbine selection also should be evaluated in a similar manner in terms of operational noise. There is a relationship between turbine size in terms of their nominal power and the operational noise they generate. Thus, evaluations done on noise generated by 6MW turbines at Block Island may not be applicable to 13 or 15 MW turbines being considered for this project. In addition, gear-box turbines such as those included in the design envelope have been shown to be louder than the direct drive turbines used at Block Island, and unless intentionally mitigated for, operational noise is conveyed underwater where it travels further and faster. BOEM should prioritize minimization of operational noise as it evaluates impacts of turbine selection. According to (Stöber and Thomsen 2021) “the shift from using selection of direct drive technology as an alternative to gear box technology is expected to reduce the sound level by 10 dB. Using the National Oceanic Atmospheric Administration criterion for behavioral disruption for continuous noise (i.e., level B), a single 10 MW direct drive turbine is expected to cause behavioral response in marine mammals up to 1.4 km distance from the turbine, compared to 6.3 km for a turbine with gear box. And since Atlantic Shores and many of the other projects moving forward through the permit process are considering turbines larger than 10MW, BOEM should be prioritizing project design selections that minimize operational noise to levels that do not raise concerns for marine life. This is particularly important for operational noise that will cover large areas and persist through the life of the projects. As suggested above, BOEM’s evaluation of the impacts and benefits associated with use of particular technologies is critically important because it is the direction from BOEM that will aid project applicants to be able to incorporate potentially costly mitigation and permit conditions into original project designs (e.g., factor in the long-term sound mitigation costs associated with a noisier turbine in comparison to a quieter one).

Comment Number: BOEM-2021-0057-0105-5
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 15

Comment Excerpt Text:

BOEM should require monitoring for the magnitude and extent of sound propagation during pile driving to inform future foundation technology choices;

Comment Number: BOEM-2021-0057-0105-6
Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

the effects of operation noise on marine life should be studied and addressed as part of the mitigation hierarchy;

Comment Number: BOEM-2021-0057-0114-38
Organization: Responsible Offshore Development Alliance

Commenter:
Commenter Type: Other
Other Sections: 19.6 12

Comment Excerpt Text:

Currently, the process for submitting geological and geophysical (G&G) survey information in Site Assessment Plans (SAP) does not allow for environmental review of the impacts of survey activities. BOEM requires the submission of G&G information in SAPs for both wind energy areas and cable routes, [Footnote 13: 30 C.F.R. § 585.610.] but survey activities undertaken pursuant to the collection of this mandated information are not explicitly governed or authorized under any EA. Because survey information is collected before BOEM reviews a SAP, [Footnote 14: Notably, the public does not have an opportunity to comment on a SAP or even see a draft until after BOEM's approval.] there is no formal process for evaluating the environmental impacts of survey activities. However, the G&G survey equipment is known to cause harm to commercially harvested fishes [Footnote 15: See, e.g., van der Knaap, Inge, et al. "Effects of a seismic survey on movement of free-ranging Atlantic cod." *Current Biology* (2021). <https://doi.org/10.1016/j.cub.2021.01.050>. While this study examines the effects of the low frequency-sound pulses associated with oil and gas site characterization, it is unclear to what extent how those differ from sound and vibrations produced by current generation OSW surveys, as available public information spans a vast range of possibilities and we are unable to identify any instance in which BOEM has authoritatively disclosed this information.] and the marine environment, [Footnote 16: See Kunc HP, McLaughlin KE & R Schmidt. "Aquatic noise pollution: Implications for individuals, populations, and ecosystems." *Proceedings of the Royal Society B: Biological Sciences* (2016). <https://doi.org/10.1098/rspb.2016.0839>] is used in a manner that displaces commercial fishing activity, and results in loss of or damage to fishing gear. Numerous RODA members have reported observing population-scale impacts to harvested species, particularly pelagic species including squids but also demersal species like whelks, after periods of OSW survey vessel activity. In recent years, the scientific literature on acoustic impacts to commercially harvested stocks has broadened, and the best available science now corroborates the experiences of our members, showing that acoustic impacts from OSW projects and seismic surveys have localized and population-scale impacts to harvested species and their habitat.

Comment Number: BOEM-2021-0057-0115-4
Commenter: Dorothy (Dottie) Reynolds
Commenter Type: Individual

Comment Excerpt Text:

Wind turbine noise terrorizes whales and other marine mammals, disrupting their migratory, foraging and mating behavior, and has led to cetacean fatalities in Europe. Construction requires deafening seismic surveys using violent bursts of noise from large air guns and pile drivers which can cause permanent damage and deafness to the whales' ears and their built-in sonar, causing many documented cases of beached whales. The loud noise, which greatly exceeds the NOAA acceptable criteria for noise, travels a long distance in water and masks the acoustic communication needed for navigation and mating of marine mammals. The eardrums of bats can implode from the loud bursts of sound. Are we really protecting the environment? We campaigned to stop harmful Japanese whaling activities and now we are backing wind farms responsible for the beaching and death of whales and porpoises. What are we doing to the sea around us?

Comment Number: BOEM-2021-0057-0119-59

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The ASOW COP (Vol. II, Section 4.7.2.2) notes that a 10 dB attenuation level was conservatively chosen for the exposure assessment on marine mammals as the minimum sound reduction achievable with the application of a single noise abatement system (NAS), such as a bubble curtain, during pile-driving. Further, the COP states: “Atlantic Shores is investigating NAS options including, but not limited to, evacuated sleeve systems (e.g., IHC-Noise Mitigation System [NMS]), encapsulated bubble systems, and/or Helmholtz resonators (e.g., the AdBm NMS and HydroSound Dampers [HSDs]). These technologies may be capable of meeting or exceeding 10 dB attenuation during actual pile-driving, which could further decrease the radial distances away from the source of pile-driving noise.”]. A minimum of 10 dB (SEL) must be attained in the field during construction in combined noise reduction and attenuation [Footnote 171: The Hydroacoustic Modeling Report conducted for the Atlantic Shores COP (i.e., Appendix II-L) does not appear to provide any estimation of the source levels used for to develop the models meaning that they cannot be verified (ranges are provided but not the specific source levels). A previous version did not contain sufficient information to check the derived values from the pile driving analysis. The simple method to address this would be to provide a sound source verification study from a similar project (especially with similar hammer energy levels) or clearly explain how source levels were calculated, neither of which should require proprietary modeling. We do not assume that the reported values are wrong, but there is not enough information to follow the math, and other reports indicate higher expected impact levels. A BOEM appendix for the South Fork Wind Farm project lists a study that found modeled impact results underestimated potential impacts by a factor of five].

Comment Number: BOEM-2021-0057-0119-71

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Offshore wind energy development in the Mid-Atlantic and the Northeast offshore wind energy planning regions includes multiple leaseholders developing individual projects on parallel timelines. If not well coordinated, these combined activities have the potential to lead to significant cumulative noise impacts on marine mammals and other marine life. BOEM should proactively address this issue and develop regional construction calendars in coordination with its sister agencies that schedule (spatially and/or temporally) noisy pre-construction and construction development activities in a way that reduces cumulative noise impacts.

Comment Number: BOEM-2021-0057-0119-75

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM should conduct a detailed analysis of the operational noise levels expected to be generated by the Atlantic Shores project, both in terms of its potential impacts on marine mammals and their habitat [Footnote 201: Jakob Tougaard, Oluf Damsgaard Henriksen, and Lee Miller. (2009) Underwater noise from three types of offshore wind turbines: Estimation of impact zones for harbor porpoises and harbor seal. *J. Acoustical Soc.* 125:6], but also on fish [Footnote 202: Hawkins, A. D., and Popper, A. N. (2016). “Quo Vadimus—A sound approach to assessing the impact of underwater noise on marine fishes and invertebrates,” *ICES J. Mar. Sci.* 74, 635–651] and invertebrates [Footnote 203: Solan, M., Hauton, C., Godbold, J. et al. Anthropogenic sources of underwater sound can modify how sediment-dwelling invertebrates mediate ecosystem properties. *Sci Rep* 6, 20540 (2016).] that comprise the foundation of the trophic pyramid. We also recommend BOEM take immediate steps to reduce these potential impacts. Pending further study and the development of technology to permit acoustic decoupling of the turbine from the mast, we recommend BOEM require the use of direct drive WTGs as opposed to WTGs that rely on a gear box.

Comment Number: BOEM-2021-0057-0122-13

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

(1) Noise Pollution from Construction

- a. Studies have shown that construction noise related to offshore wind farms (especially pile driving) may cause behavioral changes and negative impacts in seals, porpoises, dolphins, and whales.
- b. Disruption effects have been measured up to 20 miles from the construction site.

(2) Noise from Operation

- a. This includes both the noise from the turbines themselves which emit a constant low-frequency noise and also the increased vessel traffic from operations and maintenance (O&M) activities.
 - b. The operational noise stems from vibrations in the tower caused by the gearbox mesh in addition to the generator, causing underwater noise.
-

Comment Number: BOEM-2021-0057-0128-4

Commenter: Margaret Collins

Commenter Type: Individual

Comment Excerpt Text:

The question of noise and light pollution, the WHO, the World Health Organization, recognizes that living near a wind farm creates excessive noise, you have the noise, a wind noise which is a constant humming day and night, people have reported being unable to sleep with the sound of this constant mechanical whir, the shadow flickering which is the pulsing beams of light that are a constant problem of wind farms, and also the ice which can be thrown from the spinning blades makes them a hazard to safety.

Comment Number: BOEM-2021-0057-0142-2

Organization: Save Long Beach Island, Inc.
Commenter: Wendy Kouba
Commenter Type: Non-Governmental Organization
Other Sections: 14

Comment Excerpt Text:

In addition, the underwater noise from the turbines would block the entire adjacent 12-mile wide migration corridor of the critically endangered North Atlantic Right Whale, likely violating the endangered species and marine mammal protection laws.

The project will also force endangered fin and humpback whales who are attempting to avoid the noise from the turbines very close to shore increasing the stranding of whales on the beach and leading to their death.

Comment Number: BOEM-2021-0057-0144-2
Organization: Anglers for Offshore Wind Power
Commenter: Paul Eidman
Commenter Type: Non-Governmental Organization
Other Sections: 8 15

Comment Excerpt Text:

Fisheries impacts from noise primarily pile driving are likely to be localized and temporary. Operational noise and vibration impacts are minimal, and we are hoping that developers like Atlantic Shores implement underwater noise mitigation measures during installation like bubble curtains and other devices to reduce noise levels for not only game fish but marine mammals as well.

Comment Number: BOEM-2021-0057-0216-2
Commenter: Paul Eidman
Commenter Type: Individual

Comment Excerpt Text:

I want to add that there is no way that I would be in favor of or support offshore wind in any way if I thought that the -- that these projects would do more harm than good. I do whale watching charters in the summer here and the last thing I would want is for any of my whale friends to be hurt or injured or wind up stranded on the beach, but the simple fact of the matter is that the studies out there are simply not showing the underwater noises that have been claimed on this call.

Comment Number: BOEM-2021-0057-0234-42
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency

Comment Excerpt Text:

- Impacts of elevated noise during any geophysical and geotechnical surveys, pile driving, wind turbine operations, and other activities;

Comment Number: BOEM-2021-0057-0240-10

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

Vibrations from driving 36' diameter steel piles 150' into the sea floor will radiate for up to 7.5 miles, even with the proposed bubble curtain mitigations. This quaking will negatively affect sea life and drive them out of local waters.

Comment Number: BOEM-2021-0057-0241-6

Commenter: George Thayer

Commenter Type: Individual

Comment Excerpt Text:

underwater noise from the turbines will:

- Block the entire adjacent 12 mile migration corridor of the endangered North Atlantic Right whale.
 - Will force the endangered Fin and Humpback whales closer to the shore in an attempt to avoid the noise, possibly leading to stranding etc.
 - Will destroy the threatened Piping Plover bird population as they must cross the rotating turbine blades to nest on LBI
-

Comment Number: BOEM-2021-0057-0242-5

Commenter: Ralph Thayer Jr.

Commenter Type: Individual

Comment Excerpt Text:

What will 200 turbines spinning in unison sound like? I don't know. There were noise reports for the on-land installation of cables and transfer stations. There is a marine mammal impact report saying in so many words that the underwater levels of noise of installing the tower bases exceed established limits and will be detrimental to those same animals. Mitigation? None that I could find. I could not find information on the sound a single turbine of this size will make in operation, much less two hundred turbines in unison. Is it a hum? A buzz? A whoosh? A drone? A thump as the turbine blade passes the tower base compressing the air? What about the decibels that are outside of the range of human hearing? What is the effect of that infrasound on sea life? What is the effect of mechanical vibration from two hundred turbines on sea life rumbling down through the tower pilings to the sea floor? It is a given that animals are more sensitive to virtually everything that humans have become desensitized to. A static, silent reef structure attracts life. Will it be the same for these towers? Underwater sound waves travel faster and farther than sound in the open air. It is hard to conceive that this intrusion on the sea floor will have no impact.

A.3.19.3. Materials and Waste Management

Comment Number: BOEM-2021-0057-0104-29

Organization: Defenders of Wildlife

Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

develop and implement comprehensive waste management plans, and train all project personnel to prevent spills of hazardous substances, and to control water pollution

Comment Number: BOEM-2021-0057-0107-17
Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council
Commenter:
Commenter Type: Federal Agency

Comment Excerpt 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-2021-0057-0114-8
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

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 Atlantic Shores project is decommissioned if this information is not included in the EIS

Comment Number: BOEM-2021-0057-0128-5
Commenter: Margaret Collins
Commenter Type: Individual

Comment Excerpt Text:

Now, fiberglass wind turbine blades, even though this sounds like an environmental win for society, it's quite the opposite, they are very hard to recycle and they take, they take a lot of difficulty to even bring to landfills and there are numerous court cases where communities have been suing the companies that are supposed to dispose of these turbine blades because they have left them in areas where they pose an even greater environmental disaster.

Comment Number: BOEM-2021-0057-0194-8
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

If we were serious about climate change, energy conservation efficiency would be our first commitment with meaningful actions to eliminate energy waste.

A.3.19.4. General Wildlife

Comment Number: BOEM-2021-0057-0050-22
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The BOEM, National Marine and Fisheries Service (NMFS), and the Coast Guard should collaborate on a joint study to assess the synergistic impact on the right whale from the long-term operational noise of the offshore wind projects foreseen, and the use of its migratory corridor as a deep draft vessel lane, and include the results in the EIS, ITR, BA and BO

Comment Number: BOEM-2021-0057-0050-99
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Scope of the ESA Biological Assessment (BA) and Biological Opinion (BO).

The BA includes per CFR50 §402.12(f)(4) an analysis of the effects of the action on the species and habitat, including consideration of cumulative effects, and the results of any related studies.

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See §402.17).

Cumulative effects, §402.02, are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the [bold and italics: action area] of the Federal action subject to consultation, where the [bold and italics: action area] means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

The Action Area. Within this framework the action area for the NMFS BA should include the wind turbine area and the surrounding areas enveloped by project noise at levels that may cause impacts, at a

minimum above the 120dB level. It should also include offshore and onshore export cable corridors, any new onshore electric grid construction, and the vessel transit lanes between ports, including Paulsboro and the staging area at Alloways Creek, and the wind complex project area throughout all project phases (construction, maintenance, and decommissioning).

Regarding the piping plover, the action area for the USFWS BA needs to encompass its transit corridors to and from, and its nesting and foraging areas in the Edwin P. Forsythe Wildlife Refuge in Holgate, Barnegat Light and the North Brigantine State Natural area. Similarly, that action area should include corridors to and from, and habitat areas, for the red knot in Holgate and North Brigantine.

Interrelated and Interdependent Actions. It is noted that assessments of such actions are included in the analysis of the effects of the action in the US Fish and Wildlife Service and National Marine Fisheries Service Endangered Species Consultation Hand Book (page 4-26). The Vineyard Wind 1 BA also included the effects of such interrelated and interdependent actions in its definition of the action area (Section 1.2).

As noted above in our comments on EIS scope, development in the Ocean Wind and Hudson South areas are interrelated with those in the Atlantic Shores area since they all are intended to contribute to a single objective. In addition, based on Exhibit B, impacts on the right whale will occur from all three areas since the operational noise envelope from all three intersects its migratory corridor. Therefore, it would serve the purpose of the ESA to assess the full impact on the right whale from all three areas, and the BA should do so.

Comment Number: BOEM-2021-0057-0052-21

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt 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-2021-0057-0052-37

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

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 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.

Comment Number: BOEM-2021-0057-0100-2

Commenter: David Wallace

Commenter Type: Individual

Other Sections: 20

Comment Excerpt Text:

The most troubling obvious effect is that the turbines in this and the other surrounding wind farms are going to change the entire ecosystem and it is clear that it will not be for the better. All of these turbines so close together will have negative effect by slowing the wind within the array, which in turn warms the air and ocean surface, which effect the wind driven currents and finally the tides. That alone is enough to give every scientist looking at this situation, to conclude that it is imperative to know and understand what the overall effects will be before installing many hundreds of the giant turbines. Once the ecology of the areas has been altered, it is difficult if not impossible to understand what the response will be in the behavior of marine mammals, birds, fish stocks and navigation along with changes in the weather systems. It is clear that these wind farms will have a significant impact, but there is little information on what the cumulative effects will be. It appears that neither BOEM's nor wind farm developers are interested to collect the data and analyze it before installation of the cables and turbines. Whatever the effects are thereafter will be a positive or negative surprise.

Comment Number: BOEM-2021-0057-0104-5

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 20

Comment Excerpt Text:

The impact producing factors (IPFs) of the Atlantic Shores projects arise from the use of marine vessels, vehicles, aircraft, and heavy equipment, high resolution geophysical (HRG) and geotechnical surveys (to characterize benthic and subsurface conditions), seafloor preparation (clearing, grading, trenching), scour protection, protection of cables, installation of foundations for wind turbine generators (WTGs) and offshore substations or electrical service platforms (ESPs), foundation pile driving, vessel anchoring, cable routing, foundation removal, and WTG disassembly. The threats to marine species posed by these IPFs include:

- vessel and vehicle collisions which can cause injury and death;
- underwater noise, seafloor/land disturbance, and new electromagnetic fields (EMFs) which cause stress, behavioral changes, habitat avoidance;
- secondary entanglement of predatory species on submarine cables;
- habitat alteration (new underwater and above water structures, altered seafloor topography through permanent conversion of existing soft-bottom habitat to hard substrate habitat, changing hydrodynamics, electromagnetic fields (EMFs), operational noise of WTGs, etc.) resulting in displacement/avoidance, and changes in prey distribution/availability; and
- water pollution (sediment suspension and deposition, discharges/releases of chemicals, trash, and debris, etc.) potentially resulting in starvation and death.

The EIS must include a thorough project-specific impacts analysis and the analysis of cumulative impacts on representative species of every taxon and their habitats within the marine (pelagic and benthic), nearshore, coastal, and terrestrial environments of Atlantic Shores projects area. BOEM should adopt a programmatic ecosystem-wide approach in conducting a cumulative impacts analysis because of the large number of impact-producing factors from the different phases of the Atlantic Shores projects and the

broad range of biological resources affected including Endangered species from every taxon with rapidly declining populations. This analysis must include impacts from the 2 Atlantic Shores projects over their ~3 decade lifespan, from other OCS projects in the region, from the multiple ongoing, proposed, and reasonably foreseeable non- OSW project activities offshore, near-shore, and onshore, as well as climate change impacts. Such analyses must inform the development and implementation of avoidance and mitigation strategies based on best available current science and utilizing both the state-of-the-art and emerging technologies.

Comment Number: BOEM-2021-0057-0113-2
Organization: Waterspirit
Commenter: Rachel Dawn Davis Davis
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We want every reassurance that wildlife will be and remain top of mind during the lease period. Off-shore wind power has the potential to –throughout the process- avoid, minimize and mitigate impacts to wildlife and habitat every step of the way. On October 25th, Atlantic Shores confirmed that the environmental impact statement will demonstrate use of best available innovation and science that the US offshore wind industry advances responsibly.

Comment Number: BOEM-2021-0057-0115-1
Commenter: Dorothy (Dottie) Reynolds
Commenter Type: Individual

Comment Excerpt Text:

The Endangered Species Act of 1973 is supposed to protect imperiled species, a great many of which will be impacted by ocean wind farms. The Migratory Bird Act is also critical in protecting declining bird populations. Marine scientists agree that little is known about the harm to be done by industrialization of the ocean, especially at the fast pace of development currently proposed.

Remember when we had bumper stickers and tee shirts saying Save the Whales? And Alliance for a Living Ocean on Long Beach Island was founded because of dead dolphins washing up on our beaches? Now we are complacently willing to sacrifice the quality of life and lives of birds and sea life in the name of climate change by constructing thousands of acres of wind farms off the coast of New Jersey. Full implementation of the ocean and onshore facilities is a decade away. In the meantime, other green energy solutions already being explored may make the turbines obsolete. We could be left with huge deteriorating skeletons lining our horizon.

According to the U.S. Wind Turbine Database of October of 2019, there are 60,576 turbines mainly on private land, operating in the U.S., Puerto Rico and Guam. In total, wind energy supplies just under 7% of the country's electricity. The power density of offshore wind projects is among the lowest of any energy source. The wind projects will permanently change marine ecosystems, threaten a strategic food supply and further threaten many endangered species, while supplying on a fraction of the amount of energy we need.

There are only about 360 endangered and federally protected right whales remaining in the world - for how long? Are we slating them for extinction? The piping plover which nests on our beaches is an endangered species in danger of becoming extinct. The endangered piping plover must cross the wind

farm turbine area to reach their nesting sites in Barnegat Light and Holgate. There are estimates that 30% of these federally protected birds could be killed by turbines during migration.

Comment Number: BOEM-2021-0057-0115-15

Commenter: Dorothy (Dottie) Reynolds

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

Don't we have a moral obligation to preserve a quality of life for other creatures, to prevent the extinction of many threatened species? Why are we violating the Endangered Species Act and rushing into the planned construction of wind farms which we will live to regret? How will future generations judge us? Biodiversity is a fragile web. Good intentions do not always have good results.

Comment Number: BOEM-2021-0057-0115-3

Commenter: Dorothy (Dottie) Reynolds

Commenter Type: Individual

Comment Excerpt Text:

Fish and Wildlife Service Migratory Bird Program states goals have been set to produce 20% of our green energy with wind. We do not know if that much energy will actually be created. Also, that is not enough energy to justify killing species protected by the Endangered Species Act and other wildlife and damage to the environment as well as the financial cost of construction on the ocean and the large onshore construction sites. And when government subsidies end, consumers will pay greatly increased energy prices.

Of major concern is seabird and bat mortality along the Atlantic Flyway, including endangered species, caused by collision with the dangerous barrier of 120 foot long moving turbine blades on 853 foot tall towers. At night the bright beads and lights in turbines will attract birds and the insects they eat. Audubon asserts that even if wind turbines are retrofitted, all species will suffer because of different requirements. Indirect negative impacts result in avoidance responses as species leave the area to avoid noise from the construction and operation of the wind facility. This results in displacement of the species from their stable habitat, and demographic effects due to fragmentation of habitat and disruption. This in turn will lead to a decline in many species, especially as the number of wind turbines increases. A total of 1.28 million acres of ocean is slated for offshore wind energy off the NY/NJ coast. The federal government anticipates wind turbines will dominate the entire U.S. coastline. Endangered species will be placed at additional risk.

Comment Number: BOEM-2021-0057-0115-6

Commenter: Dorothy (Dottie) Reynolds

Commenter Type: Individual

Comment Excerpt Text:

Our ocean waters are home to 28 species of whales, dolphins and porpoises. Also four species of seals, five species of sea turtles, crabs, and scallops as well as other critically important life for the food chain. Transmission cables transporting the generated electric produce electromagnetic fields, which can affect

cartilaginous fish like sharks which use electromagnetic signals to detect prey. The cables can also disturb fish and marine mammal migration patterns by interfering with their capacity to orient themselves in relation to the earth's magnetic field. Disturbance of the ocean floor impacts organisms and sea life such as fish, sea turtles, and the horseshoe crab which must travel to land from the ocean depths to breed and lay eggs. Hundreds of species of fish and birds depend on our coast for their survival - their home, their food and their migration path. How many more will be added to the list of federally endangered species, to the list of extinct animals?

Barnegat Light has had two dead whales wash up on the beach, Albert, a two year old Humpback Whale last winter and on August 29, Beau, a huge 54 foot, 25-30 ton, endangered male Fin Whale. Beau had an injury consistent with a ship strike, a frequent cause of injury and death. As we industrialize the ocean, creating construction sites with their increase in vessel activity, ship strikes will become more frequent with a corresponding increase in wounded and beached peaceful marine mammals. The Marine Mammal Stranding Center database query shows 2,498 carcasses buried by public works in the State of New Jersey since 1978 including 130 whales, 679 dolphins, 1,504 sea turtles and 185 seals. This was not litter washing up on our beach. These were live animals, part of a family; they could think, feel pain, communicate and suffer.

With construction of wind farms, will we still be watching dolphins as they joyfully swim by gracefully diving in and out of the water? Will we still watch in awe as whales spectacularly breach the surface offshore? The database of the Marine Mammal Stranding Center in Brigantine lists the following 28 animals buried in Barnegat Light by the DPW since 1978: 2 Whales, 12 Dolphins, 15 Sea Turtles and 1 seal. On Long Beach Island 306 animals were buried: 24 Whales, 67 Dolphins, 206 Sea Turtles and 9 Seals. In our attempt to protect the environment, are we destroying what we are trying to protect? Who will look into the sad, tortured eyes of the dying whale and say, "we ruined your home and took your life, but we meant well. We thought we were making the world a better place." What will future generations say about our brutal impact on life in the sea around us?

Another concern is the cables on the ocean floor which will then pass through our beaches and bay to reach the mainland. Large substations and grid connections must be built on the mainland creating more disturbance and loss of habitat for birds and wildlife and disturbance for the human residents of the area.

Comment Number: BOEM-2021-0057-0119-2

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Atlantic Shores Draft EIS is another crucial opportunity for this Administration to conduct an analysis of a major offshore wind project from Draft EIS to a Record of Decision that sets a high standard for how to develop a project that protects wildlife and their habitats.

Comment Number: BOEM-2021-0057-0119-4

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Against this backdrop, it is imperative that all offshore wind development activities move forward with strong protections in place for already stressed coastal and marine habitats and wildlife, using science-based measures to avoid, minimize, mitigate, and monitor impacts on valuable and vulnerable wildlife and ecosystems. BOEM should include sufficient measures to protect our most vulnerable threatened and endangered species and require a robust plan for pre-, during, and post-construction monitoring that can enable effective adaptive management strategies.

Comment Number: BOEM-2021-0057-0121-8

Commenter: Horatio (Ray) Nichols

Commenter Type: Individual

Comment Excerpt Text:

5. Should there be any seasonal timing restrictions on any construction activities due to especially sensitive times for any species of concern? If so, provide justification based upon site-specific, published peer-reviewed studies.

Comment Number: BOEM-2021-0057-0122-12

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The NY/NJ Bight is rich with diverse species and extraordinary natural features. Species diversity in the NY/NJ Bight include over 30 species of whales and dolphins, including the endangered Northern Atlantic right whale; 5 species of sea turtles; 300 species of fish; 350 species of birds; 4 species of seals; hundreds of invertebrates [Footnote 5: Hutchison et al., The Interaction Between Resource Species and Electromagnetic Fields Associated with Electricity Production by Offshore Wind Farms, 96 Oceanography Vol. 33, No. 4 (December 2020).] eels and other species; and 20 threatened and endangered species.

The NY/NJ Bight experiences intense ocean mixing, called a “Cold Pool” effect, that stimulates massive phytoplankton blooms central to the structure of all NY/NJ Bight ecosystems. Due to its relative warmth, heavy flows of freshwater and inland nutrients from the Hudson River, and unique bathymetry, the NY-NJ Bight holds rich habitat for whales and other species. Ocean currents wash over these bottom features and stir up nutrients that are absorbed by phytoplankton. In essence, the NY/NJ Bight has unique features that are ideal for a vast variety of ocean life, ranging from deep sea corals to over 300 fish species.

[Footnote 6: New York Ocean Action Plan, Department of Environmental Conservation (2016-2026), available at https://www.dec.ny.gov/docs/fish_marine_pdf/nyoceanactionplan_final.pdf]

The Cold Pool in the Mid-Atlantic Bight supports some of the richest ecosystems and fisheries in the nation, including the most profitable shellfish fisheries and “second-most lucrative single-species fishery, sea scallops, in the western Atlantic.” [Footnote 7: Travis Miles, Josh Kohut, and Daphne Munroe et al., Could federal wind farms influence continental shelf oceanography and alter associated ecological processes? A literature review, Rutgers University and Science Center for Marine Fisheries (SCMFIS) (Dec. 1, 2020), available at <https://scmfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf>] The

Bight is also vital to the migratory patterns of many different species, ranging from deep sea corals to invertebrates. [Footnote 8: New York Ocean Action Plan, Department of Environmental Conservation (2016-2026), available at https://www.dec.ny.gov/docs/fish_marine_pdf/nyoceanactionplan_final.pdf] The Atlantic sea scallop (*Placopecten magellanicu*), Atlantic surfclam (*Spisula solidissima*), and ocean quahog (*Arctica islandica*) habitat along the Mid-Atlantic Bight is consistently among the most profitable fisheries in the world. [Footnote 9: National Marine Fisheries Service, 2020: Fisheries of the United States, 2018. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2018.]

Further, water column stratification could affect a number of species vital to fisheries and local ecosystem health, including summer flounder. [Footnote 10: T.M. Grothues and E. A. Bochenek, 2011: Fine scale spawning habitat delineation for winter flounder (*Pseudopleuronectes americanus*) to mitigate dredging effects –Phase II (Cycle 8), 2/2011.] The health of the habitat for these and other species is closely associated with Mid-Atlantic Ocean conditions. Further, increased mortality and reduced reproductive success of shellfish and other species has been associated with warming-induced shifts to the stratification of cycles in oceanographic conditions. [Footnote 11: D. A. Narvaez, D. M. Munroe, E. E. Hofmann, J. M. Klinck, and E. N. Powell, 2015: Long-term dynamics in Atlantic surfclam (*Spisula solidissima*) populations: the role of bottom water temperature. *Journal of Marine Systems*, 141, 136-148.] This indicates that further alterations to ocean mixing may lead to changes in vital species activities across the board. Turbine arrays may directly or indirectly affect seasonal processes that dictate water column nutrient transfer among ecosystems and species. [Footnote 12: Travis Miles, Josh Kohut, and Daphne Munroe et al., Could federal wind farms influence continental shelf oceanography and alter associated ecological processes? A literature review. Rutgers University and Science Center]

Many species in the waters and migratory corridors surrounding and within the project area could be vulnerable to interruptions in foraging, migration, or other effects of the foundations, cables, and all submerged gear.

Comment Number: BOEM-2021-0057-0122-5
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 18.4

Comment Excerpt Text:

COA maintains that impacts to marine life, from the benthos to the surface and above, must be avoided and the proposed projects must not create unnecessary harm. Unfortunately, there is not enough science to determine the impacts of this new industry on the ocean off the NY/NJ coast. Indeed, scientists in recent conferences have conceded that the scientific community does not know enough about the cumulative impacts the development of offshore wind energy and its associated infrastructure has on marine resources.

Comment Number: BOEM-2021-0057-0132-3
Commenter: Zoe Leach
Commenter Type: Individual

Comment Excerpt Text:

And I cannot fathom a project like this getting stalled or not to mention halted over trivial concerns, lack of political will or regulatory roadblocks and I do have faith that the environmental impact study is going

to be robust enough to mitigate any wildlife and environmental impacts of the project.

Comment Number: BOEM-2021-0057-0133-2

Commenter: Henry Gajda

Commenter Type: Individual

Comment Excerpt Text:

It's not either or, we can have offshore wind expand in our state while protecting our natural systems and ecosystems including our marine mammals, the migratory birds and species, and benthic floor and ocean habitats.

Comment Number: BOEM-2021-0057-0147-1

Organization: Clean Ocean Action

Commenter: Kari Martin

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

Clean Ocean Action is concerned with the proposed locations of these offshore wind projects to busy port areas, vessel traffic as well as of course the species that live and thrive in and around the ocean.

It is essential that BOEM include information from the U.S. Coast Guard to ensure safety, National Marine Fisheries Service and Regulatory Fisheries Council as well as the Atlantic States Marine Fisheries Commission to identify and protect the marine species in the New York New Jersey bite throughout the EIS scoping process. We are concerned on the noise and the navigational risk and the potential impacts from collisions, elisions and accidents and spill that can result and harm our marine ecosystem.

Many species such as whales are already at grave population and survival risks and let's not forget even the tiniest of animals, the bottom dwelling sub strait dwelling organisms that are the base of the food chain that will be disrupted by offshore activities.

Comment Number: BOEM-2021-0057-0147-4

Organization: Clean Ocean Action

Commenter: Kari Martin

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We are concerned with the privatization and industrialization and the huge scope of this industrialization and it's potential impact on marine resources. Marine scientists have admitted that there isn't enough research and information to indicate how offshore wind will impact our local marine ecosystem.

Recent local conferences and webinars over this pandemic period reveal that the scientists are admitting that there are so many unknowns.

Comment Number: BOEM-2021-0057-0166-1

Commenter: Robin McConekey
Commenter Type: Individual

Comment Excerpt Text:

my greatest concern is the environmental impact that these wind turbines are going to have on our wildlife. Currently there are -- there is the North Atlantic right whale is a highly endangered species with only 360 of these animals in existence today.

And I feel that it's going to have a great impact both the lines that they are going to be running underneath the sand and also the turbines themselves giving off electromagnetic rays or whatever they are, I am greatly concerned about the mammals, the fishing and the impact that it will have to the environment.

Comment Number: BOEM-2021-0057-0167-2
Organization: Clean Water Action
Commenter: Eric Benson
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Of course, myself and others testifying in support of this project, we want to protect marine life and coastal fisheries. But I see and appreciate how diligently our State and Federal agencies are working to reduce the impact of these projects on the natural world already.

I also know that rising sea temperatures will have a far greater impact than any impact these offshore wind turbines may have on the wildlife and our fisheries. The choice is not between wind turbines and no impact at all. The choice is between moving to wind for our energy supply or continuing to rely on fossil fuels, continuing to pollute the air and offend communities, and continuing to alter the ocean's temperature and acidity by releasing more carbon into the atmosphere.

Comment Number: BOEM-2021-0057-0216-3
Commenter: Paul Eidman
Commenter Type: Individual

Comment Excerpt Text:

I do believe that these - that these towers will be fish attracting devices and that's both game fish and forage species and creatures like whales and turtles and dolphins will actually be attracted and live amongst these towers.

Comment Number: BOEM-2021-0057-0234-14
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency
Other Sections: 17

Comment Excerpt Text:

The section describing the "Affected Environment" for protected species should include information on

the seasonal abundance, density (where available), and distribution of marine mammals, sea turtles, ESA-listed marine fish, anticipated habitat uses (., foraging, migrating), threats, and the habitats and prey these species depend on throughout the area that may be directly or indirectly impacted by the Projects. The status of marine mammal stocks (see our stock status reports) [Footnote 2:<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>], population trends, and threats should also be identified. Similar information should also be provided for all ESA listed species (see relevant status reviews on our ESA Species Directory, <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>). [Footnote 3: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.] As the EIS is developed, impact evaluation specificity between species groups (., low frequency vs. mid frequency cetaceans) of marine mammals and sea turtles should be incorporated. A broad grouping approach (., 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 (., minor, moderate) are clearer and better supported if the document describes the degree of impacts to each species (., green sea turtle vs. hawksbill) or groups of species (., mysticetes, odontocetes, pinnipeds). Additionally, for some marine mammal species (., 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 (., injury, behavioral disturbance, disrupted foraging), as well as impacts at the population level.

Comment Number: BOEM-2021-0057-0234-20

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt Text:

An assessment of the potential impacts of the Atlantic Shores project-specific (turbine level) and the full build-out/cumulative offshore wind scenario on hydrodynamics, oceanographic, and atmospheric conditions will help evaluate impacts on species distribution and the effects to hydrodynamic conditions. The potential impact of offshore wind development is not well known, but large scale energy extraction from wind farms and the physical presence of wind turbine foundations could have a significant impact on ocean stratification in this region and, therefore, the ecology, habitat, and egg/larvae and prey distribution of a number of federally-managed fish species and protected species. We recognize there is uncertainty regarding the scope and scale of impacts that may result from the introduction of new structures into the offshore environment and related energy extraction from the wind turbines; however, it is critical that this issue is thoroughly addressed and that the EIS considers the best available scientific information to support any conclusions regarding these impacts, including ongoing studies on this topic. In particular, the EIS should contain a robust assessment of the potential effects of both the Atlantic Shores Projects and the full build-out scenario on prey resources for North Atlantic right whales and other species. Potential impacts to plankton distribution should be clearly discussed as their distribution,

aggregation, and possible abundance may shift, and this could have a significant impact on North Atlantic right whales, along with other large whales and numerous species of planktivorous pelagic fish, as zooplankton are the primary source of prey for many higher trophic level organisms. In addition, consideration of impacts to species recruitment and larval distribution due to changes to ocean stratification and circulatory patterns resulting from the development of wind projects should be discussed in this section. This should specifically address, but not be limited to, Atlantic surfclam and ocean quahog; these are economically and ecologically important species that are/have been found in high concentrations in the lease area.

Comment Number: BOEM-2021-0057-0234-23

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 15

Comment Excerpt Text:

Given the extent of potential offshore wind development on the OCS and in this region in particular, the cumulative effects analysis will be a critical component of the EIS. Establishing a regional monitoring program will be important to help understand potential impacts of wind energy projects and identify potential mitigation measures for any future projects. As you are aware, we have been working with state agencies, developers, and research institutions through the Responsible Offshore Science Alliance to develop a regional scientific research and monitoring framework, including project-specific monitoring plan/study guidance to better identify and understand cumulative impacts and interactions between marine resources, fisheries, and offshore wind energy. Similarly, we are engaged in the development of the Regional Wildlife Science Entity in an effort to address regional science and monitoring of impacts to wildlife and protected species. It is imperative that project-specific monitoring efforts are integrated into existing regional monitoring programs throughout the OCS, unless there is a project or location specific research question explicit to characteristics and dynamics unique to the site and relevant to trust resources management. Monitoring at multiple scales that takes an ecosystem-based approach to assessing monitoring needs of fisheries, habitat, and protected species should be required. This will be important in assessing the cumulative impacts of the Projects' development and informing any future development. You should also coordinate with our agency early in the process regarding any potential effects of monitoring activities on NOAA trust resources; we note that survey or monitoring activities may require permits or authorizations from us.

Comment Number: BOEM-2021-0057-0234-24

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

The following listed species occur, at least seasonally, in the Atlantic Shores Projects lease area (OCS-A 0499): 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 April - November. Additionally, oceanic whitetip shark (*Carcharhinus longimanus*) and giant manta ray (*Manta birostris*) may occur in the more offshore portions of the lease area. More information on these species is available on our regional ESA information site [Footnote 5: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-critical-habitat-information-maps-greater>]. North Atlantic right whale sightings are available at our NOAA Right Whale Sightings Map page [Footnote 6: <https://apps-nefsc.fisheries.noaa.gov/psb/surveys/MapperiframeWithText.html>]. Please note, a tech memo [Footnote 7: Pace, RM. 2021. Revisions and Further Evaluations of the Right Whale Abundance Model: Improvements for Hypothesis Testing. NOAA Tech Memo NMFS-NE-269; 49 p. Available online at <https://apps-nefsc.fisheries.noaa.gov/rcb/publications/tm269.pdf>] was recently published with the new population estimate (368 individuals) for North Atlantic right whales, which was significantly lower than the previous estimate. Additionally, the 2020 marine mammal Stock Assessment Reports [Footnote 8: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports>] are available. There is no designated critical habitat that overlaps with the lease area. Depending on vessel traffic routes, additional ESA species and/or critical habitat may occur in the Project area.

Comment Number: BOEM-2021-0057-0234-25

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt 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 Atlantic Shores Projects COP (including surveys, construction, operation, and decommissioning) may affect ESA-listed species and/or designated critical habitat, ESA 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 these projects, 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 these projects, it is critical that we receive a draft Biological Assessment (BA) with the cooperating agency review draft of the EIS. Further, the BA must contain a thorough and complete description of the proposed action which includes all proposed mitigation measures. The BA must also reflect consideration of not only the construction, operation, and decommissioning of the planned projects, but also any and all proposed survey or monitoring activities proposed for any stage of these projects, including surveys of fisheries resources. We have developed a document (Information Needs for Assessing Effects of Offshore Wind Activities on ESA-listed Species) to identify information needs for considering effects of offshore wind projects on ESA-listed species and critical habitat, and we strongly encourage you to use that as you develop the BA.

Comment Number: BOEM-2021-0057-0234-31

Organization: United States Department of Commerce National Oceanic and Atmospheric

Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 15

Comment Excerpt Text:

We encourage you to require minimization and monitoring measures that minimize the risk of exposure to potentially harassing or injurious levels of noise to marine mammals, sea turtles, and Atlantic sturgeon. Mitigation measures should be required during pile driving that will act to reduce the intensity and extent of underwater noise and avoid exposure of listed species to noise that could result in injury or behavioral disturbance. The use of protected species observers and other relevant technologies (e.g., Passive Acoustic Monitoring) to establish and monitor clearance zones prior to pile driving is essential. Project scheduling should take into account the need for adequate visibility during the pre-pile driving clearance period, as well as for the duration of pile driving activities. Real-time and archival passive acoustic monitoring should also be used as a secondary detection/monitoring system during construction, to increase situational awareness in vessel corridors and around the Projects' area, and to monitor the distribution of marine mammals in the lease area during construction and operation. We encourage you to work with Atlantic Shores to develop a schedule for the Atlantic Shores Projects that minimizes potential impacts to North Atlantic right whales. Specifically, you should consider time of year restrictions for pile driving that would avoid pile driving during the months when the density of North Atlantic right whales is highest in the lease area and the development of robust measures for other times of year that would minimize the exposure of right whales to noise that could result in behavioral disturbance. Marine mammal responses to sound can be highly variable, depending on the individual hearing sensitivity of the animal, the behavioral or motivational state at the time of exposure, past exposure to the noise which may have caused habituation or desensitization, demographic factors, habitat characteristics, environmental factors that affect sound transmission, and non-acoustic characteristics of the sound source, such as whether it is stationary or moving (NRC 2003)[Footnote 9: National Research Council (NRC). 2003. Ocean noise and marine mammals. National Academy Press; Washington, D.C.]

While BOEM and Atlantic Shores will need to consider effects to all listed species, given the imperiled status of North Atlantic right whales, implementing measures to ensure that no right whales are injured or killed as a result of the Atlantic Shores Projects is critical.

Mitigation measures should also be included that minimize the risk of vessel strike for whales, sea turtles, and Atlantic sturgeon, including consideration of vessel speed restrictions regardless of vessel size and robust measures to monitor vessel transit routes for North Atlantic right whales. Recent events and new information [Footnote 10: see Kelley, D. E., Vlastic, J. P., & Brilliant, S. W. (2021). Assessing the lethality of ship strikes on whales using simple biophysical models. *Marine Mammal Science*, 37(1), 251-267. <https://doi.org/10.1111/mms.12745>]. demonstrate that large whales are susceptible to lethal vessel strikes from vessels of all sizes. Any surveys or monitoring that are carried out related to the Projects (e.g., gillnet or trap surveys to document fisheries resources) must carefully consider the effects to North Atlantic right whales and other ESA-listed species, and mitigation measures should be considered to eliminate the potential for entanglement of whales and to minimize risk to sea turtles and Atlantic sturgeon during such activities.

Comment Number: BOEM-2021-0057-0240-6

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

1. Impacts from offshore wind construction and operation raise serious concerns about ecosystem dangers from the air space to the sea floor. Protected and endangered species are in jeopardy.

Comment Number: BOEM-2021-0057-0240-7

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

Wind farms disturb the natural ocean environment and kill birds.

A.3.19.5. Electromagnetic Fields (EMF)

Comment Number: BOEM-2021-0057-0044-5

Commenter: Chuck Edwards

Commenter Type: Individual

Comment Excerpt Text:

Many sea creatures, notably dolphins, whales and sharks, navigate and feed in response to electric impulses. There is no way these energy sources will not negatively impact them.

Comment Number: BOEM-2021-0057-0050-62

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition, the offshore wind cables produce electro-magnetic fields during the construction and operation periods. The impact of these fields on the fish population and surrounding ecosystems needs to be analyzed and the results presented in the EIS. Given the size and scope of this project, those results should include a description of what type of studies have been conducted on this subject to support any conclusions reached.

Comment Number: BOEM-2021-0057-0104-27

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 2.2

Comment Excerpt Text:

bury electrical cables (to a depth determined by technical experts) to minimize seabed habitat loss and reduce the effects of EMF

Comment Number: BOEM-2021-0057-0107-18

Organization: Mid-Atlantic Fishery Management Council and New England Fishery

Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 8

Comment Excerpt Text:

Impacts of electromagnetic fields (EMF) on fishery species are a concern to the fishing community. For example, studies have suggested that EMF can result in changes in behavior, movement, and migration for some demersal and pelagic fish and shellfish species[Footnote 8: https://greenfinstudio.com/wp-content/uploads/2017/10/GreenFinStudio_EMF_MarineFishes.pdf]. The extent to which EMF may or may not impact marine species should be thoroughly described in the EIS. The EIS should acknowledge the limitations of the current scientific knowledge in this area and should provide justification, including supporting scientific studies, for all conclusions regarding EMF.

Comment Number: BOEM-2021-0057-0122-17

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

(1) Electromagnetic Fields

a. Up to eight export cables, including offshore export, inter-array, and possibly inter-link, are expected with the Atlantic Shores projects. The orientation of fish may be impaired by the magnetic fields surrounding electric cables and thus impact migration patterns.

b. Electricity produced at offshore wind farms is usually transmitted to shore through high voltage alternating or direct current cables. The current in these cables creates electric and magnetic fields (EMF). While the electric field generated by the current is isolated within the cable, the magnetic field is measurable around the cable.

c. There has been significant concern about the impact on crustaceans and their sensibility to EMF as it can impact their ability to locate food and may cause avoidance or large areas.

d. Fish species that employ electrical currents for orientation such as sharks and rays, eels and electric fish are the most sensitive. It has been suggested that many such species may be able to detect EMF at a distance over 1,000 ft.

Comment Number: BOEM-2021-0057-0234-45

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

-Effects from electromagnetic fields and heat from inter-array and export cable to listed species and their prey (., ability to forage, attraction, etc.); and

Comment Number: BOEM-2021-0057-0240-15

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

Within the fishing community an important EMF concern is the "Flounder Fence."

Comment Number: BOEM-2021-0057-0240-16

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

EMF from high voltage cables affects fish. The cumulative impacts of EMF from hundreds of turbines and immense webs of cabling pose significant risk. Studies indicate EMF radiation from high voltage cables has a negative impact on some bottom dwelling, demersal species. Also sharks, skates and sturgeon have special organs (ampullae of Lorenzini) making them electroreceptive creatures that are highly sensitive to EMF.

A.3.19.6. Other

Comment Number: BOEM-2021-0057-0030-4

Commenter: Liza Wolf

Commenter Type: Individual

Comment Excerpt Text:

And because turbines remove energy from the wind, they will create a wind velocity deficit resulting in the creation of a micro-climate on Long Beach Island and increased air temperatures at the shore.

Comment Number: BOEM-2021-0057-0031-5

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

There are objections on the basis of endangered whales and birds as well as a threat of altered microclimate

Comment Number: BOEM-2021-0057-0032-1

Commenter: Ryan R

Commenter Type: Individual

Comment Excerpt Text:

The United States lags far behind Europe in the deployment of offshore wind projects.

Comment Number: BOEM-2021-0057-0044-2

Commenter: Chuck Edwards

Commenter Type: Individual

Comment Excerpt Text:

I have seen pictures of the 'graveyards' for damaged blades, which I understand cannot be recycled

Comment Number: BOEM-2021-0057-0050-63

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS needs to assess the potential interference^(RS1) from the proposed Atlantic Shores project with the airport surveillance radar, ASR-9 at Atlantic City, the Air Route Surveillance Radars, ARSR-4, used jointly by the Federal Aviation Administration and the Department of Defense at Gibbsboro, New Jersey, as well as the Sea-sonde ocean monitoring radar system in Loveladies, New Jersey.

Comment Number: BOEM-2021-0057-0052-10

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt 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. Oceana also suggests that BOEM require new biological and ecological surveys of all proposed lease areas where the data is over five years old due to changing ocean conditions.

Comment Number: BOEM-2021-0057-0066-7

Commenter: Peter Hartney

Commenter Type: Individual

Comment Excerpt Text:

A second safety issue is the actual safety in the long term of the wind turbine structures as has been experienced in European windfarms and in the windfarm located off shore of Block Island, RI. (<https://www.providencejournal.com/story/news/2021/08/14/block-island-offshore-wind-farm-offline-two-months-due-to-maintenance-and-safety-concerns/8122841002/>) this is in addition to the safe conduction of electricity onshore from the windfarms whihc has been a significant problem at the Block Island site. (<https://www.providencejournal.com/story/news/2021/05/04/national-grid-block-island-wind-farm-cable-reburying-suspended/4936387001/>)

Comment Number: BOEM-2021-0057-0089-6

Commenter: Gina Cobianchi

Commenter Type: Individual

Comment Excerpt Text:

The Projects' structures also would pose an allision and height hazard to vessels passing close by, and vessels would in turn pose a hazard to the structures.

Comment Number: BOEM-2021-0057-0089-7

Commenter: Gina Cobianchi

Commenter Type: Individual

Other Sections: 18.2 18.3

Comment Excerpt Text:

Additionally, the Projects could adversely impact mineral extraction, military use, air traffic, land-based radar services, cables and pipelines, and scientific surveys.

Comment Number: BOEM-2021-0057-0090-5

Organization: South NJ Development Council

Commenter: Jane M. Asselta

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Moreover, offshore wind development, like the Atlantic Shores project, will contribute to the revitalization of costal ports and manufacturing centers across the region.

Comment Number: BOEM-2021-0057-0114-38

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Other Sections: 19.2 12

Comment Excerpt Text:

Currently, the process for submitting geological and geophysical (G&G) survey information in Site Assessment Plans (SAP) does not allow for environmental review of the impacts of survey activities. BOEM requires the submission of G&G information in SAPs for both wind energy areas and cable routes, [Footnote 13: 30 C.F.R. § 585.610.] but survey activities undertaken pursuant to the collection of this mandated information are not explicitly governed or authorized under any EA. Because survey information is collected before BOEM reviews a SAP, [Footnote 14: Notably, the public does not have an opportunity to comment on a SAP or even see a draft until after BOEM's approval.] there is no formal process for evaluating the environmental impacts of survey activities. However, the G&G survey equipment is known to cause harm to commercially harvested fishes[Footnote 15: See, e.g., van der Knaap, Inge, et al. "Effects of a seismic survey on movement of free-ranging Atlantic cod." *Current Biology* (2021). <https://doi.org/10.1016/j.cub.2021.01.050>. While this study examines the effects of the low frequency-sound pulses associated with oil and gas site characterization, it is unclear to what extent how those differ from sound and vibrations produced by current generation OSW surveys, as available

public information spans a vast range of possibilities and we are unable to identify any instance in which BOEM has authoritatively disclosed this information.] and the marine environment, [Footnote 16: See Kunc HP, McLaughlin KE & R Schmidt. “Aquatic noise pollution: Implications for individuals, populations, and ecosystems.” Proceedings of the Royal Society B: Biological Sciences (2016). <https://doi.org/10.1098/rspb.2016.0839>] is used in a manner that displaces commercial fishing activity, and results in loss of or damage to fishing gear. Numerous RODA members have reported observing population-scale impacts to harvested species, particularly pelagic species including squids but also demersal species like whelks, after periods of OSW survey vessel activity. In recent years, the scientific literature on acoustic impacts to commercially harvested stocks has broadened, and the best available science now corroborates the experiences of our members, showing that acoustic impacts from OSW projects and seismic surveys have localized and population-scale impacts to harvested species and their habitat.

Comment Number: BOEM-2021-0057-0114-42

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt Text:

Gear Loss Procedures

This topic must be addressed at a regional level under independent authority; it is inappropriate to be handled unilaterally by OSW developers. While the Gear Loss Reimbursement Form includes the opportunity to file for an appeal if the applicant disagrees with the initial decision made by Atlantic Shores, there is no further information provided about “a Third Party” who will conduct the review. RODA has called for the development of a uniform gear loss compensation program without any response or action from BOEM or the states. Such an approach is the norm in other industries, including oil and gas, but here follows the common OSW trend of limited regulation and oversight. This must be addressed before leasing decisions that would require additional survey activities.

Comment Number: BOEM-2021-0057-0119-77

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Atlantic Shores should determine whether there are expected impacts to wave height, shape, peel angle, frequency, pattern, speed, and quality. Models should examine the effects from the foundations on waves as well as from any changes in bathymetry from those foundations (for example, scouring) that might occur. Impacts to waves from the turbine blades changing wind patterns or strengths should also be examined. These impacts should be examined for each individual project and cumulatively and BOEM should require Atlantic Shores to monitor oceanographic conditions such that changes in waves post-construction can be detected. (Additionally, while not discussed in depth here, changes to waves could have serious impacts on recreation. [Footnote 212: In addition to considering how changes in waves may affect marine life, the Draft EIS should consider how changes in waves affect ocean users. Atlantic Shores 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.])

Comment Number: BOEM-2021-0057-0157-2

Commenter: Rick Bushnell

Commenter Type: Individual

Comment Excerpt Text:

I want to know what the plan is for NJDEP to oversee and ensure that the regulations are matched. This is a 20 year life project, there are going to be changes in administrations, what we are concerned about is one administration or another may see fit to enforce or delay enforcement of regulations that were the cornerstone for us to put together some plan, whatever the plan is, whether it's nuclear fuel or whether it's wind energy.

Comment Number: BOEM-2021-0057-0232-12

Organization: National Park Service Dept of Interior

Commenter: Johnathan Meade

Commenter Type: Federal Agency

Comment Excerpt Text:

The NPS LWCF State and Local Assistance Program provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. Section 6(f)(3) of the LWCF Act requires that no property acquired or developed with LWCF assistance shall be converted to other than public outdoor recreation uses without the approval of the Secretary of the Department of the Interior. Typically, a conversion of LWCF lands will require the project proponent to supply a replacement parcel of land that is equivalent in value, location, and usefulness.

Comment Number: BOEM-2021-0057-0240-18

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

Offshore wind farms are especially vulnerable to severe storms and hurricanes. This puts reliable energy at risk when most needed, and results in expensive maintenance and repair.

Comment Number: BOEM-2021-0057-0240-19

Commenter: Gregory Roberts

Commenter Type: Individual

Comment Excerpt Text:

The wind farms are not dependable since wind is not dependable. Consequently, alternative, reliable land-based electric generation methods need to be ready at short notice to replace wind energy during wind

outages.

Comment Number: BOEM-2021-0057-0240-5
Commenter: Gregory Roberts
Commenter Type: Individual

Comment Excerpt Text:

The wind farms are not renewable. They require rare earth metals and other materials that are not renewable. Mining and processing of energy minerals, and the fabrication of energy machines, is inherently energy-intensive - and most of that energy uses offshore fossil fuels, primarily coal. This expansion in mining is likely to have serious adverse social and environmental impacts in the often-impooverished countries where the rare minerals are found.

Comment Number: BOEM-2021-0057-0241-7
Commenter: George Thayer
Commenter Type: Individual

Comment Excerpt Text:

Because the turbines remove energy from the wind, this will create a deficit in the wind velocity on LBI therefore creating a micro climate with increased temperature at the shore.

A.3.20 Planned Activities Scenario/Cumulative Impacts

Comment Number: BOEM-2021-0057-0035-3
Commenter: Anthony Hagen
Commenter Type: Individual

Comment Excerpt Text:

As these construction projects are moving forward, is too little is being done to study and prevent the impacts on rare animals and ocean life? Bats, porpoises, whales, birds. Lets not leave them out of the equation.

Comment Number: BOEM-2021-0057-0039-12
Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

On the merits, I would also join in other comments spread upon the record, by the Clean Ocean Action Organization, and other environmental ocean groups, all of whom have pointed out the significant paucity of information, in a draft environmental assessment, from a scientific and environmental prospective, as to the entire ocean ecosystem. It is therefore absolutely critical, that a comprehensive environmental

assessment be undertaken, which would facilitate BOEM's understanding of the need for ecological and scientific baselines, so as to observe protections for bio-diversity of all species, as well as the entire ocean ecosystem.

Comment Number: BOEM-2021-0057-0039-2
Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

As such, the proposed additional leasing of these vast tracks of unique and invaluable expanses of the Atlantic Ocean, presents the gravest of risks. Prior to offering up such a huge area of this unique and invaluable portion of the Atlantic Ocean, with 800,000 more acres for sale, a thorough environmental assessment should first be undertaken. Such an exhaustive study would include, but certainly not be limited to a complete review of the cumulative impacts, of all the vast areas of public lands, off the New Jersey Coast, which have already been sold off, yet have similarly not yet been fully studied, and certainly, not developed.

Comment Number: BOEM-2021-0057-0039-3
Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

These numerous impacts should initially, be thoroughly reviewed, before such a totally unvetted experimental technology is the subject matter of virtually irreversible actions. Included in such a non-exhaustive list of the potential impacts, to be first thoroughly reviewed and investigated, as to the specific Atlantic Shores Offshore Wind Project itself, as well as from a cumulative standpoint, with all the other Ocean parcels already awarded, certainly should be the following:

1. Habitat for birds, fish and marine mammals both in the water, as well as the wetlands, and other coastal areas of our State.
2. Commercial fishery sites, as well as the interests, of recreational fishing.
3. Air quality and water quality, and the specific effects, such a massive industrial construction project itself, would have, as well as the on-going operation of the vast wind turbines, and the ultimate not even explained process of trying to decommission or dismantle this massive industrial site, once its useful life has ended, or, it has been rendered obsolete, by the already ongoing development, of more efficient technologies.
4. Issues of environmental standing, and environmental justice, as to the Atlantic Ocean itself, and the ocean environment.
5. The cumulative effect upon navigation and ocean vessel traffic in this busy commercial corridor, which is already the subject matter of numerous potentially conflicting uses.
6. The interests, of recreation and tourism.
7. The visual effects and indeed, visual resources, of the coastal and the ocean setting, in the vicinity of this massive industrial site.
8. Independent of the overall effects upon mammals, marine, and bird wildlife, this massive untested industrial construction project, has the potential for causing a devastating impact upon threatened

endangered species, including the extremely endangered North Atlantic Right Whale. The Hight Whale frequents this gigantic ocean area in question, and may indeed, be crowded out, and pushed aside, from some of the already leased ocean lands, subject to the prior rapid bidding process, and awards, through BOEM.

Comment Number: BOEM-2021-0057-0039-7
Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

The current proposal, also minimizes, if not ignores the fact that the proposed location of leasing out 800,000 acres, for a massive industrial site, occurs in one of the prime hurricane zones, which has been subject to ever worsening storms, over the last decade. What effects, have been studied, as to the impact of locating these gigantic wind turbines in highly congested shipping lanes, thereby creating navigational obstacles and hazards? With the potential for even one inevitable catastrophic storm event, has scientific review, or evaluation been applied as to hypothetical environmental mishaps, if not total environmental disasters? The full range of scientific, inquiry, including establishing sound diversity and ecosystem baselines, engaging in historic projected pilot studies of the full range of impacts upon ecological, fishing, coastal economy and all ocean resources, is called for. Such science must also be applied, in light of the sustainable seafood resource this particular region of the world presents literally, to feed millions of people, on a yearly basis!

Comment Number: BOEM-2021-0057-0039-9
Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

Most importantly, I echo the sentiments of many scientists who have commented upon the lack of meaningful scientific data, studies of pilot projects, and other research, as to the potentially negative cumulative impacts of the development of these huge industrial, offshore, wind farms, and the impacts the construction of their associated infrastructure, may have on all marine resources, New Jersey's coastal economy, the tourism industry, our fishing industry, and the quality of life, at the New Jersey shore.

Comment Number: BOEM-2021-0057-0050-104
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Omission of Part of the Lease Area. The NOI should have presented Atlantic Shore's plan for the northern part of the lease area. It did not pay money to lease that area to leave it idle. If Atlantic Shores can foresee a project 2 then it very likely foresees and has a plan for a project 3 in that part, and that needs to be included in the scope of the EIS to assess the full effects that are coming. Following the BOEM's own logic in the NOI, the EIS should include "effects that occur at the same time and place as the

Proposed Action and alternatives and such effects that are later in time or not at the same place”.

Comment Number: BOEM-2021-0057-0050-107

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

8. Inclusion of cumulative take and harm estimates from reasonably foreseeable offshore wind development in Atlantic Shores, Ocean Wind and Hudson South.

9. Apportioning take and harm estimates by males, females and juveniles.

10. The full presentation of any plausible avoidance scenarios, including the key equations and assumptions used to simulate it and estimate the number of animals exceeding PTS or TTS thresholds, and those potentially injured or killed indirectly from e.g., vessel strike, migration disruption, separation from family groups, stranding, foraging loss and impaired predator detection as a result of prolonged exposure to behavioral disruption levels above 120 dB, with the uncertainties involved in those equations and assumptions(as opposed to just presenting “modeled” conclusions), and

11. A sensitivity analysis of the take and harm estimates using conservative assumptions for the key factors involved in items 3,4,7 and 10 above. A sensitivity analysis can shed light on plausible worse than average outcome results that are critical to reaching reasoned conclusions regarding right whale and others extinction.

Comment Number: BOEM-2021-0057-0050-55

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Shore Breezes, Air Temperature and Currents. Along with the visible impacts, the EIS should provide an analysis of the potential impacts of the wind turbine complex on shore wind speed, temperature, humidity and perhaps wave action. Several prior measurement studies of such downwind impacts from smaller turbine complexes indicate the potential for reduced wind speeds and higher temperatures. An extrapolation of those results for the wind turbine sizes and atmospheric settings expected here should be presented in the EIS.

One study ^{OS1} deals with the wind velocity deficit, the percentage decrease in the free flow wind speed approaching the turbine, and concludes that it takes about 10 km (6.25 miles) downwind of the complex for that wind speed to get back to within 7 percent of its free flow value (Figure 5-for offshore winds). Those measurements were for 2 megawatt (mw) turbines. With 13.6 mw or higher power turbines the wind speed reduction at the shore here only 10 miles away from the complex will likely be considerably greater.

Since the wind speed drives the currents, the wind complex will also have an effect on the longshore currents, which in essence will have an effect on the nearshore currents, and thus will be impactful on our coastline. Given the size and scope of this project, this needs to be analyzed and results presented in the EIS, including a description of what type of studies the BOEM, and others have conducted on this subject

to support any conclusions reached.

Another study^{OS2} speaks to air temperature increases and humidity changes. It finds (see its conclusions) temperature increases up to 0.6 degrees kelvin (1.1 degrees Fahrenheit) 45 kilometers (28 miles) downwind of the wind complex. Here again, these measurements are for smaller turbines- a combination of 3.6 mw and 6.2 mw. With larger turbines and the shorter turbine to shore distances here the temperature and humidity changes could be significant. So, because of the unusual 9–10-mile proximity of this project area this should be analyzed in the EIS for the turbine sizes proposed.

Comment Number: BOEM-2021-0057-0050-75
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Further, the impacts in and from each of the three areas are often similar and sometimes cumulative. From certain shore areas turbines from both the Ocean Wind and Atlantic Shores projects will be visible. Impacts on the right whale will come from all three areas. It is not scientifically credible to assess impacts on a critically endangered species in a piecemeal fashion, so addressing the three areas in this single EIS would allow for the analysis and presentation of the full impact from turbine noise to these endangered whales.

In addition, as mentioned above, the Coast Guard proposal to make the right whale's migratory corridor a deep draft vessel lane may have a synergistic impact on the whale because it surfaces as a result of the turbine noise, where it is exposed to vessel strike. So, the combined impact of the foreseeable turbines and the Coast guard proposal should also be analyzed in the EIS.

[bold: The scope of the EIS needs to be expanded to include these connected actions.]
The BOEM has already done substantial analysis^{WEP1} regarding the environmental impacts of turbine placement in the Hudson South lease areas which can be used to provide a good comparison of impact there to the other areas consistent with the direction in 40 CFR §1502.21(c). Regarding the Ocean Wind project in Lease area A-0498, the BOEM can incorporate that EIS by reference and summarize its impacts in this EIS for comparative purposes.

Comment Number: BOEM-2021-0057-0052-11
Organization: Oceana
Commenter: Beth Lowell
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The project must include current, robust analysis of the immediate and cumulative effects of the project on species listed under the ESA and MMPA. Additionally, the project must undergo consultation and permitting under the ESA and MMPA; including a Biological Opinion for all ESA-listed species and Incidental Harassment Authorizations under the MMPA.

Comment Number: BOEM-2021-0057-0064-2

Commenter: Brendan Kelly
Commenter Type: Individual

Comment Excerpt Text:

2. The simultaneous development of, and the cumulative impact of, both Atlantic Shores and Ocean Wind have not been considered. A comprehensive assessment of all projects is required to evaluate impact.

Comment Number: BOEM-2021-0057-0100-1
Commenter: David Wallace
Commenter Type: Individual
Other Sections: 8

Comment Excerpt Text:

From the clam fishery and for most of the other offshore fisheries, the facts are simple, there is going to be a larger disruption of fisheries, if Atlantic Shores wind farm is installed as stated. There are a large number of the troubling unknowns in this project. What is worse, all who have study this wind farm recognize there is a vast amount that is unknown. There is little scientific information to answer the many questions. The problems that will quickly appear but will be too late once the turbines and cables are installed. The unknown problems will be there for 30 plus years continuing to make the problem worse. With no knowledge of what the individual and cumulative impacts of this wind farm are and what the other phases of this lease will be, it is obvious that the ecology of both the ocean and atmosphere will be affected. While most experts know that these regional wind farms are going to have a major effect on the entire ecosystem and could be catastrophic, however once built it will be too late to fix the problems. Therefore, studies of the obvious questions should be done and analyzed Comments to BOEM on Atlantic Shores Wind Farm, from the surfclam and ocean quahog fishery, which before construction starts.

Comment Number: BOEM-2021-0057-0100-2
Commenter: David Wallace
Commenter Type: Individual
Other Sections: 19.4

Comment Excerpt Text:

The most troubling obvious effect is that the turbines in this and the other surrounding wind farms are going to change the entire ecosystem and it is clear that it will not be for the better. All of these turbines so close together will have negative effect by slowing the wind within the array, which in turns warms the air and ocean surface, which effect the wind driven currents and finally the tided. That alone is enough to give every scientist looking at this situation, to conclude that it is imperative to know and understand what the overall effects will be before installing many hundreds of the giant turbines. Once the ecology of the areas has be altered, it is difficult if not impossible to understand what the response will be in the behavior of marine mammals, birds, fish stocks and navigation along with changes in the weather systems. It is clear that these wind farms will have a signiftent impact, but there is little information on what the cumulative effects will be. It appears that neither BOEM's nor wind farm developers are interest to collect the data and analyze it before installation of the cables and turbines. Whatever the effects are thereafter will to be a positive or negative surprised.

Comment Number: BOEM-2021-0057-0100-8
Commenter: David Wallace

Commenter Type: Individual

Comment Excerpt Text:

There are many unknowns as to the effect of this wind farm and all of the others proposed wind farms in the Northeast. A few of the unknowns include wind and currents stability, temperature changes, fish stocks, habitat changes, and effects on protected species. These issues need to be address before the wind farms are installed, because if not, the negative effects of this and the other wind farms will be a major problem for the next 30 years. The country needs to know what the risks are and determine if the reward of very expensive electricity is worth filling the ocean with wind turbines. Unintended negative consequences are always distasteful in situations like this.

Comment Number: BOEM-2021-0057-0104-1

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The physical footprint of the 2 Atlantic Shores offshore wind projects has valuable and unique natural resources within its marine and coastal footprints including essential fish habitat, benthic resources, fish, mollusks, annelids, arthropods, sea turtles, resident and migratory shorebirds, songbirds, raptors, wading birds, and pelagic birds, bats, whales, dolphins, seals, harbor porpoises, manatees, etc. These natural resources will be impacted to variable extents by activities associated with the construction, operation, maintenance, repowering, and decommissioning of the 2 Atlantic Shores projects. The project activities include traffic (marine vessels, vehicles, aircraft), heavy equipment use, technical surveys, site and seafloor preparation (clearing, grading, trenching), scour protection, installation of foundations for turbines and substations, pile driving, vessel anchoring, cable routing, foundation removal, and WTG disassembly. The impact factors will result in temporary or permanent adverse impacts from vessel and vehicle collisions, noise, habitat alteration, seafloor/land disturbance, sediment suspension and deposition, creation of electromagnetic fields, and discharges/releases of chemicals, trash, and debris.

Comment Number: BOEM-2021-0057-0104-10

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 12

Comment Excerpt Text:

The EIS must provide a comprehensive cumulative impacts assessment, based on current scientific data, of EFH, pelagic, and benthic resources from the impacts of Atlantic Shores projects construction, operation, maintenance, repowering, and decommissioning. In the EIS, BOEM must evaluate all reasonable alternatives to current COP activities and adopt that alternative which has the least/minimal impact to EFH.

Comment Number: BOEM-2021-0057-0104-13

Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 23

Comment Excerpt Text:

Current scientific data on sea turtle-OSW interactions is extremely limited. Development of avoidance and mitigation strategies must be based on accurate estimates of sea turtle populations, their precise seasonal location, and a comprehensive assessment of cumulative impacts of all human activities in the region and of climate change. Multiple corroborating approaches are needed to acquire spatiotemporal profiles of different sea turtle species in the project area since the ability to detect sea turtles through visual sightings and aerial surveys is highly variable. The presence in/relative use of nearshore areas by sea turtle species must be accounted for in models of species density to inform impact analysis since some of Atlantic Shores project activities would take place in coastal waters.

The EIS must include cumulative analysis of impacts on sea turtles for all impact producing factors from Atlantic Shores , other OSW and non-OSW activities offshore, nearshore, and onshore. As NOAA acknowledged, “(w)e do not understand how noise impacts populations, survivorship or fecundity, nor do we understand the cumulative impacts of noise on individuals or populations when combined with other stresses (bycatch, climate change, etc.)” [Footnote 30: NOAA. The Status of Science for Assessing Noise Impacts on NOAA-Managed Species. Draft Ocean Noise Strategy Roadmap] It is essential that the EIS thoroughly account for all impacts in developing avoidance/ mitigation measures to ensure the agency complies with its legal responsibilities under the ESA.

Comment Number: BOEM-2021-0057-0104-16
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 15 5

Comment Excerpt Text:

All current avian monitoring technologies and survey methodologies have limitations in their scope and specific use in addition to inherent sampling biases. The EIS must use models produced from standardized monitoring/survey data collection methods and address the biases of each method used in the COP. The EIS must include:

- accurate estimates of avian populations;
- thorough evaluation of local population-level cumulative impacts in addition to flyway-wide impacts on a broad range of bird species with a presence in the Atlantic Shores area particularly passerines and other nocturnal migrants, seabirds, and species most at risk, employing complementary methods and technologies.
- Since all current OSW areas occur within migratory pathways of trans-Atlantic songbirds and shorebirds, BOEM must conduct a quantitative assessment of the cumulative effects including population viability analyses from OSW build out in the Atlantic OCS to mitigate the increased likelihood of large-scale migratory collision events or displacement events as the total OSW footprint increases.
- An examination of a detailed adaptive ecosystem-wide management plan, based on above analyses, describing how all conservation obligations afforded to impacted avian species by multiple statutes, conservation policies, agreements, and treaties[Footnote 42: North American Waterbird Conservation Plan, U.S. Shorebird Conservation Plan, MOU between U.S. Minerals Management Service and FWS on

the implementation of EO 13186 (01/17/2001), UN- CMS, & IUCN] will be met. This comprehensive plan could include methods and standards for monitoring, avoidance, and mitigation, informed by current science and best available technologies, in ecosystem-wide approaches. The best management practices defined by this plan could be extended to other OSW projects within the region and all along the Atlantic coast which encompass important habitats for birds migrating along the Atlantic Flyway.

- application of Collision Risk Models (CRMs) in analyzing potential collision impacts on at-risk species in the offshore environment which may occur within 20 km of the Atlantic Shores area footprint. CRMs provide a mechanism for testing outcomes against model predictions (e.g. observed vs expected collision rates). The collision risk analysis in the EIS must be complete and transparent as CRMs are extremely sensitive to input parameters such as avoidance behavior, flight height, flight activity, flux rate, corpse detection rate, rotor speed, bird speed, and collision risk. CRMs should also consider differences in daytime and nighttime flight patterns. [Footnote 43: Band, B. (2012). Using a collision risk model to assess bird collision risks for offshore windfarms. SOSS report for The Crown Estate, Norway.]
- mortality data and displacement data in cumulative impacts analyses and adaptive management strategies, to validate CRMs, and to measure long-term impacts on at-risk species.

Comment Number: BOEM-2021-0057-0104-19

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 3

Comment Excerpt Text:

Better understanding of bat presence and behavior in Atlantic Shores projects area is needed to afford them protection from potential adverse impacts of Atlantic Shores project activities. Both tree-roosting and cave-dwelling bats populations have high mortality from collisions with terrestrial WTGs, [Footnote 62: NYSEDA - NYS-ETWG. (2021, July). State of the Science Workshop on Wildlife and Offshore Wind Energy 2020 – Cumulative Impacts: Bats Workgroup Report] and most of the 9 bat species found in NJ have been tracked crossing open waters of the northeast Atlantic. The EIS must consider impacts to all bat species with a presence in this region, including the Endangered Indiana bat because it has been shown to be present in the region and tracked crossing the coastal waters. [Footnote 63: Tracking Indiana bat: Motus Wildlife Tracking System <https://motus.org/data/tracksSelect?e=2013-01-01&l=2021-12-31&s=100460>] BOEM must consider all available science and technology-based recommendations on avoidance and mitigation measures at the outset lest more species become listed within the lifetime of the proposed Atlantic Shores project.

Comment Number: BOEM-2021-0057-0104-3

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 22

Comment Excerpt Text:

BOEM must not rush the process to meet the current national goal of generating 30 gigawatts of OSW by 2030 [Footnote 7: White House. (2021, Jan 27). Executive Order on Tackling the Climate Crisis at Home and Abroad. Executive Order 14008.] since offshore windfarms will result in [Underline: permanent] alterations to the marine environment with significant consequences to the survival of wildlife therein. Unless appropriate design and operational criteria are implemented, development of OSW to mitigate the

climate crisis could compound the biodiversity crisis[Footnote 8: United Nations Convention on Biological Diversity. (2021, Aug 30). COP15 - UN Biodiversity Conference] by driving vulnerable marine and terrestrial fauna and flora to extinction. To avoid that outcome, OSW development must be undertaken with thoughtful science-based consideration and accounting of all OSW impacts, long-term projections of various climate crisis scenarios, reasonably foreseeable coastal and maritime changes from anthropogenic activities. This deliberate approach is essential to develop avoidance and mitigation strategies to prevent the extinction of impacted marine wildlife.

Comment Number: BOEM-2021-0057-0104-31

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 19.2

Comment Excerpt Text:

invest in research to better understand the potential cumulative effects of OSW- related acoustic and barometric disturbances on, and behavioral responses on economically and ecologically important fisheries and benthic resources. This study should focus on a broad representative group of species with the widest “range of hearing capabilities and mechanisms of the fishes present in the OSW areas”.

Comment Number: BOEM-2021-0057-0104-33

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

- include a comprehensive quantitative analysis of cumulative impacts on listed marine mammals expected from Atlantic Shores and other OSW projects/activities in the region, relative to the baseline level. The analysis must quantify the percentage of NARW population potentially exposed to conceivable impacts from OSW development on an annual basis[Footnote 95: Goodale, W. (2018). Cumulative adverse effects of offshore wind energy development on wildlife. Presentation at the NYSERDA State of the Science Workshop on Wildlife and Offshore Wind Development, Fox Hollow, Woodbury, NY.] and, as a worse-case scenario, the potential impact on population viability from a permanent loss of habitat within Atlantic Shores projects area.

- evaluate the potential risk of habitat displacement all along the Atlantic coast in terms of extinction risk of listed migratory mammals like NARW. The cumulative analysis must also examine the large-scale habitat displacement and the additional energy expenditure by NARW if it were to avoid all lease areas expected to be developed during their migration. This is particularly important in light of new data indicating the need for NARW to undertake efficient and uninterrupted foraging to maintain their energy budget.[Footnote 96: Van der Hoop, J., Nousek-McGregor, A. E., Nowacek, D. P., Parks, S. E., Tyack, P., & Madsen, P. (2019). Foraging rates of ram- filtering North Atlantic right whales. *Functional Ecology*, 33(7), 1290-1306.] The energetic implications of displacement of pregnant females during their southern migration (e.g. offshore into the Gulf Stream) must also be taken into consideration. Since 2010, North Atlantic right whale distribution and habitat use has shifted in response to climate change- driven shifts in prey availability. [Footnote 97: Record, N., Runge, J., Pendleton, D., Balch, W., Davies, K., Pershing, A., Johnson, C., Stamieszkin, K., Ji, R., Feng, Z. & Kraus, S. (2019). Rapid Climate-Driven Circulation Changes Threaten Conservation of Endangered North Atlantic Right Whales. *Oceanography*, 32, 162-169]

Best available scientific information, including regional shipboard and aerial

surveys, [Footnote 98: Whitt, A.D., Dudzinski, K. & J. R. Laliberté. (2013). North Atlantic right whale distribution and seasonal occurrence in nearshore waters off New Jersey, USA, and implications for management. *Endangered Species Research*, 20, 50-69.], [Footnote 99: Redfern, J., Pendleton, D., O'Brien, O., Ganley, L., Hodge, B. & McKenna, K. (2020). Tools to identify and minimize risk to marine mammals. Presentation to the Massachusetts Habitat Working Group (Dec. 11, 2020); Kraus, S.D., et al. (2016). Northeast large pelagic survey collaborative aerial and acoustic surveys for large whales and sea turtles. Final Report. OCS Study, BOEM 2016-054, pp. 118; Leiter, S. M., et al. (2017). North Atlantic right whale *Eubalaena glacialis* occurrence in offshore wind energy areas near Massachusetts and Rhode Island, USA. *Endangered Species Research*, 34, 45-59; Quintana, E. (2017). Monthly report No. 3 prepared for the Massachusetts Clean Energy Center by the New England Aquarium, pp. 26.] acoustic detections, [Footnote 100: Davis, G.E. et al. (2017). Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014. *Nature Scientific Reports*, 7, 13460.], [Footnote 101: Woods Hole Oceanographic Institution. Autonomous Real Team Marine Mammal Detections: Cox Ledge, Winter 2019-2020], [Footnote 102: Davis, G. E., et al. (2020). Exploring movement patterns and changing distributions of baleen whales in the western North Atlantic using a decade of passive acoustic data. *Global Change Biology*, 26(9), 4812-4840.] photo-identification data, [Footnote 103: Hamilton, P. (2020). North Atlantic Right Whale Catalog Update, Recent Genetic Findings and Whale Naming Results. Presentation at the North Atlantic Right Whale Consortium Annual Meeting (Oct. 29, 2020).] stranding data, [Footnote 104: Asaro, M. J. (2017). Update on US Right Whale Mortalities in 2017. NOAA Fisheries] a series of DMAs declared by NMFS pursuant to ship strike rule, [Footnote 105: NOAA Fisheries Interactive DMA Analyses: <https://www.nefsc.noaa.gov/rcb/interactive-monthly-dma-analyses/>] and prey data, [Footnote 106: Pendleton, D. E., Pershing, A., Brown, M. W., Mayo, C. A., Kenney, R. D., Record, N. R., & Cole, T. V. N. (2009). Regional-scale mean copepod concentration indicates relative abundance of North Atlantic right whales. *Marine Ecology Progress Series*, 378, 211-225; NOAA Northeast Fisheries Science Center - Ecology of the Northeast US Continental Shelf – Zooplankton] indicate that NARW now rely heavily on the New England waters nearly all year-round. Evidence of this was seen on October 11, 2020, when a North Atlantic right whale was sighted ~2.7 nm east of Sea Bright, NJ (just ~70 miles north of the Atlantic Shores projects area). This whale was entangled in fishing gear and in extremely poor condition with large lesions on its body. [Footnote 107: NOAA Fisheries. (2020, Oct 13). Entangled North Atlantic Right Whale Spotted off New Jersey.]

- Foraging areas with suitable prey density are limited relative to the overall distribution of the remaining 336 North Atlantic right whales left on the planet, [Footnote 108: Newly revised number from the North Atlantic Right Whale Consortium (NARWC) Annual Meeting, October 26-27, 2021. <https://www.andersoncabotcenterforoceanlife.org/blog/right-whale-population-declines-for-10th-straight-year/>] and an ever decreasing amount of habitat is available for resting, pregnant, and lactating females. [Footnote 109: Van der Hoop, J., et al. (2019). Foraging rates of ram-filtering North Atlantic right whales; Plourde, S., Lehoux, C., Johnson, C. L., Perrin, G., & Lesage, V. (2019). 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*, 41(5), 667-685; Lehoux, C., Plourde, S., & Lesage, V. (2020). 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; Gavrilchuk, K., Lesage, V., Fortune, S., Trites, A. W., & Plourde, S. (2020). 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.] Scientific data on NARW functional ecology also shows that the species employs a “high-drag” but energetically expensive foraging strategy that enables them to selectively target high- density prey patches. [Footnote 110: Van der Hoop, J., et al., (2019). Foraging rates of ram-filtering North Atlantic right whales.] If access to prey is limited in any way, the ability of the whale to offset its energy expenditure during foraging is jeopardized. “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 111: Van der Hoop, J., et al., (2019). Foraging rates of ram-filtering North Atlantic right whales.] In addition to Unusual Mortality Events, [Footnote 112: NOAA Fisheries. 2017–2021 North Atlantic Right Whale Unusual Mortality Event] the NARW is also experiencing significant food-stress with juveniles, adults, and lactating females having significantly poorer body condition relative to southern right whales and the poor condition of lactating females may cause a reduction in calf growth rates. [Footnote 113: Christiansen, F. (2020). Population comparison of right whale body condition reveals poor state of the North Atlantic right whale. Marine Ecology Progress Series, 640, 1-16] Unrestricted access to suitable areas, wherever they exist, and minimization of disturbance are thus essential for the species to maintain their energy budget, [Footnote 114: Van der Hoop, J., et al., (2019). Foraging rates of ram-filtering North Atlantic right whales.] especially during their energetically expensive migration This analysis must inform avoidance and mitigation strategies in a programmatic ecosystem-wide approach to protect NARW and all other species using the same habitats from the common threats of OSW projects which will be installed along the east coast which overlaps the NARW/marine mammal migratory corridors and foraging/calving habitats.

- use the cumulative impact analysis to ensure that any potential shifts in habitat usage by NARW and other large whale species and stocks are reflected in sound exposure modeling associated with OSW development. Because of the long-term cumulative effects of various stressors, NARW “body lengths have been decreasing since 1981” and this reduction in physical size “may lead to reduced reproductive success and increased probability of lethal gear entanglements”, according to a just published study. [Footnote 115: Stewart, J. D. et al. (2021). Decreasing body lengths in North Atlantic right whales. Current Biology, 31, 1–6.]

Comment Number: BOEM-2021-0057-0104-36

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

full annual and life cycle approach to address cumulative impacts on population levels of impacted species.

- consideration of Atlantic Shores activities beyond the onshore and offshore project footprint on species like the migrating red knots and other shorebirds which rely on mudflats along the coast to rest and refuel during their fall migration, and the common and roseate terns which rely on them to stage before migrating.

Comment Number: BOEM-2021-0057-0104-37

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

- conduct a cumulative impacts analysis that evaluates the adverse long-term and short-term impacts of Atlantic Shores and other OSW projects being planned off the Atlantic coast (which will be sited directly within the migratory corridor of mammals, reptiles, and birds and could result in large-scale habitat fragmentation/displacement of these species), of climate change- induced physical oceanographic processes (e.g. changes in acidity, salinity, oxygen content, and thermal expansion that could result in shifts in prey distribution, and of migration routes and times), and of non-OSW activities along Atlantic

coast and in the maritime region

- in the cumulative impacts analysis, account for gaps in currently available scientific data on species' population densities, species' physiology, behavior, and habitat uses, interactions of species assemblages, and the functioning of complex marine and coastal ecosystems, and lack of adequate avoidance/minimization/mitigation/monitoring technologies to adopt a precautionary approach

Comment Number: BOEM-2021-0057-0104-40

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Collisions with WTGs and noise pollution are the primary impacts of OSW on bats. In its EIS, BOEM must evaluate cumulative impacts from other regional OSW and non-OSW offshore and coastal activities, adopt a precautionary approach where the data is inadequate or absent, consider alternatives to all aspects of the Atlantic Shores COP, and develop wildlife impact avoidance and mitigation strategies from the outset in consultation with USFWS and other relevant agencies. Better understanding of bat presence and behavior in Atlantic Shores area is needed to afford them protection from potential adverse impacts of Atlantic Shores project activities.

Comment Number: BOEM-2021-0057-0104-5

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 19.4

Comment Excerpt Text:

The impact producing factors (IPFs) of the Atlantic Shores projects arise from the use of marine vessels, vehicles, aircraft, and heavy equipment, high resolution geophysical (HRG) and geotechnical surveys (to characterize benthic and subsurface conditions), seafloor preparation (clearing, grading, trenching), scour protection, protection of cables, installation of foundations for wind turbine generators (WTGs) and offshore substations or electrical service platforms (ESPs), foundation pile driving, vessel anchoring, cable routing, foundation removal, and WTG disassembly. The threats to marine species posed by these IPFs include:

- vessel and vehicle collisions which can cause injury and death;
- underwater noise, seafloor/land disturbance, and new electromagnetic fields (EMFs) which cause stress, behavioral changes, habitat avoidance;
- secondary entanglement of predatory species on submarine cables;
- habitat alteration (new underwater and above water structures, altered seafloor topography through permanent conversion of existing soft-bottom habitat to hard substrate habitat, changing hydrodynamics, electromagnetic fields (EMFs), operational noise of WTGs, etc.) resulting in displacement/avoidance, and changes in prey distribution/availability; and
- water pollution (sediment suspension and deposition, discharges/releases of chemicals, trash, and debris, etc.) potentially resulting in starvation and death.

The EIS must include a thorough project-specific impacts analysis and the analysis of cumulative impacts on representative species of every taxon and their habitats within the marine (pelagic and benthic),

nearshore, coastal, and terrestrial environments of Atlantic Shores projects area. BOEM should adopt a programmatic ecosystem-wide approach in conducting a cumulative impacts analysis because of the large number of impact-producing factors from the different phases of the Atlantic Shores projects and the broad range of biological resources affected including Endangered species from every taxon with rapidly declining populations. This analysis must include impacts from the 2 Atlantic Shores projects over their ~3 decade lifespan, from other OCS projects in the region, from the multiple ongoing, proposed, and reasonably foreseeable non- OSW project activities offshore, near-shore, and onshore, as well as climate change impacts. Such analyses must inform the development and implementation of avoidance and mitigation strategies based on best available current science and utilizing both the state-of-the-art and emerging technologies.

Comment Number: BOEM-2021-0057-0105-10

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

The Scale of the Spatial and Temporal Impacts Analysis Should be Defined in the EIS and Should Support Agency Decisions with Regard to This Project That Aggressively Protect Biodiversity in the Mid-Atlantic Bight, Inclusive of the New York Bight.

The relatively recent repeal of a definition specific to “cumulative” impacts in the NEPA regulations at 40 CFR §1508.1 does not relieve BOEM of its obligation to make a plan for the appropriate consideration of cumulative impacts or to define the proper scale for those considerations during the scoping phase for the Atlantic Shores project or other offshore wind projects. In fact, albeit more cumbersome than the longstanding original definition of cumulative impact in the regulations, a plain reading of the new “effects” definition requires the same comprehensive cumulative impacts analysis. [Footnote 6: The term effects or impacts used in the September 2020 revisions to the NEPA regulations at 40 CFR 1508.1(g) may include effects that are later in time or farther removed in distance from the proposed action or alternatives.” (Emphasis added). The term effects also is specifically meant to include effects on natural resources and the “functioning of affected ecosystems.” See 40 CFR 1508.1 (g)(1). The term also means “comprehensively the natural and physical environment and the relationship of present and future generations of Americans with that environment.” 40 CFR 1508.1(m).]

Identifying the appropriate scale for the assessment of impacts and benefits is so important because it guides the public, this project applicant and future project applicants in the submission of the most relevant data and information to avoid impacts in the first instance. Ideally, the scale for cumulative impacts assessment would be defined by BOEM prior to the lease sales in a specific Wind Energy Area. Without a definition of scale earlier in the process the reference points used in the Construction and Operations Plans to evaluate likelihood of impacts, and perhaps even in the EIS, are quite varied. For example, when Atlantic Shores evaluates the potential habitat benefits associated with imposing hardened structures in a mostly sand, flat bottom habitat it describes the anticipated benefits relative to the Mid-Atlantic Bight. [Footnote 7: The Mid-Atlantic Bight extends from Cape Hatteras, North Carolina, north to Cape Cod, Massachusetts. The New York Bight refers to the coastal area between Long Island and the New Jersey coast and it is part of the larger geographical area referred to as the Mid-Atlantic Bight.] See COP, Vol. II, p. 4-149 (“Foundations can create a ‘reef effect’ providing ecological benefits and habitat diversity in the Mid-Atlantic Bight.”) (Emphasis added). However, for example when the COP addresses potential project-related impacts to the Atlantic sturgeon it concludes little to no impacts by reference to the Offshore Project Area and not the New York or Mid-Atlantic Bights. See COP, Vol. II, p. 4-128

(there are “no spawning areas or Federally regulated Critical Habitat for Atlantic sturgeon overlap with the Offshore Project Area (NOAA 2020b). Therefore, no eggs or larvae of Atlantic sturgeon are expected to be present in the Offshore Project Area. Seasonal migratory patterns allow the potential for juvenile and/or adult Atlantic sturgeon to be present in the Offshore Project Area. However, they are not expected to be a regular visitor or occupant in large numbers.”). (Emphasis added). BOEM’s identification of the preferred project alternative in an environmental impact statement context should be based on more than just considerations of the specific project related impacts and benefits in a defined project area.

Comment Number: BOEM-2021-0057-0105-17

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

The 1993 CEQ Biodiversity Considerations Report also emphasized that determining the appropriate scale for impacts assessment is the most important step in effectively using an ecosystem approach, and the scoping stage is the best point to set the scale of the assessment. An impact assessment that includes only the project footprint will be too narrow and will not allow for appropriate consideration of ecosystem wide impacts in the WEA and adjacent WEAs. For this reason, the EIS should address the appropriateness and relative importance of the selected scale to which impacts are being assessed and do so in terms of temporal and spatial stressors and receptors. The Conservancy recommends that the geographic scale selected be aligned with the scale of the ecosystem impacted by the project and the scale of the systems necessary to support the biodiversity of the regional ecosystem.

Offshore wind development is taking place in an environment where the full range of habitat and species vulnerabilities to continuous, repetitive and long-lasting effects associated with construction and operation is not yet fully understood. In this vein, it is important to note that the biodiversity crisis has only worsened since the CEQ looked at this issue in 1993. In fact, the Intergovernmental Science-Policy Platform on Biodiversity & Ecosystem Services (IPBES) recently reports that nature is deteriorating at an unprecedented scale and that biodiversity and climate change must be addresses together as two tightly interconnected issues. [Footnote 9: IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 1148 pages. <https://doi.org/10.5281/zenodo.383167>] It is prudent therefore to recognize that other offshore wind construction and operational activities in locations nearby the Atlantic Shores project could result in additive effects on habitat and species, especially migratory species, such that the scope of those effects should be fully evaluated. The identification of best mitigation measures and practices during and after construction activities, is dependent on evaluation of the most current and complete data, and should take into account the potential cumulative impacts of continuous and simultaneous development activity

This is especially the case with respect to pile driving noise, operational noise associated with WTG design, and the incorporation of nature-based designs into project elements.

In its prior comments, the Conservancy has pointed to several relevant papers that describe the challenges and possible approaches to offshore wind cumulative impact analysis.

Comment Number: BOEM-2021-0057-0105-4

Organization: The Nature Conservancy
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

3) BOEM should determine the appropriate scale for a cumulative impacts analysis and that scale should be used to inform BOEM decisions that protect biodiversity in the Mid-Atlantic Bight;

Comment Number: BOEM-2021-0057-0107-10
Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council
Commenter:
Commenter Type: Federal Agency
Other Sections: 8

Comment Excerpt Text:

The EIS should describe the amount of scour protection that may be needed for the turbine and offshore substation foundations, as well as the amount of external cable armoring that may be required if sufficient cable burial depth cannot be achieved. Consideration should also be given to materials that reduce the potential for interference with existing fisheries in the area. It should be noted that there are different considerations for different fisheries. For example, the commercial fishing industry is concerned about the use of concrete mattresses due to the potential for hanging/snagging mobile gears. Some recreational fishery stakeholders have noted improved fishing opportunities around the scour protection materials used for the CVOW pilot project off Virginia. In addition, the turbine and substation foundations may create a wake effect. This could increase the amount of suspended sediment in the immediate area which could negatively impact filter feeding organisms, including commercially important species such as surfclams and scallops. It could also have impacts on the dispersal of pelagic larvae in the area. These impacts must be thoroughly considered in the EIS.

Comment Number: BOEM-2021-0057-0107-5
Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council
Commenter:
Commenter Type: Federal Agency

Comment Excerpt Text:

The EIS must include a meaningful cumulative impacts assessment. We supported the criteria used in the Vineyard Wind 1 EIS for defining the scope of reasonably foreseeable future wind development; however, that scope should be expanded to include the anticipated New York Bight lease areas. The cumulative effects of the adjacent wind projects should be thoroughly evaluated. In addition, it will be important to consider that many lease areas, including this one, are not proposed to be developed through a single project, but rather will be developed in stages through multiple projects. The EIS should also acknowledge the recent Department of Interior announcement of plans to hold up to seven new lease sales by 2025, even if these leases are not included in the analyzed scope of reasonably foreseeable future wind development.

The cumulative effects analysis should also consider the impacts of cables from many planned projects.

As we have commented in the past, there are multiple benefits to coordinated transmission planning across multiple projects. For example, shared cable corridors could decrease the amount of disturbed habitat. Impacts to sensitive species could also be slightly reduced if multiple cable installations are coordinated to avoid especially sensitive times of year. To help stakeholders better understand the potential cumulative impacts of the offshore export cables planned for all projects, we recommend the creation of information products to show the planned locations of all export cables (e.g., through the Northeast and Mid-Atlantic Ocean Data Portals). We recognize that the final precise cable routes have not been determined for most projects and this should be noted in the information products. Earlier dissemination of draft proposals via these platforms would promote better understanding of these projects in relation to each other and to other activities.

Cumulative impacts and risks must be evaluated for species that are widely distributed on the coast. Species such as bluefish, flounders, and others that migrate along the coast could be affected by multiple offshore wind projects, as well as other types of coastal development, at both the individual and population level. Climate change will also be an essential consideration in the cumulative effects analysis as the distributions and abundance of many species are changing (some increasing, some decreasing) due to climate change and other factors. The EIS should acknowledge that impacts from the construction of wind farms will occur in this context.

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

Comment Number: BOEM-2021-0057-0107-9

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 8

Comment Excerpt Text:

In addition, secondary cascading effects should be evaluated as community composition could change within and beyond the project area. For example, this project area includes habitat for surfclams and scallops. The addition of structured habitat may attract bivalve predators such as sea stars and moon snails, which could have negative impacts on species such as surfclams and could result in cascading ecological impacts.

Comment Number: BOEM-2021-0057-0109-2

Organization: BlueGreen Alliance

Commenter: Jason Walsh

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

This includes analysis of cumulative impacts and adaptive management strategies, obtaining all necessary and relevant data, and requires BOEM to identify all methodologies, and indicate when information is

incomplete or unavailable, acknowledge scientific disagreement and data gaps, and evaluate intermediate adverse impacts based on approaches or methods generally accepted in the scientific community.

Comment Number: BOEM-2021-0057-0114-13
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

The Supplemental Environmental Impact Statement (SEIS) completed in 2020 for the Vineyard Wind I project was intended to serve as a cumulative impacts' analysis for multiple projects in the region. However, the SEIS was only incorporated into the record of that project as BOEM used an entirely different—and grossly insufficient—approach for the South Fork project just weeks later. It is unclear what, if any, approach BOEM plans to use going forward. Politics must not interfere with scientific integrity or transparency. BOEM must provide explicit information as to how it will approach cumulative impacts reviews for this and future projects.

Comment Number: BOEM-2021-0057-0114-21
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

RODA has strong concerns over BOEM's approach to impact analyses to date, incorporates all previous comments regarding this topic by reference, and looks forward to revisions by BOEM going forward. Using such improved analyses, the following alternatives should be considered and analyzed in the environmental review for Atlantic Shores.

Comment Number: BOEM-2021-0057-0114-29
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

The environmental impacts of Atlantic Shores will be cumulative to those of other projects for multiple fish stocks (and oceanographic processes) and these must be coordinated to maximize the utility of any data that is collected.

Comment Number: BOEM-2021-0057-0114-3
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

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-2021-0057-0114-31
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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-2021-0057-0114-32
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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-2021-0057-0114-33
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt 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. 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 offshore construction industry without longevity or a domestic supply chain.

Comment Number: BOEM-2021-0057-0114-37

Organization: Responsible Offshore Development Alliance

Commenter:

Commenter Type: Other

Comment Excerpt 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. [Bold: BOEM must take immediate action to address ongoing impacts from unregulated OSW surveys, and complete a Programmatic Environmental Impact Statement evaluating the cumulative impacts of all reasonably foreseeable OSW survey effort prior to additional activity.] Project-specific Environmental Assessments have not analyzed the readily conspicuous size and scale of these surveys' environmental, economic, and cumulative impacts.

Comment Number: BOEM-2021-0057-0115-2

Commenter: Dorothy (Dottie) Reynolds

Commenter Type: Individual

Comment Excerpt Text:

In South Jersey more than 400,000 acres of public ocean waters have been sold and committed to wind farms. Governor Murphy wants New Jersey to become the hub of the U.S. Offshore wind industry and is fast tracking proposed projects. The physical impacts on the water, ocean currents and their effect on food supply for the fish, the birds, the bats, and the marine mammals are really an unknown; scientists do not know what all the impacts are going to be. Will hundreds of moving turbines block offshore breezes, increasing heat on shore for humans?

Comment Number: BOEM-2021-0057-0117-3

Commenter: Maureen Keating

Commenter Type: Individual

Comment Excerpt Text:

clarify/summarize impact analysis (folks should not be required to read hundreds of pages(available for those interested in detail)- identify pro/cons transparently),

Comment Number: BOEM-2021-0057-0119-106

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 5

Comment Excerpt Text:

In the past, BOEM has failed to provide any reasonable scientific evidence to support its cumulative impact assessment for birds resulting from wind farm construction and operation in the Atlantic OCS.

Loss et al. (2013) estimates that the average annual mortality rate for birds from turbines onshore is 3.58 birds/MW (95% C.I.=3.05-4.68) [Footnote 307: Loss SR, Will T, Marra PP. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. *Biological Conservation* 168:201–209]. The Draft EIS must use this range to estimate potential cumulative impacts from Atlantic Shores over, at minimum, the predicted 30-year lifespan of Atlantic Shores. While the exact turbine models to be deployed are not yet known, BOEM should provide, at minimum, estimates based on the specifications provided in the COP. Furthermore, BOEM should model how the Loss et al. estimates could change in response to increased height and rotor swept area for larger turbines, enlisting existing flight altitude data from nearshore studies.

These calculations only address direct mortality from collisions and do not include the rates of mortality driven by barrier effects and habitat loss. Barrier effects and displacement can have significant energetic costs for birds and can additionally result in increased foraging rates. Both can have consequences for individual survival and can decrease rates of egg laying and fledging.

The Draft EIS must provide a quantitative assessment of the cumulative effects from wind farm build out in the OCS, including population viability analyses which consider changes in vital rates that result from

both direct and indirect impacts. BOEM's cumulative impact level should reflect these estimates. In the past, BOEM has prescribed impact levels to birds based on immediate impacts or impacts to species detected during surveys within the proposed development footprint. These limited evaluations are not acceptable. We expect BOEM to be fully transparent in its impact level assignments in the Draft EIS, clearly outlining the best available science and analyses that lead to each impact level assignment.

Comment Number: BOEM-2021-0057-0119-126

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM should conduct a thorough review of the literature on bat migration and radio- and GPS-tagged bats and select a boundary that better reflects the potential habitat use of exposed bats for use in the Atlantic Shores Draft EIS (and other NEPA analyses). This revised boundary will likely require the cumulative impacts analysis to reflect that bats exposed to offshore wind projects are potentially exposed to multiple offshore wind facilities and land-based wind energy projects.

Comment Number: BOEM-2021-0057-0119-127

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt 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 note that the analyses proposed below are also relevant for other species of large whale found in the Northwest Atlantic. 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 194: 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, as a worse-case scenario, the potential impact on population viability of a permanent loss of foraging and other habitat within all lease areas expected to be developed. The analysis should also examine the additional energetic expenditure experienced if right whales were to avoid all lease areas expected to be developed during their migration. This is particularly important in light of new scientific information indicating the need for North Atlantic right whales to undertake efficient and uninterrupted foraging in order to maintain their energy budget [Footnote 195: 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.

Comment Number: BOEM-2021-0057-0119-13

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Although the notice of intent did not expressly require a full cumulative impacts analysis citing to 40 C.F.R. §1508.7, BOEM must nevertheless conduct such an analysis.

Comment Number: BOEM-2021-0057-0119-131

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM’s cumulative impacts assessment for marine mammals should include the risk to marine mammals of increased vessel activity associated with offshore wind development, analyze large-scale habitat displacement for North Atlantic right whales, consider how large-scale build out of offshore wind could affect the marine mammal prey base, and assess the potential impacts of underwater noise generated during operations on marine mammals and their prey, and propose the necessary steps to mitigate those impacts.

Comment Number: BOEM-2021-0057-0119-132

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Because of these existing stresses on bat species, accurately accounting for how offshore wind could affect their populations is critical. When conducting the cumulative impacts analysis for the Draft EIS, BOEM must include (i) the best available science (such as Motus data), (ii) that cave-hibernating bats may be more common offshore than the COP represents, (iii) that seasonal use of the offshore environment by migratory bats does not imply low exposure and low impact, (iv) bats are likely attracted to wind turbines, and that (v) larger turbines may kill more bats than smaller turbines.

Comment Number: BOEM-2021-0057-0119-24

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

More transparent information on how the level of an IPF is quantitatively or qualitatively assessed is needed. As a general matter, the impact analysis should be undertaken in an objective, transparent, and, where possible, quantitative manner. In the absence of available data, BOEM should acknowledge that an IPF is indeterminate and that additional research is needed. BOEM should provide detail on how IPFs and associated criteria have been quantitatively or qualitatively measured in the Draft EIS.

Comment Number: BOEM-2021-0057-0119-26

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In conducting its impact analysis, BOEM should adopt a precautionary approach to account for fundamental gaps in our understanding of species and their behavioral responses and employ the best available scientific methods to monitor and, if necessary, design mitigation strategies. As a general matter throughout the development and operation of offshore wind projects, BOEM should ensure the necessary research and monitoring is carried out to address the substantial uncertainties regarding offshore wind and wildlife interactions. For instance, we do not know the degree to which bats, marine birds, and migrating land and coastal birds may interact with offshore wind turbines in U.S. waters and whether those interactions will lead to population-level impacts. Many of these species are currently facing stressors on land, which may make their populations more vulnerable to additional take. Based on this research, mitigation options may be needed to ensure species' health and provide the certainty that will allow for further ramp up of the industry. Improved and sustained data compilation before and after construction as well as during operation would also advance understanding of species' occurrence in the Atlantic Shores Project Area and region. As the United States offshore wind industry moves forward, we recommend BOEM support the comprehensive analysis of these baseline data and ongoing data compilation and

analyses and undertake a regional approach to data analysis to enhance collaboration with developers, scientists, managers, and other stakeholders.

Comment Number: BOEM-2021-0057-0119-63

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Notwithstanding the preparation of a Programmatic EIS, all future cumulative impact analysis must include the following considerations concerning vessel speed restrictions and vessel noise reduction.

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

Comment Number: BOEM-2021-0057-0120-2

Commenter: Lynn Schambach

Commenter Type: Individual

Comment Excerpt Text:

The ocean region off the New York and New Jersey coast is tremendously diverse with 28 species of whales, dolphins, and porpoises, 5 species of sea turtles, and 4 species of seals. Hundreds of fish and bird species depend on the region for habitat, food, or migration. Endangered species, including one most at risk, the North Atlantic right whale is found in these waters. Sustainable seafood for millions of people each year locally and around the world are resourced from this area.

There is not enough science to determine the cumulative impacts that industrialized development of offshore wind energy and its associated infrastructure has on marine resources and especially at the scale that is proposed off this coast.

The expansion for leasing 800,000 acres of ocean for offshore wind energy development without more informed data from the initial 425,000 acres is this side of reckless.

Comment Number: BOEM-2021-0057-0121-4

Commenter: Horatio (Ray) Nichols

Commenter Type: Individual

Comment Excerpt Text:

3. Consider separately, short-term activities involved with construction vs. long-term impacts once construction is completed.

Comment Number: BOEM-2021-0057-0122-1

Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 17

Comment Excerpt Text:

The EIS process is critical here as the Proposed Action has a litany of expected impacts that are germane to COA's interest. The expected impacts include, without limitation:

Air quality, water quality, bats, benthic habitat, essential fish habitat, invertebrates, finfish, birds, marine mammals, terrestrial and coastal habitats and fauna, sea turtles, wetlands and other waters of the United States, commercial fisheries and for-hire recreational fishing, cultural resources, demographics, employment, economics, environmental justice, land use and coastal infrastructure, navigation and vessel traffic, other marine uses, recreation and tourism, and visual resources. [Footnote 2: Federal Register, Vol. 86, No. 187, September 30, 2021, page 54233.]

While offshore wind energy represents a long overdue progression from fossil fuels, the Proposed Action threatens many serious consequences that must be carefully and diligently reviewed through the EIS process.

Comment Number: BOEM-2021-0057-0122-23
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In an alternative analysis, BOEM should utilize an extensive cumulative impact analysis based on the potential harm to sensitive areas in the NY/NJ Bight, especially in light of the unprecedented footprint for offshore wind energy proposed across the East Coast. During the leasing and planning phases of offshore wind development, BOEM only reviews impacts that are "reasonably foreseeable." [Footnote 17: Vineyard Wind Supplemental Environmental Impact Statement, p 1-2.] As a result, cumulative effects and extensive, precautionary steps have taken a back seat. Even though BOEM expanded the scope of their cumulative impact analysis during the Vineyard Wind programmatic review, there could still be cascading effects to vulnerable New Jersey and New York ecosystems, wildlife, and communities along the Mid- Atlantic Bight. Siting offshore wind turbines in the WEAs may affect these species, many of which are already "on the brink."

Echoed in COA and other organization's prior comments, the siloed nature of BOEM's approach to Section 102 of the National Environmental Policy Act (NEPA) could prevent proper siting, construction, and analysis. Section 102 states simply that a "detailed statement be prepared by the responsible official" when appropriate for "actions significantly affecting [Footnote 18: Id.]" For instance, the Supplemental Environmental Impact Statement (SEIS) from Vineyard Wind 1 "assumes that best management practices (BMPs) incorporated from the [Record of Decision] on the 2007 Final Programmatic Environmental Impact Statement for Alternative Energy Development and Production and Alternate Use of Facilities on the Outer Continental Shelf, will be implemented. [Footnote 19: Id.]

BOEM finally shifted their analysis from the 2007 Record of Decision during the Vineyard Wind extended environmental review process. [Footnote 20: Vineyard Wind 1 Offshore Wind Supplemental Environmental Impact Statement, 1-2 (2020).] In July of 2020, the Bureau of Ocean Energy Management

(“BOEM”) published the SEIS, which exclusively focused on cumulative impacts from the project in relation to others in the same geographical area. The results of the SEIS detailed the importance of early planning and a robust cumulative impact analysis. The SEIS concluded that the proposed action, as well as all six alternatives, would result in “major impacts” to both commercial and recreational fishing as well as navigation. [Footnote 21: Vineyard Wind Supplemental Environmental Impact Statement (2020), p. ES-5.] The previous project-specific Environmental Impact Statement found that, individually, Vineyard Wind would only result in “minor” to “moderate” impacts to these industries. [Footnote 22: Bureau of Ocean Energy Management, Vineyard Wind – Draft Environmental Impact Statement, Docket No. BOEM 2018-060, at ES-8.] The SEIS and a cumulative impact approach illustrate how the impacts change when viewed in relation to the surrounding developments. Further, the SEIS outlined why it is essential that regulators engage in increased cumulative impact analyses that focus on the development of the offshore wind industry holistically, as well as on an individual project-by-project basis.

With the Vineyard Wind project, BOEM changed their tiered analysis of “reasonably foreseeable” impacts to include “those proposed offshore wind projects with COPs submitted or approved at the time of analysis.” [Footnote 23: Id.] BOEM expanded their “quantitative cumulative impacts analysis” in their SEIS to include all projects with submitted or approved COPs, all projects with onshore energy awarded, and all announced and future solicitations and lease sales. However, BOEM still did not expand this to apply to transmission, interconnection, or onshore impacts. Nor did they cover the full extent of navigation and transit concerns as “reasonably foreseeable.” COA supports the continued application of BOEM’s “quantitative cumulative impact analysis” and urges BOEM to continue revising their approach to include the aforementioned additional cumulative impacts.

Comment Number: BOEM-2021-0057-0122-3

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Atlantic Shores projects are massive private, commercial, and industrial facilities that do not exist anywhere else in the world in such size, scale, and scope. Further, the Atlantic Shores projects are among many offshore wind facilities proposed in a 400,000-acre area off New Jersey’s Ocean, Atlantic, and Cape May Counties. Given the scope and magnitude of this infrastructure, both on and offshore, it is imperative that not only each project be environmentally responsible, but the cumulative impacts considered and avoided, minimized, or mitigated. Throughout the initiation, cultivation, and promotion of this new industrial development, proponents—especially state and federal leaders—commit to moving forward responsibly. As these offshore wind projects are now moving forward, now is the time for meaningful commitments to meet that standard.

BOEM’s Notice requests information on impact-producing factors (IPFs), effects and mitigation measures on significant resources, and reasonable alternatives to the siting and construction of facilities and activities. COA recommends changes to the submitted COP and that BOEM include sufficient avoidance and meaningful mitigation measures. The majority of known effects associated with constructing wind turbine generators and foundations are most severe during the construction and surveying periods of a project’s lifecycle. Moreover, there is uncertainty regarding the long-term and onshore impacts associated with this unprecedented scale of offshore development.

COA appreciates the COP’s recognition that there will be adverse impacts and welcomes the consideration of avoidance, minimization, and mitigation.

Comment Number: BOEM-2021-0057-0122-4
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Based on a preliminary evaluation of these resources, BOEM expects impacts on sea turtles and marine mammals from underwater noise caused by construction and from collisions with vessel traffic associated with the Projects. Structures installed for the Projects could permanently change benthic habitat and other fish habitat. Commercial fisheries and for-hire recreational fishing could be impacted. The Projects' structures above the water could affect the visual character defining historic properties and recreational and tourism areas. The Projects' structures also would pose an allision and height hazard to vessels passing close by, and vessels would in turn pose a hazard to the structures. Additionally, the Projects could adversely impact mineral extraction, military use, air traffic, land-based radar services, cables and pipelines, and scientific surveys. Beneficial impacts are also expected by facilitating achievement of State renewable energy goals, increasing job opportunities, improving air quality, and reducing carbon emissions.

Comment Number: BOEM-2021-0057-0122-6
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 17

Comment Excerpt Text:

COA recommends the EIS apply:

- Identifying and assessing cumulative environmental impacts from Atlantic Shores projects as well as the cumulative impacts from all projects being considered in the region. The land use experience over the last 200 years has proven that piecemeal development will lead to mistakes and ecological harm.
- Transparency to the public at all levels of design, construction, operation and maintenance, which means more disclosure of onshore and offshore activities with minimal redaction,
- Meaningful public involvement —not just hosting meetings but actual measurable evidence of project modification to meet public concerns.
- Meeting legal requirements through the lens of maximizing opportunities for environmental protection;
- Fully complying with New Jersey's enforceable policies for purposes of the Coastal Zone Management Act, especially those concerning the protection of endangered and threatened species' habitat and critical wildlife habitat;
- Refraining from soliciting or accepting any state agency approvals for the Atlantic Shores projects which may be arbitrary or capricious under the Administrative Procedures Act by virtue of their issuance prior to all pertinent information being made available to the public and the agencies of decision;
- Implementation of coastal resiliency and adaption for sea level rise and storm surges for all onshore and offshore facilities, especially as the life span of these projects is 35 years;
- Meaningful interagency review is essential at the local, state, and federal levels; this is especially important during the EIS development with natural resource agencies, as well as community and citizen resources agencies to ensure environmental justice, public health, or over-development issues are identified and addressed;

- Protection of submerged lands that fall under the scope of the Public Trust Doctrine, as these facilities are occupying, altering, and obstructing the use of resources that were (and remain) treasured public resources, and habitat for extraordinary marine life; therefore, they must have the utmost respect and care.
 - Identifying and considering true, proper alternatives, such as the onshore production of solar and wind energy.
 - Strong measures to protect the North Atlantic right whale, and other species, including but not limited to regional construction calendars to reduce noise from construction, operation, and maintenance.
 - Using the best available science to determine and evaluate the environmental impacts of the Atlantic Shores projects to protect marine resources and refraining from accelerating the projects' environmental review process.
-

Comment Number: BOEM-2021-0057-0122-8
Organization: Clean Ocean Action
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM should seek to include impacts associated with onshore and offshore construction, operation, maintenance, and decommissioning in the draft EIS.

Comment Number: BOEM-2021-0057-0125-1
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

The current process in use by the Bureau of Ocean Energy Management (BOEM), identifies wind energy area sites without sufficient consideration of their adverse environmental impacts in the original lease selection, on the locations historically rich and economically vital commercial fisheries, or on the communities that support and benefit from those fisheries. The data BOEM used did not fully realize the commercial surf clam fishery within the lease area, or the needs of other ocean users, particularly fishermen. The potential results of continuing offshore wind solicitation include permanent harm to our environment, diminishment of our industry's ability to produce food from the sea, and increased costs to the consumers who must purchase expensive 'green' power.

Comment Number: BOEM-2021-0057-0125-10
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

Finally, this area is the site of right whale, Atlantic sturgeon and other endangered turtle species for a portion of the year. Fisheries are held to significant regulatory restrictions to minimize potential impact. BOEM must develop a similar system to ensure the whales, Atlantic sturgeon, and other marine endangered species continued protection prior to approving this project with possible significant acoustic impacts during construction and operation. This must address the cumulative effects of these projects on

right whales during all phase of the projects through decommissioning.

Comment Number: BOEM-2021-0057-0125-3
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

The Atlantic Shore EIS should be delayed until the cumulative impacts of these numerous projects on commercial fishing ports can be fully realized. As well as the cumulative impact on our environment, marine resources and the shore as a whole.

Comment Number: BOEM-2021-0057-0125-5
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

The impact of this site and cumulative impact of others will limit the NMFS historic survey locations resulting in impacts to the data and the industry this science supports specifically the nations commercial and recreational sectors. [Bold: Cumulative impacts of these projects must be considered in this EIS!]

Comment Number: BOEM-2021-0057-0125-9
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

Assurance for the protection of the Cold Pool phenomenon must be include in the analysis, and scientific research ensuring its protection must be completed prior to the COP. The Atlantic Shores COP identifies the importance and need for more study around the cold pool, but does nothing to guarantee their project will not impact this unique environment. The cumulative impacts must be considered and assure no impact on our Cold Pool.

Comment Number: BOEM-2021-0057-0147-2
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Further Clean Ocean Action is particularly concerned with the cumulative impacts to the offshore habitat areas for a host of commercial and pray species and other marine species including marine and mammals as I already mentioned.

Comment Number: BOEM-2021-0057-0194-2
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The ocean off the Jersey shore is mapped with over 1.2 acres of committed or proposed offshore wind development. That's the size of the Grand Canyon National Park and it appears that there may be even more. There is no comprehensive plan for all the development on shore and offshore for this massive industrialization and what these leases and licenses will mean to the entire region. Why is that?

Comment Number: BOEM-2021-0057-0194-4
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization
Other Sections: 17

Comment Excerpt Text:

The extent of harm to the marine environment from Atlantic Shores offshore wind proposal will include short term and long-term impacts from the depths of the benthos to the sky, they require time to ensure all possible considerations are included moreover there will be considerable cumulative impacts to the multiple projects associated with the unprecedented pace and magnitude of proposed offshore wind development in this region.

In short, the onshore and offshore infrastructure of the project will cause impacts to marine life, upon which so much of the region's ecology depends as well as navigation and vessel traffic, recreation and tourism and even wetlands and local land use. Yet already it's clear that the EIS for the COP will fail to consider these and more importantly it fails to truly evaluate the alternatives to harming the ocean from this industrialization.

Comment Number: BOEM-2021-0057-0200-5
Commenter: Greg Cudnik
Commenter Type: Individual

Comment Excerpt Text:

Over a million acres of ocean are leased out, let's take this at one step at a time, that's a massive forest of turbines just covering the entire ocean. It's -- if the current administration and four winds companies get their way, the entire ocean will be a forest of wind turbines. Please do not boast about the Block Island wind farm. The five turbines there right now are not a success, they are not turning, comparing a five-turbine site in a rocky habitat to potential hundreds of monster turbines in a shallow sandy habitat is a totally different ball game.

The possibility of thousands -- the possibility of hundreds of thousands of gallons of hazardous chemicals do not belong in the ocean. Sadly, the environmental groups turn a blind eye to table seven point zero dash one, two and three.

Comment Number: BOEM-2021-0057-0210-4
Organization: Save LBI
Commenter: Joanne Leichte
Commenter Type: Non-Governmental Organization
Other Sections: 2.3

Comment Excerpt Text:

So there is significant information and research and it's not about doing the project, it's how are we doing it, where are they and what is it impacting, not just our marine life and the economy that goes with that, none of the other economic impacts have really been discussed, we are just looking at the jobs we are gaining not the jobs we are losing and I think that moving it farther out and making sure that they are far enough apart, that we consider the important industry and our seafood, our fishermen, our property values, our tourism, the vacation rentals, all of the things that will negatively impact and if we are doing it for environmental reasons, we should be doing it far enough out to capture the most wind possible not the closest to shore and while some may want to look at it, most of us are here enjoying a pristine environment and there is a way to capture this wind for a benefit without losing that pristine value.

Comment Number: BOEM-2021-0057-0230-3
Organization: Cape May County, New Jersey
Commenter:
Commenter Type: Local Agency

Comment Excerpt Text:

Several wind farms are in development off the coasts of New Jersey. These offshore wind projects planned for the region 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.

In specifically requiring cumulative impacts analyses, NEPA and NHPA recognizes the significant effect that projects can have on the surrounding landscape beyond the scope of a single development. 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 sites. Due to the historic integrity of historic properties within the Project Area and Area of Potential Effect, BOEM must establish and implement best practices. Based on the omissions described above, 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 Cape May County's historic properties.

Comment Number: BOEM-2021-0057-0231-1
Commenter: Peter Himchak
Commenter Type: Individual

Comment Excerpt Text:

what we don't know about the environmental impacts of the development of offshore wind energy on marine habitats and resources is frightening. The development of wind farm arrays, 17 lease sites, last time I counted, between Maine and North Carolina is being done in a fragmented and uncoordinated

manner.

For example, hundred turbines here, 80 go there, 120 go here, ultimately there will be many thousands of wind turbines scattered throughout the offshore environment. There is no cohesive master plan by BOEM or the companies themselves to work together to comprehensively assess the environmental impacts at any one site or more importantly assess the cumulative environmental impacts on the greater Atlantic region marine ecosystem after thousands of wind turbines are up and running.

The gold rush mentality to contract as many wind turbines in as little time as possible is gambling with the future of the greater Atlantic region marine ecosystem. The process needs to slow down and become comprehensive and planning of marine resources and the ecosystem before it is subjected to many many stressors.

What stressors am I talking about? Vibration throughout the water column due to the rotation of wind turbine blades. Yes, the water column is a discrete marine habitat. Electromagnetic field impacts on bottom oriented fish and sharks, siltation curtains being created that could disrupt the circulation pattern of fish eggs and larvae, physical barriers impeding fish and whale migration patterns, disruption of the unique summer stratified waters in the Mid-Atlantic or the cold pool and changes to the physical composition of bottom sediments from sand to more organic matter. The list goes on and on.

Comment Number: BOEM-2021-0057-0231-2

Commenter: Peter Himchak

Commenter Type: Individual

Other Sections: 18.4

Comment Excerpt Text:

I serve as a commercial fishery board representative to ROSA, Responsible Offshore Science Alliance, and from what I have seen so far on the ROSA board and its advisory council, the construction and operation plans are running too far ahead of the science.

Be careful what you wish for and how quickly you want wind energy being developed in the current manner. There may be unintended consequences. For example, the thousands of scour pads around each wind turbine, well, yes, it will be present increased fishing opportunities but if you don't control effort, you could overfish these resources to oblivion.

Also, consider how these new rubble and scour pads all covered with mussels that filter feed on the microfauna could very well change the lowest trophic level of the food pyramid.

So, in summation, be careful in moving this agenda forward so fast with so little scientific information.

Comment Number: BOEM-2021-0057-0232-10

Organization: National Park Service Dept of Interior

Commenter: Johnathan Meade

Commenter Type: Federal Agency

Comment Excerpt Text:

Several offshore wind projects are currently proposed in the vicinity of the Atlantic Shores Wind Projects

and will likely result in cumulative impacts to the same resources and values affected by the Atlantic Shores Projects. In order for the public and other stakeholders to have an accurate understanding of the proposed projects and their impacts, NPS recommends BOEM address the other current and likely potential future proposals through its NEPA review. BOEM should also incorporate the likely lease areas that will result from Secretary Haaland's October 13, 2021 announcement of additional leasing to be conducted in the Central Atlantic area. We note that views of the Atlantic Shores Wind Project from area historic resources will be visible along with these other offshore wind projects.

Comment Number: BOEM-2021-0057-0234-12

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt Text:

The "Affected Environment" section of the EIS should cover a sufficient geographic area to fully examine the impacts of the proposed projects 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 Projects' area. This analysis should also include any necessary landside facilities and the staging locations of materials to be used in construction. You should ensure that findings for each effect/species are supported by references where possible, and in context of the proposed projects, to allow for a well-reasoned and defensible document.

Comment Number: BOEM-2021-0057-0234-19

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt Text:

The EIS should include a complete analysis of the cumulative impacts of the Projects. This analysis should describe the effects of the proposed projects, 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); sand mining; aquaculture; vessel activity; fisheries management actions; disposal sites; and other development projects. Consistent with efforts to evaluate the cumulative effects for both the Vineyard Wind and South Fork Wind projects, offshore wind development projects that have been approved and those in the leasing or site assessment phase should also be evaluated. Specifically, the cumulative effects analysis should consider at a minimum all 16 COPs BOEM recently announced it plans to process by 2025. We encourage you to use the final cumulative impact analysis from the Vineyard Wind project to help inform discussions of cumulative effects on marine resources from other offshore wind development projects for this EIS. Although lease auctions for the New York Bight have not yet been conducted, consideration of the impacts from potential projects in the New York Bight Wind Energy Areas are also warranted, particularly given the fact that lease areas will be defined and auctions completed before the EIS for these projects have been finalized. Further, the EIS should consider additional cumulative impacts from

potential future lease areas in the Central Atlantic and Gulf of Maine, as announced in the October 13, 2021, Department of the Interior press release.[Footnote 4:<https://www.doi.gov/pressreleases/secretary-haaland-outlines-ambitious-offshore-wind-leasing-strategy>]

The EIS should evaluate cumulative impacts of the Projects' construction, operation, and decommissioning. Consideration of impacts from multiple projects is particularly important for migrating species, such as marine mammals, sea turtles, fish, and invertebrates that may use or transit multiple proposed project areas. The potential cumulative impacts on the migration and movements of these species resulting from changes to benthic and pelagic habitats and potential food sources due to the presence of multiple projects should be evaluated in the cumulative effects analysis.

Comment Number: BOEM-2021-0057-0234-21

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt Text:

The EIS should evaluate, in detail, the cumulative impacts on protected species, habitat, and fisheries resources associated with overlapping construction activity of regional projects, including elevated noise levels, displaced fishing effort, cable routing and burial, and changes in species abundance, among other impacts. As you know, the Atlantic Shores Projects are immediately adjacent to the Ocean Wind project, and certain impact factors may overlap with other regional wind projects such as Empire Wind, Skipjack, and U.S. Wind. Survey and construction activities by these other projects may temporarily make the habitat unusable for certain species, and may adversely affect certain activities (migration, feeding, spawning) or multiple sub-populations of particular species. 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 and migratory 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 Projects. In addition, an assessment of cumulative impacts of existing and proposed transmission cables should also be considered. Based on the proposed wind development projects in this region, there is the potential for substantial additive impacts associated with the number of required cables. As part of the cumulative effects analysis, measures to minimize the additive impacts should be considered, including the evaluation of designated cable routes and coordination and consolidation with adjacent projects to minimize cumulative impacts.

Comment Number: BOEM-2021-0057-0234-22

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Other Sections: 8

Comment Excerpt 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. The EIS should consider the socio-economic impacts on fishing entities and communities that cannot easily 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 permits and associated regulations. 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-2021-0057-0234-47

Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service

Commenter: Michael Pentony

Commenter Type: Federal Agency

Comment Excerpt Text:

As you develop the EIS, it will be critical to fully consider both project and cumulative effects of offshore development on all species listed under the ESA, including North Atlantic right whales, and evaluate ways to avoid and minimize adverse impacts to these species and their habitats. We strongly encourage you and the developer to consider all available options to minimize risk to these species and their habitats as a result of project development.

Comment Number: BOEM-2021-0057-0239-5

Organization: LaMonica Fine Foods

Commenter: Daniel LaVecchia

Commenter Type: Other

Other Sections: 8

Comment Excerpt Text:

LFF personnel serve as a commercial fishery Board member to the Responsible Offshore Science Alliance, called ROSA, and from what has been observed, to date, through the ROSA Board and its Advisory Council activities is that the COPS are running too far ahead of the science.

The desire for the rapid development of offshore wind energy must evaluate the risks to the marine environment and commercial fisheries and slow down immediately. The law of unintended consequences may well rear its ugly head on many fronts. For example, I have heard that the many thousands of hard structured scour pads, one placed around each wind turbine, will create essentially habitats that will attract many species of structure oriented fish and create wonderful new fishing opportunities for species

such as black sea bass and tautog.

Comment Number: BOEM-2021-0057-0239-6

Organization: LaMonica Fine Foods

Commenter: Daniel LaVecchia

Commenter Type: Other

Other Sections: 17

Comment Excerpt Text:

Be careful in moving the agenda of offshore wind energy development agenda forward as quickly as is being done now with so little scientific information. This entire process has not been well thought out and explored for the cumulative impacts on the marine ecosystem in the foreseeable future. LFF recommends that offshore wind energy development proceed in an organized fashion, first monitoring the marine resources and habitats as they currently exist, and then researching how the construction of wind energy facilities cumulative impacts on the marine environment and resources might be mitigated. No windmills should be planted in the ocean until a test model is done in our region. There are just too many unknowns.

While LFF does not necessarily see how the thousands of wind turbines being planned for the East coast will reverse climate change to the extent that most subscribe to, we do not want to stand in its way. We ask that our regulators slow down this process, put in place a prudent pilot program of maybe 10 windmills in the test area that will demonstrate the operation over the next five to ten years.

A.3.21 Proposed Action/Project Design Envelope

Comment Number: BOEM-2021-0057-0005-1

Commenter: Robert Joseph Glaser

Commenter Type: Individual

Comment Excerpt Text:

I am wondering how to find the data on the 5 wind mills installed on land in or near Atlantic City, about 2006, about 15 years ago. I would like to know;

- 1) the cost each to install,
- 2) the cost to maintain since installation, (annual maintenance cost)
- 3) the life expectancy,
- 4) the kilowatt hours generated;

all this and all or any other information necessary to ascertain the cost and efficiency of each wind mill.

Comment Number: BOEM-2021-0057-0031-2

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

What I really object to is the accelerated schedule with which the project is being rammed through the approval process thereby preventing consideration of environmental and economic impact. I am not an expert in either the environment or the energy economy. But I do understand that Shell New Energies and EDF Renewables North America will benefit from building fast and close to the shore. Fast -- well, this is

obvious. Fewer objections from the public and state means fewer constraints leading to lower construction costs. And close to the shore means lower construction and maintenance costs. So, the owners of the project have everything to gain from ramming the project through.

Comment Number: BOEM-2021-0057-0039-1
Organization: Mayor of Borough of Seaside Park
Commenter: John A. Peterson Jr.
Commenter Type: Local Agency

Comment Excerpt Text:

I favor the development of wind energy, as a viable and productive long term source of power, to meet our State's and our Country's future needs. Nevertheless, the currently proposed leasing of 800,000 acres of public ocean waters, for offshore wind development, has been advertised for bidders, without first undertaking a comprehensive environmental assessment. Meaning no disrespect to any individual BOEM official, I must describe this ill-conceived process, as a knee-jerk, feel-good rush to judgment. Once this non-vetted rush to sell offshore public lands for massive industrial development, has resulted in the actual sale of such lands, with the concurrent investment of bureaucracies, money and time, it is entirely unrealistic, to think that such lease sales would ever be rescinded.

Comment Number: BOEM-2021-0057-0049-2
Organization: Geothermal National International Initiative
Commenter: John (Jack) DiEnna
Commenter Type: Other

Comment Excerpt Text:

The other issue is that any renewable energy has a maximum rate of delivery, with wind technology the max that you can expect from this technology is 60% we now show that the best it has done thus far is 45%. This leaves very little cap space moving forward.

Comment Number: BOEM-2021-0057-0049-3
Organization: Geothermal National International Initiative
Commenter: John (Jack) DiEnna
Commenter Type: Other

Comment Excerpt Text:

Another issue is with the construction of the turbines, it takes enormous amounts of iron ore, concrete for the towers and massive amounts of non-recyclable plastic for the wind turbine blades.

Comment Number: BOEM-2021-0057-0049-4
Organization: Geothermal National International Initiative
Commenter: John (Jack) DiEnna
Commenter Type: Other

Comment Excerpt Text:

A wind farm does not work 24/7, 365 days a year, it works when the wind blows which is about a 4 to 5 hour daily.

Comment Number: BOEM-2021-0057-0050-102
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

A Clear Federal Purpose and Proposed Action

Purpose. The only purpose and need mentioned in the NOI is that of the applicant's, whose obvious need is to have their application approved. But this is a to be federally approved project, a federally prepared EIS and the federal government must have its own purpose and need here. That federal purpose in the broad sense is to implement a fiscally and environmentally sound offshore wind program which may or may not coincide with the applicant's need, which is rooted in financial gain. There are some high level, worthy national goals presented early in the NOI, the BOEM needs to establish a connection between this proposed project and those goals.

As explained above in Section II.1 the obvious purpose of the proposed action is to contribute to meeting the New Jersey plan for 7500 mw of offshore wind energy by 2035. If the BOEM would just acknowledge and state the obvious, useful and environmentally beneficial alternatives can be crafted to meet that Plan as proposed in Section II above.

Comment Number: BOEM-2021-0057-0050-103
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Need for a Proposal. According to NEPA rule §1501.9(d), a NOI should be published when a proposal is sufficiently developed to allow for meaningful public comment. The NOI is required to provide a preliminary description of the proposed action but "preliminary" still requires an actual proposal, not just a limit of "up to 200 wind turbine generators".

The public cannot meaningfully comment on such a vague description. The number and power of turbines proposed needs to be specified, as well as their size, dimensions, drive and foundation type, spacing, approximate location and capacity factor. These are critical parameters necessary to describe the environmental impact. If the applicant does not know them or wish to share them, this EIS cannot logically proceed.

Comment Number: BOEM-2021-0057-0050-105
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Failure to Specify Key Parameters in the Proposal. Neither the NOI or the COP state the power, manufacturer, drive type or foundation type of the turbines to be used. But the New Jersey BPU approval of 1510 mw for Project 1 was based on the use of Vesta-236 13.6 mw turbines and monopile foundations ^(BG1). We assume that Atlantic Shores will adhere to the conditions of the State's approval so these parameters should be specified in the proposal, not buried in an opaque project design envelope approach as discussed below.

Comment Number: BOEM-2021-0057-0050-106

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The use of a Project Design Envelope. The substitution by the BOEM of a project design envelope (PDE) for what NEPA rules require as a proposed action is contrary to one the purposes of the NEPA EIS, i.e., to identify agency options that can meet program objectives with lesser, not the most, environmental impact.

First it should be noted that the BOEM 2018 guidance for the use of PDEs was never finalized. In its draft form it only related to BOEM's review of the COP, there was no analysis or justification of its applicability to meeting the NEPA.

Regarding its use under NEPA, the PDE requires that the parameter having the maximum impact for a given resource be used in the analysis. This is not specified now in the COP but if and when that identification is done and the PDE is the proposal, it means that the BOEM is proposing an action that will have the worst environmental impact possible. Assuming the BOEM would never select this, then it is proposing something that it will never choose which makes little sense.

The BOEM needs to separate the PDE concept from the proposed action. The PDE may have some use to show a maximum impact and possibly avoid supplemental analyses but it should not be used as the proposal. They are two different things, and the use of a PDE does not absolve the BOEM of presenting a preliminary proposal under NEPA rules.

The PDE proposed thus far is not an envelope at all because it does not specify which parameter will be used to determine the maximum impact for a given resource. In addition, vague terminology like "up to 200 turbines" does not create an envelope. The PDE stated also does not include key parameters like the plan for the northern portion of the lease area, the project 2 power, turbine power and drive type, which are essential to analyzing maximum impacts. It also presents as options parameters that have already been decided through the State's project approval like the use of monopile foundations and Vesta-236 turbines

Comment Number: BOEM-2021-0057-0050-17

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We ask the BOEM to rescind this proposal and NOI. The BOEM should propose appropriate turbine placement in the Hudson South area, and the use of this lease area to transmit the power from Hudson South to shore. There is ample wind energy in Hudson South to meet the NJ State goal of 7500 mw of

offshore wind power by 2035 (Enclosure 2, Table 2).

Comment Number: BOEM-2021-0057-0050-65
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The NOI suggests that project decommissioning will not be included in this EIS but will be deferred until the lease expires. That is not consistent with NEPA requirements the reasonably foreseeable impacts be included in an EIS. In addition, decommissioning expenses are significant (one study for an 1100 MW offshore wind project shows \$590 million or 19.5% of the total project cost) and the scope of the effort is major (each of around 200 structures will be 850 feet above the surface and each monopile base is said to be 40 feet in diameter and weigh up to 5 million lbs.). Decommissioning is an important part of any credible economic and environmental impact assessment for a project of this magnitude.

The EIS should present the plan for decommissioning and its impact in specific terms. Using one turbine for discussion, what is going to be removed? How is it going to be removed? How many ships, how big, how many trips, how many workers will be involved? What equipment will be needed? How long will the removal process take? What will remain in place? Where specifically will each piece be disposed of, using existing facilities or new ones? A hypothetical location to be determined when the time comes is not sufficient. What is the cost? How will the effort be funded? Will funds for decommissioning be held in escrow in a separate dedicated account or become a part of the "General Fund"?

Comment Number: BOEM-2021-0057-0050-7
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Neither the NOI or the Construction and Operations Plan (COP) state the power, manufacturer, drive type or foundation type of the turbine proposed to be used. But the New Jersey Board of Public utilities (BPU) approval of 1510 megawatts (mw) for Project 1 was based on the use of Vesta-236 13.6 mw turbines and monopile foundations^(BG1). We assume that Atlantic Shores is adhering to the conditions of the State's approval so our analysis herein is based on the use of those turbines and foundations.

Comment Number: BOEM-2021-0057-0050-74
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Its proposed actions in its Notice of Intent to Prepare an EIS for the Ocean Wind Project, March 30, 2021 and here for the Atlantic shores project directly match the NJPBU awards and projected ones. In addition, the BOEM has expressed support for the State's proposed consolidated transmission network, the linkage that would make Hudson South an integral part of the State's Plan (BOEM Announces Next Steps for

Proposed New York – New Jersey Wind Energy Transmission Line, 06/17/2019).

Wind Energy Potential. The wind energy potential from lease area A- 0498 (the Ocean Wind Project), A-0499 (the Atlantic Shores offshore wind project) and lease areas A-0538 through A-0543 (the Hudson south area) is shown below. The numbers for lease areas A-0498 and A-0499 in Figure ES1 of reference WEP2 were adjusted to a one nautical mile (8 rotor diameter) turbine spacing using the data in Figure ES2.

[See original attachment for Table 2. Wind Energy Potential.]

The wind energy potential from all three areas is 13,500 mw,80 percent more than needed to meet the 7500-mw goal. Neither the Ocean Wind or the Atlantic Shores projects by themselves or combined can meet the 7500-mw program goal, so executing the State plan requires development in Hudson South. Consequently, all three areas must be considered to execute the Plan.

Connected Actions. Therefore, in accordance with NEPA regulation EIS scoping requirements, §1501.9 (e)(1)(iii), development in these three areas are “connected” actions because they are: “Interdependent parts of a larger action and depend on that larger action for their justification”, and as such they should all be included in the scope of this EIS.

The need to include these areas in this EIS is further supported by NEPA rule §1502.4 which states that: “Agencies shall evaluate in a single environmental impact statement proposals or parts of proposals that are related to each other closely enough to be in effect a single course of action”. Since as shown above, development in all these lease areas is in effect a single course of action, they should all be evaluated in this EIS.

Comment Number: BOEM-2021-0057-0051-9

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

Project Design Considerations

EPA appreciates considerations in WTG layout and spacing that are sensitive to impacts on fishing, vessel operations and transit corridors. We further acknowledge efforts to achieve uniformity in layout with respect to neighboring wind farms to maximize efficiency and avoid impacts associated with adjacent projects. To this end, the DEIS should further evaluate the potential for common cable corridors for neighboring projects that could reduce impacts to marine resources.

Additionally, EPA recommends that BOEM carefully consider optimizing the wind farm layout with respect to spacing and orientation of adjacent WTGs such that turbulent flow and wake effects, which reduce overall project efficiency, are minimized.

Comment Number: BOEM-2021-0057-0104-26

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Furthermore, Atlantic Shores project developers and operators must be required to:

- use anchors and jack-up features only if no other less-impactful alternative is available
employ ramp-up or soft-start[Footnote 24: Discovery of Sound in the Sea (DOSITS): Moderate or
eliminate the effects of human activities
(i.e. gradual increase of sound level) protocols during pile driving to allow mobile species to vacate the
area prior to the commencement of pile- driving activities

Comment Number: BOEM-2021-0057-0104-28

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

install scour protection

Comment Number: BOEM-2021-0057-0104-41

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 18.4

Comment Excerpt Text:

- Address the issue of proposed/confirmed offtake/power purchase agreements prior to permitting decisions on the proposed OSW projects as such agreements could result in inflexibility on the part of the developer in the consideration of least-impactful alternatives, and other requirements, and could also influence the permitting agencies into accepting the proposed project as-is or no project as the only two alternatives available.

Comment Number: BOEM-2021-0057-0105-8

Organization: The Nature Conservancy

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 17

Comment Excerpt Text:

BOEM's January 2018 Guidance Regarding How it Reviews the PDE for COPs Should be Reevaluated.

BOEM's approach to the review of the PDE should allow it to provide direction and articulate preferences for specific foundation-types, installation methods and mitigation approaches so that our collective understanding of impacts associated with these varied approaches evolves.

Through its guidance in 2018, BOEM reinforced a project review approach that allows a permit application to describe a reasonable range of project designs, referred to as the PDE approach. While the PDE approach is described as a voluntary option for project applicants, all project applicants to date have

relied on the PDE approach for NEPA review. This is because the PDE approach allows a project applicant to identify a range of designs within a single permit application without committing up front to one specific design during construction. As long as BOEM analyzes the maximum impacts that could occur from any of the proposed designs, and as long as the project is ultimately constructed within that approved range of impacts, any approach proposed in the COP is allowed.

While the Conservancy recognizes the need to provide project applicants with flexibility, especially given the challenging construction environment the ocean presents, evaluation of only the maximum impacts that could occur within the PDE misses the opportunity to identify preferred available technologies that will be less impactful and perhaps even more cost-effective (assuming cost of mitigation and related permit conditions are calculated and factored into project costs). Identification of available technologies is one of the regulatory approaches that ensures an equal economic playing field among competitors while also allowing for a more comprehensive means of reducing cumulative impacts. For example, the technology standards set by the federal Clean Air Act and the federal Clean Water Act reflect economic availability, technological feasibility, and the ability of a particular technology to achieve reductions that are necessary to achieve cumulative benefits in either air quality or water quality while also preventing immediate harms. A full evaluation of the impacts and benefits associated with each of the technologies proposed within the PDE is important if we are to improve long-term outcomes for the offshore wind industry and the ocean environment.

Comment Number: BOEM-2021-0057-0107-21

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

The COP also notes that alternating current (AC) or direct current cables (DC) may be used for the export cables. No mention is given to an AC to DC conversion station or cooling system. If a conversion station with a cooling system may be needed, then the lack of this information is a serious flaw in the COP. We have significant concerns about the environmental impacts of cooling systems at conversion stations, as outlined in our recent letter to BOEM on the Notice of Intent to prepare an EIS for the Sunrise Wind project. [Footnote 4: https://www.mafmc.org/s/211004_NEFMC-MAFMC-to-BOEM-re-NOI-to-Prepare-EIS-for-Sunrise-Wind.pdf]

Comment Number: BOEM-2021-0057-0107-4

Organization: Mid-Atlantic Fishery Management Council and New England Fishery Management Council

Commenter:

Commenter Type: Federal Agency

Other Sections: 17

Comment Excerpt Text:

We understand that the final project design must fall within the analyzed project design envelope. The project design envelope approach is logical given the time needed to complete environmental review and continuous advances in technology. However, as described in more detail in later sections of this letter, we are concerned that allowing flexibility in final project design has resulted in too wide of a design envelope for this COP and uncertainty in the actual impacts of the project. To address these concerns, we

request that BOEM publicly announce whenever a COP has been revised and include a list of the specific changes. We also recommend that the EIS consider a narrower design envelope than that described in the COP based on developments that will likely occur between the drafting of the COP and the EIS (e.g., phasing out of smaller turbine sizes and decisions regarding cable corridor locations, foundation types, and the number and size of offshore substations).

Comment Number: BOEM-2021-0057-0109-6
Organization: BlueGreen Alliance
Commenter: Jason Walsh
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In its proposed sale notice (PSN) for the sale of commercial wind energy leases on the Outer Continental Shelf (OCS) in the New York Bight, BOEM stated that high road labor standards, specifically PLAs, may support the achievement of Outer Continental Shelf Lands Act factors“—including expeditious development and potentially more years of receipt of operating fees—by assuring labor stability.” [Footnote 3: Department of the Interior, Atlantic Wind Lease Sale 8 (ATLW–8) for Commercial Leasing for Wind Power on the Outer Continental Shelf in the New York Bight—Proposed Sale Notice, Available Online: <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/86-FR-31524.pdf>]

Comment Number: BOEM-2021-0057-0111-3
Commenter: Kathleen Keating
Commenter Type: Individual

Comment Excerpt Text:

3. ADDITIONAL DETAILS AND REFINEMENT OF THE ATLANTIC SHORES PROJECTS: I urge BOEM to require additional details before the COP EIS process continues further. As reflected in the NOI: “The Projects would include up to 200 total wind turbine generators (WTGs) (between 105–136 WTGs for Project 1 and between 64–95 WTGs for Project 2), up to 10 offshore substations (up to five in each project), one permanent meteorological (met) tower, up to four temporary meteorological and oceanographic (metocean) buoys (one met tower and up to three metocean buoys in Project 1 and one metocean buoy in Project 2), inter-array and interlink cables, up to two onshore substations, one operations and maintenance facility, and up to eight transmission cables making landfall at up to two New Jersey locations: The Atlantic Landfall site in Atlantic City, New Jersey, Monmouth Landfall site in Sea Girt, New Jersey, or both.” The information provided is insufficient to begin the EIS process. For proper notice, public comment and analysis, the COP must be further refined. As a basic observation, the tally of the WTG is between 169 and 231 without any explanation of why the NOI indicates “up to 200” thus leaving indefinite parameters. Other critical details as to specifications of the Projects are likewise vague (“up to”) in the NOI and presumably in the COP. Details for the Projects are critical to meaningful analysis and must be formally articulated before BOEM conducts the EIS because the environmental impact could not be assessed with incomplete information. Behind the scenes negotiations during the EIS process would undermine the legitimacy of the public sessions and required disclosures.

Comment Number: BOEM-2021-0057-0111-4
Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

5. ADDITIONAL INFORMATION IS WARRANTED AS TO THE STEPS WHICH RESULTED IN THE BOEM AWARD TO US WIND,LLC: I urge BOEM to fully disclose the circumstances of the award which underlies the Atlantic Shores Projects before the COP EIS process continues further. As reflected in the NOI, “Through a competitive leasing process conducted under 30 CFR 585.211, BOEM awarded US Wind, LLC, the Commercial Lease OCS–A 0499 covering an area offshore New Jersey (the Lease Area). The lease was subsequently assigned to EDF Renewables Development, Inc., on November 16, 2018, and then to Atlantic Shores on August 13, 2019. Atlantic Shores has the exclusive right to submit a COP for activities within the Lease Area. Atlantic Shores submitted a COP to BOEM proposing the construction and installation, operations and maintenance, and conceptual decommissioning of two electrically distinct offshore wind energy Projects in the Lease Area.” During the virtual meeting I attended, several speakers referenced surprise about the Projects and about the status of the Projects. I hereby request references to the public record which reflect the steps and the participants in the “competitive leasing process” as well as the disclosures relating to the subsequent assignments.

Comment Number: BOEM-2021-0057-0111-5

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

6. ADDITIONAL INFORMATION ABOUT THE PLAN TO DECOMMISSION THE PROJECTS: I urge BOEM to require additional details and assurances for decommissioning of the Projects before the COP EIS process continues further. The COP is incomplete and fraught with concern unless detailed plans and financial commitment for the decommissioning process are required at the inception of the Projects.

Comment Number: BOEM-2021-0057-0111-8

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

9. ADDITIONAL STUDY AND DETAILS RELATING TO PROJECT 1 AND PROJECT 2 MUST BE FULLY EXPLORED AND DISCLOSED: I urge BOEM to require more detail as to the staging and specifications for both Project 1 and Project 2 before the COP EIS process continues further. As noted elsewhere in these comments and incorporated here, the details and specifications for the Projects must be comprehensively analyzed with the minimization of negative impacts. Further, a cautious approach to staging of the Projects would suggest a small test area more distant from the coastline should be staged first.

Comment Number: BOEM-2021-0057-0119-14

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

We urge BOEM to further expand the scope of considered offshore wind development in Atlantic Shores' Draft EIS to include the Administration's goal of building 30 GW of offshore wind within the next nine years, future development in the newly identified Wind Energy Areas (WEAs) in the New York Bight, and North Carolina's new commitment for 8 GW of offshore wind by 2040 [Footnote 34: N.C. Exec. Order No. 218, Advancing North Carolina's Economic and Clean Energy Future with Offshore Wind (June 9, 2021), <https://files.nc.gov/governor/documents/files/EO218-Advancing-NCs-Economic-Clean-Energy-Future-with-Offshore-Wind.pdf><https://governor.nc.gov/executive-order-11-promoting-wind-energy-development>]. Moreover, turbine technology and spacing needs are rapidly evolving and technical resource potential should be reexamined to ensure that the cumulative impacts evaluation is keeping pace with technology and political needs.

Comment Number: BOEM-2021-0057-0119-16

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

To this end, BOEM must ensure the creation of a robust, long-term scientific plan to monitor the effects of offshore wind development on marine mammals, sea turtles, fish, bats, birds, and other species and their habitats before, during, and after the first large-scale commercial projects are constructed. This monitoring data must be made readily available to stakeholders and the public to help inform future decisions in the growing offshore wind industry and minimize risks associated with offshore development.

Without strong monitoring in place, it will not be possible to detect and understand potential impacts or differentiate the root causes of any changes observed and there will be a significant risk of setting an under-protective precedent for offshore wind development. Monitoring must inform and drive future project siting, design, implementation, and mitigation as well as potential changes to existing operations to avoid or minimize negative impacts to wildlife and other natural resources.

Comment Number: BOEM-2021-0057-0122-20

Organization: Clean Ocean Action

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Another area of consideration is the onshore infrastructure necessary to manage this new coastal-dependent industry. Each offshore wind energy project will need operation and maintenance facilities. Further, there is the need for larger manufacturing centers and marshalling ports.

In Volume 1, Section 4.10, the COP gives an inadequate description of necessary onshore facilities. The EIS must include specific and clear descriptions of the potential onshore facilities. The COP EIS must account for all potential port activities at the various proposed locations. The COP EIS must also include the following for operation and maintenance:

- a. Type of maintenance approach (ship-based, air support);
 - b. Land use requirements;
 - c. Proximity to the offshore wind farm;
 - d. Storage capabilities for spare components;
 - e. Wharf area required bearing capacity;
 - f. Ship depth requirements; and
 - g. Secondary impacts from influx of workers and support services.
-

Comment Number: BOEM-2021-0057-0125-2
Organization: Garden State Seafood Association
Commenter: Scott Mackey
Commenter Type: Other

Comment Excerpt Text:

Finally, the pace and number of offshore wind projects in development in our region pose challenges for thorough analysis of potential impacts, informed public input, and adopting lessons learned from each project. There are over a dozen projects for which survey, design, and environmental review are already occurring and multiple additional areas in the New York Bight are planned to be leased. Work on these projects is already taxing available resources in the commercial fishing community and we expect at BOEM as well. Consistency in approaches and adopting lessons learned from one project to the next will benefit stakeholders who seek to engage in the review process for these complex projects?

Comment Number: BOEM-2021-0057-0232-15
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

It appears to be the nature of these offshore wind projects that not all pertinent details can be known at the start. In the case of onshore connections, NPS understands that project developers may not fully develop a lease area to its full power potential from the start and / or may not successfully sell all of the electrical power to be generated from the project at the beginning of the project. This makes it a challenge to understand potential impacts since they may develop after the project has been fully analyzed or during this process. NPS encourages BOEM and the developers to fully disclose the extent to which additional onshore connections and associated infrastructure may be possible or likely in the future. NPS stands ready to assist in identifying LWCF sites and FLP parcels in potential onshore connection locations and to explain the processes that would have to occur should one of these locations be proposed.

Comment Number: BOEM-2021-0057-0234-3
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency
Other Sections: 17

Comment Excerpt Text:

As described in BOEM's project design envelope (PDE) guidance, a "PDE approach is a permitting approach that allows a project proponent the option to submit a reasonable range of design parameters within its permit application." While we understand and support the PDE approach, we note that it is critical to ensure that the range of design parameters are reasonable. A PDE that is too broad would impact your ability to provide a meaningful effects analysis in both the NEPA document and your consultation documents (BA and EFH Assessment). A maximum impact scenario based on an overly broad PDE may grossly overestimate the effects of the action on protected species and habitat, which would likely result in very conservative mitigation measures. The proposed action (e.g., number, type, and size of turbine foundations; schedule) in the environmental review documents (e.g., EIS, EFH assessment, BA, ITA application) should be consistent, comprehensive, and reflect a realistic build out scenario.

The *Federal Register* notice refers to a "preliminary proposed action" described as including up to 200 total turbines (between 105-136 for Project 1, and between 64-95 for Project 2). Atlantic Shores expects to use monopile, suction bucket, or gravity based foundations, or a combination of styles, for the WTGs and OSSs. The WTGs are described as having a rotor diameter of 280 meters. Jacket pile foundations are planned for the ten substations. This description notes that the Projects will include up to ten offshore substations, up to five in each Project, and up to eight transmission cables making landfall at up to two locations in New Jersey. Additionally, more than five types of scour protection, potentially impacting 5,000 acres or more of seafloor, are being considered for the projects. Based on the description in the COP and NOI, the proposed Projects appear to have an overly broad PDE, which will lead to inefficiencies and potential delays in the regulatory process. It is unclear if the proposed action is expected to be further modified during the NEPA process and at what point in the process any modifications may occur. As we noted above, we must have all necessary information, including an adequate and complete BA and EFH assessment, to initiate these consultations. Modifications to the proposed action after consultation has been initiated is likely to lead to delays in the Projects' timelines, as these changes may affect our analysis in any consultations that are underway, including potential changes to EFH conservation recommendations and/or terms and conditions for reasonable and prudent measures being considered in the ESA consultation. The NEPA document should evaluate a reasonable PDE, with a proposed action that is consistent between the NEPA document, the ITA application, and the consultation documents.

Comment Number: BOEM-2021-0057-0235-1

Organization: U.S. Dept of Homeland Security U.S. Coast Guard

Commenter: Michael Emerson

Commenter Type: Federal Agency

Comment Excerpt Text:

When multiple lease areas share borders, the Coast Guard recommends a common turbine spacing and layout throughout all adjoining wind projects. This will have the cumulative effect of presenting one wind farm with consistent straight-line routes for the mariner through the entire area. The common turbine spacing and layout will help facilitate navigation safety, consistent and continuous marking and lighting, search and rescue, and where necessary, other uses such as commercial fishing.

In the absence of a common spacing and orientation between adjacent wind projects, as is expected with Atlantic Shores and Ocean Wind, the Coast Guard recommends setbacks from the shared border to create a gap between projects. The space between projects should be noticeably greater than any turbine spacing within either wind farm to provide a clear visual reference for the prudent mariner to easily distinguish

them as two separate projects.

Comment Number: BOEM-2021-0057-0240-2
Commenter: Gregory Roberts
Commenter Type: Individual

Comment Excerpt Text:

These wind farms are non-renewable, damaging to the environment, of little, if any, benefit to the electrical grid, will increase energy costs while damaging the local economy, reducing property values, and increasing taxes, and they are unnecessary.

Comment Number: BOEM-2021-0057-0240-3
Commenter: Gregory Roberts
Commenter Type: Individual

Comment Excerpt Text:

most think ocean wind energy is clean, the manufacturing, construction, operation/maintenance, decommissioning, and disposal process are very dependent on fossil fuels and depend on unsafe and environmentally unfriendly fossil fuel use (mostly coal) and dangerous rare earth metal mining in foreign countries.

Comment Number: BOEM-2021-0057-0240-4
Commenter: Gregory Roberts
Commenter Type: Individual

Comment Excerpt Text:

From a review published in the scientific journal "Energies": renewable energy is cripplingly expensive, hopelessly unreliable, massacres wildlife, destroys landscapes, destabilizes the electrical grid, and causes climate change.

Comment Number: BOEM-2021-0057-0241-8
Commenter: George Thayer
Commenter Type: Individual

Comment Excerpt Text:

I have not yet seen anything that indicates the total number of turbines that are proposed to be placed offshore. Yet, I have read articles indicating how many gigawatts the turbines will generate. How can the gigawatts be known, but not the number of turbines needed to generate that figure? Seems like they are avoiding presenting a true picture.

Comment Number: BOEM-2021-0057-0242-3
Commenter: Ralph Thayer Jr.

Commenter Type: Individual

Comment Excerpt Text:

The quaint comparison of the Atlantic Shores development to the Block Island wind turbines as a tourist attraction is an illusion that I don't think even David Copperfield could pull off. Block Island's installation of five turbines (all under four hundred feet tall) probably does add a bit of interest to the seascape of a remote vacation island nine miles off the coast but the selling point of that installation was not the wind power. It was the two-way cable from the mainland to allow the Islanders the luxury of a steady source of power that didn't require them to annually ship in a million gallons of diesel fuel for their on-island generators. The cable itself was not without controversy as the method of installation and the shallow depth, left it subject to erosion and exposure requiring extensive (expensive) repair. That same installation method is being proposed for the Atlantic Shores development. During the BOEM meeting the illustration indicated cover of one to two meters which seems markedly shallow for the shifting sands of the New Jersey shore.

A.3.22 Purpose and Need

Comment Number: BOEM-2021-0057-0051-1

Organization: EPA

Commenter:

Commenter Type: Federal Agency

Comment Excerpt Text:

EPA acknowledges the importance of the project for meeting New Jersey's renewable energy goals established by the Offshore Wind Economic Development Act and NJ Executive Orders 8 and 92.

Comment Number: BOEM-2021-0057-0052-2

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Oceana was pleased to see the Biden Administration's goal to deploy 30 GW of offshore wind power by 2030 while protecting biodiversity and cultural resources, including imperiled marine life such as the critically endangered North Atlantic right whale (NARW).

Comment Number: BOEM-2021-0057-0052-5

Organization: Oceana

Commenter: Beth Lowell

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

For almost 15 years, Oceana has been campaigning to oppose expanded offshore oil and gas exploration and development. Offshore drilling can cause dangerous oil spills and perpetuates energy development based on fossil fuels. The United States must shift from fossil fuel-based energy sources to clean energy.

Offshore wind has the potential to help bridge the transition to our clean energy future.

Comment Number: BOEM-2021-0057-0104-3
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization
Other Sections: 20

Comment Excerpt Text:

BOEM must not rush the process to meet the current national goal of generating 30 gigawatts of OSW by 2030[Footnote 7: White House. (2021, Jan 27). Executive Order on Tackling the Climate Crisis at Home and Abroad. Executive Order 14008.] since offshore windfarms will result in [Underline: permanent] alterations to the marine environment with significant consequences to the survival of wildlife therein. Unless appropriate design and operational criteria are implemented, development of OSW to mitigate the climate crisis could compound the biodiversity crisis[Footnote 8: United Nations Convention on Biological Diversity. (2021, Aug 30). COP15 - UN Biodiversity Conference] by driving vulnerable marine and terrestrial fauna and flora to extinction. To avoid that outcome, OSW development must be undertaken with thoughtful science-based consideration and accounting of all OSW impacts, long-term projections of various climate crisis scenarios, reasonably foreseeable coastal and maritime changes from anthropogenic activities. This deliberate approach is essential to develop avoidance and mitigation strategies to prevent the extinction of impacted marine wildlife.

Comment Number: BOEM-2021-0057-0114-1
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

A. BOEM Must Demonstrate Independent Review

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.

Comment Number: BOEM-2021-0057-0114-15
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

The "Purpose and Need" Must Not Predetermine the Agency's Decision

NEPA must be approached to fulfill the agency's purpose and need. The purpose of NEPA is "to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important

to the Nation.” [Footnote 5: 42 U.S.C. § 4321.] Typically a purpose and need statement must incorporate this overarching purpose in conjunction with action-specific legislation, which in this case is the Outer Continental Shelf Lands Act (OCSLA). Such an approach is evidenced by BOEM’s 5-year plan for oil and gas, which has the stated purpose to implement requirements of OCSLA Sec. 18(a)(3) to “balance the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impacts to the coastal zone.” Following from this correctly framed purpose and need, the 5-year plan then provides a thorough analysis of relevant energy demands and future needs forecasts. [Footnote 6: BOEM, Outer Continental Shelf Oil and Gas Leasing Program: 2017-2022 Final PEIS (Nov. 2016) p. 1-2.]

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, the Administration’s OSW- specific goals (notwithstanding that the achievement of those goals rightly constitutes one reviewable action under a Programmatic EIS) 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. [Footnote 7: This point highlights the need for a Programmatic EIS for the U.S. offshore wind leasing program.] Regardless, an agency cannot circumvent its NEPA obligations “by adopting private interests to draft a narrow purpose and need statement that excludes alternatives that fail to meet specific private objectives” nor can it “craft a purpose and need statement so narrowly drawn as to foreordain approval of” a project proposed by a private party. [Footnote 8: Nat’l Parks & Conservation Ass’n v. Bureau of Land Mgmt., 606 F.3d 1058, 1072 (9th Cir. 2010).]

Comment Number: BOEM-2021-0057-0114-6
Organization: Responsible Offshore Development Alliance
Commenter:
Commenter Type: Other

Comment Excerpt Text:

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 releases that have accompanied OSW-related announcements 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 greenhouse gas (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-2021-0057-0121-1
Commenter: Horatio (Ray) Nichols
Commenter Type: Individual

Comment Excerpt Text:

First of all: Re Project Need: Multiple studies have documented the urgent need to minimize anthropogenic climate changes due to the burning of fossil fuels. Recognition of this fact should be included in the statement of project need, and in the Alternatives Analysis.

Comment Number: BOEM-2021-0057-0194-5
Organization: Clean Ocean Action
Commenter: Kari Martin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Indeed, the Atlantic Shores proposal is created and framed in a way that does not allow for a just and fair assessment in the evaluation of the potential alternatives. It states, "the purpose and need is to develop two offshore wind energy generation projects and lease areas to provide clean renewable energy to the New Jersey electrical grid."

If the project purpose is to develop "two offshore wind facilities in this area", then no other energy alternatives no matter how much better, more successful or more efficient or less expensive can match it. Is that a fair assessment?

A.3.23 Sea Turtles

Comment Number: BOEM-2021-0057-0048-2
Commenter: James Binder
Commenter Type: Individual

Comment Excerpt Text:

Also, a 700 pound young sea turtle was struck by a vessel, died and washed up on a jetty in Holgate, LBI. These endangered species inhabit and are migrating off the shore of LBI and the concern is that increased vessels from the proposed Atlantic Shores project will increase the number of vessel strikes and kills of these endangered species. Endangered species are here near LBI and we need to protect them, not be ok with an "acceptable taking".

Comment Number: BOEM-2021-0057-0089-2
Commenter: Gina Cobianchi
Commenter Type: Individual
Other Sections: 14

Comment Excerpt Text:

Cons: Based on a preliminary evaluation of these resources, BOEM expects impacts on sea turtles and marine mammals from underwater noise caused by construction and from collisions with vessel traffic associated with the Projects

Comment Number: BOEM-2021-0057-0104-12
Organization: Defenders of Wildlife
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Of the 7 species of sea turtles found on the planet, six occur in U.S. waters, and all 6 are listed as Threatened or Endangered under the ESA. Five of these species are also listed under the New Jersey law and known to occur within or in the vicinity of the Atlantic Shores projects area. [Footnote 26: BOEM. (2021, Sep). Atlantic Shores Wind Farm Construction and Operations Plan - Volume II: Affected Environment; New Jersey Division of Fish & Wildlife. (2018, Mar 20). New Jersey's Endangered and Threatened Wildlife] Under federal law, Kemp's ridley (*Lepidochelys kempii*), hawksbill (*Eretmochelys imbricata*) and leatherback sea turtles (*Dermochelys coriacea*) are listed as Endangered and the green (*Chelonia mydas*) and loggerhead sea turtles (*Caretta caretta*) populations are listed as Threatened. [Footnote 27: US Fish and Wildlife Service (USFWS): Sea Turtle Quick Facts <https://www.fws.gov/northflorida/seaturtles/turtle-facts-index.htm>] Among the numerous threats faced by sea turtles both in marine waters and on coastal lands, the major ones are vessel strikes, fishing gear entanglements, underwater noise, loss of nesting habitats to development; destruction of nests by predators and poachers; harvest of turtles for eggs, meat, leather, and tortoiseshell; and accidental killing by commercial fishing operations. [Footnote 28: NYS Dept. of Environmental Conservation: Sea Turtles of New York]

USFWS and NMFS have joint federal jurisdiction of sea turtles, with the former having lead responsibility in protecting their nesting beaches and the latter for their marine environment. [Footnote 29: US Fish and Wildlife Service: General Sea Turtle Information] Therefore, inter-agency collaboration and coordination is essential to sea turtle protection and recovery. Data on sea turtle movements, distributions, and habitat use patterns, and interactions with OSW facilities is scarce. However, [Underline: paucity of data on OSW impacts on sea turtles must not be construed as OSW activities having no impact,] and as such BOEM must adopt a conservative precautionary approach in its EIS so as not to further endanger the sea turtles whose populations have been declining for several decades.

Comment Number: BOEM-2021-0057-0104-13

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Other Sections: 20

Comment Excerpt Text:

Current scientific data on sea turtle-OSW interactions is extremely limited. Development of avoidance and mitigation strategies must be based on accurate estimates of sea turtle populations, their precise seasonal location, and a comprehensive assessment of cumulative impacts of all human activities in the region and of climate change. Multiple corroborating approaches are needed to acquire spatiotemporal profiles of different sea turtle species in the project area since the ability to detect sea turtles through visual sightings and aerial surveys is highly variable. The presence in/relative use of nearshore areas by sea turtle species must be accounted for in models of species density to inform impact analysis since some of Atlantic Shores project activities would take place in coastal waters.

The EIS must include cumulative analysis of impacts on sea turtles for all impact producing factors from Atlantic Shores , other OSW and non-OSW activities offshore, nearshore, and onshore. As NOAA acknowledged, “(w)e do not understand how noise impacts populations, survivorship or fecundity, nor do we understand the cumulative impacts of noise on individuals or populations when combined with other stresses (bycatch, climate change, etc.)” [Footnote 30: NOAA. The Status of Science for Assessing Noise Impacts on NOAA-Managed Species. Draft Ocean Noise Strategy Roadmap] It is essential that the EIS thoroughly account for all impacts in developing avoidance/ mitigation measures to ensure the agency complies with its legal responsibilities under the ESA.

Comment Number: BOEM-2021-0057-0104-34

Organization: Defenders of Wildlife

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM must also support scientific research to fill in the substantial spatial and temporal gaps in knowledge of sea turtle ecology and behavior and the threats posed by OSW development activities. To protect these long-imperiled reptiles of very ancient lineage from potential adverse Atlantic Shores project impacts, the EIS must evaluate the following measures:

- [Underline: restrict vessel speed to =10 knots for all vessels all year] within the 2 Atlantic Shores projects footprint regardless of whether vessels are transiting or are on site. Slowing to 4 knots from June 1 through November 30 while transiting through areas of visible jellyfish aggregations or floating vegetation lines or mats will improve protection for sea turtles. Slowing down to well below 10 knots improves the ability of vessels to maneuver and adjust speeds[Footnote 31: Kelley, D. E., Vlasic, J. P., & Brilliant, S. W. (2020). Assessing the lethality if ship strikes on whales using simple biophysical models. *Marine Mammal Science*, 37, 251-267.] to avoid collision with not only sea turtles but also other marine wildlife. This is the same concept that is applied to automobile speed limits on roads to allow for reaction time to avoid crashes and accidents.

- require a minimum of four NOAA-certified Protected Species Observers (PSOs) solely focused on monitoring for protected species to monitor all exclusion zones for sea turtles during impact pile-driving, High Resolution Geophysical (HRG) and Geotechnical surveys, and during vibratory driving. [Footnote 32: Verfuss, U. K., Gillespie, D. Gordon, J. Marques, T., Miller, B., Plunkett, R., Theriault, J., Tollit, D., Zitterbart, D. P., Hubert, P., & Thomas, L. (2017). Low visibility real-time monitoring techniques review. Report SMRUM-OGP2015-002 provided to IOGP.] To effectively monitor the full exclusion zone, multiple PSOs must be stationed at several vantage points to allow for continuous scanning of each section of the exclusion zone. Monitoring reports must be made publicly available in real time. Training vessel crew members to watch along with the PSOs is beneficial but they must not be substituted for PSOs. Prior to the commencement of construction activities, PSOs must scan and monitor the area for the presence of sea turtles. If turtles are detected prior to or during construction activities, activities must be paused and recommence only after the observers confirm that the turtles have cleared the area. These strategies are similar to those employed to protect marine mammals (see Section 5.5).

- use NMFS's most recent pile driving calculator to obtain an accurate injury and behavioral radii for sea turtles during impact and vibratory pile driving.

- invest in and support:

- satellite tagging and tracking[Footnote 33: Dodge, K. L., et al. (2014); Dodge, K. L., Galuardi, B., & Lutcavage, M. E. (2015). Orientation behaviour of leatherback sea turtles within the North Atlantic subtropical gyre. *Proceedings of the Royal Society B*, 282, art. 20143129; Winton, M. V. et al. (2018). Estimating the distribution and relative density of satellite-tagged loggerhead sea turtles using geostatistical mixed effects models. *Marine Ecology Progress Series*, 586, 217-232.] and real-time monitoring studies to complement aerial survey data and provide a precise and accurate spatiotemporal estimates of sea turtle populations, their movements, dive patterns, surface times, and habitat use in the North Atlantic. These baseline data are essential in accurately estimating sea turtle takes in Atlantic

Shores project activities and in developing avoidance, minimization, and mitigation strategies.

- acoustic telemetry arrays (which are already in use in wind energy areas to track highly migratory fish species) and take advantage of the opportunity for cost-effective data collection on sea turtles. A combination of satellite tags (to collect data on surface availability to parameterize density models) and acoustic telemetry will improve understanding of sea turtle habitat.

- research to cover the fundamental gaps in our knowledge of the sensory (hearing and navigation) ecology of sea turtles. Current BOEM standard for operating conditions of activities such as pile driving is based on a 180 dB (RMS) re 1 uPa exclusion zone which is the original generic acoustic threshold for assessing permanent threshold shift onset for cetaceans[Footnote 34: NMFS. (2018). 2018 Revision to: Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing (Version 2.0). Underwater acoustic thresholds for onset of permanent and temporary threshold shifts. NOAA Technical Memorandum NMFS-OPR-59.] and not for sea turtles. Research is needed to determine the temporary and permanent acoustic threshold shifts so that accurate limits for cumulative anthropogenic sound sources can be identified. Experiments are also needed to (a) spatially separate acoustic pressure and intensity to determine which of these sound component sea turtles detect and whether hearing sensitivity changes under pressure[Footnote 35: Piniak, W. E. D. (2012). Acoustic ecology of sea turtles: Implications for conservation. PhD dissertation, Duke University.] and (b) conduct underwater audiograms of sea turtle species of all age classes since hearing sensitivity is known to change with age.

Comment Number: BOEM-2021-0057-0119-82

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Of the five sea turtle species known to occur in the Project Area [Footnote 218: ASOW COP Vol. II at 4-221], only the loggerhead and leatherback turtles occur regularly, primarily during summer and fall

Comment Number: BOEM-2021-0057-0119-83

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition, the relative use of nearshore areas as well as offshore areas by sea turtle species should be accounted for in models of sea turtle density and subsequent impact analysis.

Comment Number: BOEM-2021-0057-0119-84

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The COP uses sea turtle density estimates derived from the NYSERDA digital aerial surveys, which use corrected abundance estimates “calculated by dividing the observed abundance by the percent of the area surveyed for each season to account for differing amounts of area surveyed and makes abundances comparable across seasons.” [Footnote 225: ASOW COP Vol. II at 4-266]. However, based on the referenced sources for this information, these are not true abundance estimates. To generate density/abundance estimates for marine mammals and sea turtles, models must use detection functions, on-effort sightings, etc. These models are run using either the Conventional Distance Sampling (CDS) method and/or the Density Surface Modeling (DSM) method (e.g., Roberts models). "Density" or “abundance” estimates derived from any other methods are not statistically sound for these animal groups and cannot be directly compared to CDS/DSM estimates (e.g., Roberts models).

There have not been enough sightings data to conduct density modeling for all species during all survey years. Due to the limited site-specific survey data for turtles, regional turtle data (e.g., NLPSC campaigns) should be combined in order to generate site-specific seasonal and/or annual density estimates for species and species groups where possible (e.g., species-specific estimates for leatherback and loggerhead turtles, group-specific estimates for hardshell turtles which would include loggerhead and Kemp’s ridley turtles).

Comment Number: BOEM-2021-0057-0119-85

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Marine Ecology Progress Series, vol. 586, pp. 217-232 (2018)] would complement data collected via aerial surveys and provide a more complete picture of sea turtle occurrence and habitat use in the region. Increased sea turtle tagging and tracking studies are needed to better understand movement, dive patterns and surface time, and habitat use which can, among other uses, help advise monitoring and avoidance, minimization, and mitigation strategies and generate more accurate estimates of sea turtle takes. Satellite telemetry data are available from rehabilitated and released Kemp’s ridley and green turtles [Footnote 227: Robinson, N.J., Deguzman, K., Bonacci-Sullivan, L., DiGiovanni Jr., R.A., and Pinou, T., “Rehabilitated sea turtles tend to resume typical migratory behaviors: satellite tracking juvenile loggerhead, green, and Kemp’s ridley turtles in the northeastern USA,” *Endangered Species Research*, vol. 43, pp. 133-143 (2020); New England Aquarium, unpublished data] that suggest rehabilitated turtles are a good proxy for wild-caught turtles. Considering the costs and probably limited success rate of in-water tagging work for these three species, acoustic telemetry of rehabilitated turtles may also be an effective means of gathering useful data. There is already significant investment underway for acoustic telemetry arrays in the WEAs for highly migratory fish species [Footnote 228: See, e.g., <https://www.masscec.com/about-masscec/news/massachusetts-rhode-island-boem-award-11-million-regional-fisheries-studies-guide>], presenting an opportunity for cost-effective data collection on sea turtles. Thus, a combination of satellite tags (to collect data on surface availability to parameterize density models) and acoustic telemetry will improve understanding of sea turtle habitat use.

Comment Number: BOEM-2021-0057-0119-86

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Moreover, fundamental gaps remain in our knowledge of the sensory (e.g., hearing and navigation) ecology of sea turtles. It has been determined that sea turtle hearing sensitivity overlaps with the frequencies and source levels produced by many anthropogenic sources; however more research is needed to determine the potential physiological and behavioral impacts of these noise sources on sea turtles

Comment Number: BOEM-2021-0057-0119-87

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

For forthcoming construction activities, at minimum BOEM must use NMFS's most recent pile driving calculator to obtain an accurate injury and behavioral radii for sea turtles during impact and vibratory pile driving. As the offshore wind industry advances, studies are needed to determine critical ratios and temporary and permanent threshold shifts so that accurate acoustic threshold limits for anthropogenic sound sources can be added to NMFS's sound exposure guidelines for protected species like sea turtles, and additional monitoring and avoidance, minimization, and mitigation protocols can be developed to minimize impacts to sea turtles during offshore wind development and operation and other anthropogenic activities. Monitoring of sea turtle sensory ecology must be conducted as soon as possible to advise efforts, and a conservative approach should be adopted in the meantime to guard against impacts to these threatened and endangered species.

Comment Number: BOEM-2021-0057-0119-88

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Mitigation measures for sea turtles should include a speed restriction of 10 knots for all vessels associated with the Project at all times, regardless of whether vessels are transiting or on site [Footnote 233: The ASOW COP states that Atlantic Shores will comply with the current NOAA speed restrictions at the time of Project activities. (ASOW COP Vol. II at 4-227). These mitigation measures are under-protective for sea turtles]. Risk of collision with sea turtles is greatest when vessels are traveling at speeds greater than 10 knots [Footnote 234: Hazel, J., I.R. Lawler, H. Marsh, and S. Robson. 2007. "Vessel speed increases collision risk for the green turtle *Chelonia mydas*," *Endangered Species Research* 3:105–113]. While vessels may be directed to slow speeds to 4 knots if a sea turtle is sighted within 100 m of the vessel's

path, [Footnote 235: See, e.g., VW1 ROD, p. 51] this is not a foolproof solution. Sea turtle detection – even when conducted by dedicated observers – is difficult unless the turtle surfaces close to the vessel, at which point it may not be possible to course-correct in time to prevent collision. Keeping ship speed to 10 knots improves the ability to adjust speeds [Footnote 236: Kelley, D. E., Vlastic, J. P. and Brilliant, S. W., “Assessing the lethality if ship strikes on whales using simple biophysical models,” Marine Mammal Science, vol. 37, pp. 251-267 (2020)]. Slowing to 4 knots from June 1 to November 30 while transiting through areas of visible jellyfish aggregations or floating vegetation lines or mats will improve protection for sea turtles, but the speed should be reduced from an upper limit of 10 knots. A standard 10-knot vessel speed limit ensures protections for a wide array of ocean wildlife and should be incorporated into the Draft EIS.

Comment Number: BOEM-2021-0057-0119-89

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

No fewer than four PSOs should be available to monitor all exclusion zones for sea turtles – for vibratory driving and impact pile-driving, as well as any necessary high resolution geophysical and geotechnical survey activities. The vantage points and number of PSOs are critical factors for effective exclusion zone monitoring for sea turtles. To effectively monitor the full exclusion zone, multiple PSOs must be stationed at several vantage points at the highest level to allow each to continuously scan a section of the exclusion zone; a limited number of PSOs – even continuously moving around the vantage point – would still not be able to scan the entire exclusion zone. A minimum of four PSOs for all exclusion zone monitoring is recommended. Monitoring reports must be made publicly available [Footnote 237: We note that specific information on the monitoring and mitigation plan for sea turtles is not currently included in the ASOW COP].

Moreover, PSOs must be NOAA-certified, and solely focused on monitoring for protected species. While training vessel crew members to additionally watch is beneficial, we caution this cannot be a substitution for trained PSOs as the vessel crew’s top priority is vessel operations [Footnote 238: The ASOW COP Vol. II at 4-228 states: “Environmental training will also be provided to all vessel personnel responsible for operation, navigation, or lookout on sea turtles siting, avoidance, and reporting procedures. The combination of these mitigation and monitoring, the risk of sea turtle interactions with Project vessels is considered low to very low.” Given the low probability of detection of sea turtles by observers, we do not believe these training measures, even in combination with other measures, will reduce risk of vessel strike to “low to very low.” In addition, the COP (Vol. II at 4-232) states that “During nighttime activities and/or periods of inclement weather use of night vision devices such as night vision binoculars and/or infrared cameras will be implemented.” These devices are inadequate for detecting sea turtles and most marine mammal species.

Comment Number: BOEM-2021-0057-0119-9

Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.

Commenter:

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

BOEM should update their injury and behavioral radii for acoustic impacts to sea turtles from pile driving activity.

- BOEM should require all vessels to adhere to a 10-knot speed restriction, and to further slow to 4 knots when a turtle is sighted or when transiting through areas of likely offshore feeding habitats from June 1 to November 30.

A.3.24 Scenic and Visual Resources

Comment Number: BOEM-2021-0057-0009-1

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

The Atlantic Shores project proposed off Long Beach Island could include some 200 massive wind turbines, standing 850 feet above sea level and at some locations only 9-10 miles off our beach, presenting a “wall” of turbines obstructing our view to the horizon

Comment Number: BOEM-2021-0057-0009-16

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

The visual impacts from the Atlantic Shores project will create an industrial setting, a wall of several hundred turbines, readily visible from the beaches from Barnegat Light to Holgate. The project will put the Jersey Shore, not only LBI, at risk. Our view, as many have said here, is akin to that of the Grand Canyon, unobstructed and beautiful. There are not many places in NJ where the natural resources are so significant as to draw the millions each year to visit.

When considering visual impacts, New York State in its Offshore Wind Master Plan stated that “the State set a minimum distance of 20 statute miles for the Area of Consideration in order to ensure that, for the vast majority of the time, turbines would have no discernable or visible impact for a casual viewer on the shore.” The Visibility Threshold Study, NYSERDA Report 17-25s, December 2017, which was the basis for the Master Plan threshold, focused on smaller turbines (8MW) as compared to the 12-14MW turbines proposed for the projects off New Jersey. Twenty statute miles, as a minimum standard, is not likely far enough offshore for the proposed Atlantic Shores project with these larger turbines.

Comment Number: BOEM-2021-0057-0009-6

Commenter: James Binder

Commenter Type: Individual

Comment Excerpt Text:

Point three, due to larger turbine sizes, visual impacts have gained recognition as a major concern re wind

energy development. BOEM in March 2021 withdrew two Wind Energy Areas (WEAs) off of Long Island, partially due to their closeness to the shore and related visual impacts. The two areas withdrawn were miles offshore. The Atlantic Shores project off LBI is at many points just 9-10 miles offshore. If we apply the same minimum distance criteria in New Jersey as New York State does (20 statute miles as reported in the NY Offshore Wind Master Plan), that would eliminate or severely restrict the Atlantic Shores site. Since that policy was put in place, BOEM seems to have set a minimum limit of 17.3 miles for the New York Bight WEAs. I urge you to conduct the necessary studies to recognize the changes in offshore wind development and work cooperatively with New Jersey to put in place policy to establish an exclusion zone for New Jersey protective of affected communities.

Comment Number: BOEM-2021-0057-0017-2

Commenter: Nicholas Palmisano

Commenter Type: Individual

Other Sections: 10.1

Comment Excerpt Text:

As for the tourism aspect, I feel that for a project that aims to protect nature, it sure disrupts nature quite a bit. People travel to the shore to enjoy the views and simplicity of looking out over an ocean horizon. In my opinion, looking at a wind farm or oil rigs will have the same effect; humans ruining the natural landscape in the name of progress. I travel to the mountains of Vermont frequently, and what used to be a pristine and natural view from mountain tops is now permanently marred by the hubris of humans believing that we are somehow improving our natural world by building 300 foot tall turbines across mountain tops, with all of the tree destruction and access roads that need to be created to build these structures.

Comment Number: BOEM-2021-0057-0031-14

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

And second, the already-approved wind farm site that is further from shore should be open to consideration for the current project. If this requires scraping the current project and starting again, so be it. The project is supposed to support the environment. It makes no sense to charge ahead in the name of the environment but to avoid considering the very causes that are supposedly served. Moving the site further to sea would satisfy those complaining about the visual impact. (Further to sea as in the distances typically used by similar installations in Europe, e.g., 30 miles.)

Comment Number: BOEM-2021-0057-0031-3

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

As for objections, there are clearly people who would rather not look at a horizon made furry with hundreds of towers and, at night, hundreds of blinking red lights

Comment Number: BOEM-2021-0057-0031-9

Commenter: David Ackerman

Commenter Type: Individual

Comment Excerpt Text:

First, that the process slow to allow answers to questions as simple as, 'What will this project look like when viewed from shore?' (Simulated images have been offered but none from authoritative and neutral sources and, as we all know, Photoshop can show anything.)

Comment Number: BOEM-2021-0057-0036-1

Commenter: David Korfhage

Commenter Type: Individual

Comment Excerpt Text:

I have not seen offshore wind turbines, but I have seen many, many onshore turbines, and I have never found them ugly, distasteful, or destructive of the landscape and with these turbines so far off shore, the effect on sightlines will be minimal. And, truth be told, sea level rise will have a much worse impact on the Jersey Shore than any visual effect its hard to enjoy a view if your house is underwater.

Comment Number: BOEM-2021-0057-0040-4

Commenter: Lauren Morse

Commenter Type: Individual

Comment Excerpt Text:

I do not believe that visual concerns of a wind turbines so far in the distance that they appear at the low height of less than an inch to viewers from the shore is a concern that has will have economic effects. If anything, it will be more sightly than the container ships that move along the waters.

Comment Number: BOEM-2021-0057-0046-2

Organization:

Commenter: Christopher Knell

Commenter Type: Individual

Comment Excerpt Text:

I should make clear that I am not opposed to renewable sources of energy. I was an early adopter of solar energy in NJ and have solar PV systems on two properties that I own. However, the visual impact of these solar PV systems is minimal. I am not opposed to wind energy, but feel that the location of wind turbines should not be visually objectionable.

The Atlantic Shores windfarm proposal to place large turbines off the coast of Long Beach Island will be visually objectionable based on recently released renderings from BOEM. The visual impact will be very negative, especially to those who visit Long Beach Island for summer vacations where much of their time is spent enjoying the beach and the beautiful, natural views of the ocean. Placing fixed, visible turbines within view from the beach as presented in the BOEM renderings will give the view an industrial appearance. This is something that will cause these visitors to go elsewhere for their annual beach

vacations; likely to other states without visible turbines off-shore. The resulting economic impact will be likely be large and negative for the state of NJ.

Comment Number: BOEM-2021-0057-0047-2
Organization: Beach Haven Taxpayers Association
Commenter: John Hailperin
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Visual Impact Assessment. Given the current technology, the size of the Wind Turbine Generators (WTG) can range from 856 feet to a maximum height of 1048 feet. The towers will be 11 miles from Absecon Inlet and 13.5 miles out from Beach Haven areas. The turbine field will extend out to approximately 20 miles from shore. This means the towers will be in rows from west to east in addition to rows north to south.

Atlantic Shores has stated that the highest visibility comes in early spring and late fall. The reason for that is because the water temperature and the air temperature are equal; the marine layer — that haze on the horizon — is formed whenever there is a difference between the air and water temperature. So typically, in the summer there is cooler water and warmer air, which creates the marine layer, which can limit visibility. A meteorological study conducted by Rutgers University, School of Environmental and Biological Services predicts that visibility over the water during July and August (the height of the tourism season when the most people will view the Project) will typically range from 5 to 12 miles (8 to 19 km). This finding would suggest that the Proposed Action would be substantially obscured from view even from those areas on the coast closest to the Project. In the spring and early summer (April, May, and June), average visibility predictions suggest that visibility over the ocean will be 2.5 to 10 miles (4 to 16 km) suggesting that visibility of the Project would be even more limited during this period. Said study concluded lower visibility in late spring and early summer and higher visibility in late summer early fall. Please refer to Page 98, Conclusions of Appendix II-M1 Visual Impact Assessment of COP and Attachment H.

Plots of visibility calculated from Rutgers University Weather Research Forecasting model data indicate a visibility frequency of 1 out of 4 or 5 days (23%) for "very clear days" in the summer. "Very clear days" are defined by visibilities above 20 miles throughout the majority of the onshore and offshore environment in New Jersey. A majority of summer days exhibited high inland visibility and lower visibility (2-12 miles) over the ocean. BHTA can only conclude that on the majority of summer days where visibility extends 2 to 12 miles over the ocean, the wind turbine area (located at 13.5 miles from Beach Haven) would be outside of view. The same conclusions were reached by Environmental Design and Research, a landscape architect and engineering firm. Please refer to <https://vimeo.com/577181478/a2a5e49788>.

Comment Number: BOEM-2021-0057-0050-12
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

It will scar the prized New Jersey shore by creating the closest, most visible large turbine wind complex

in the world off it.]

- Beyond its conflict with the ESA and MMPA, the proposed action is unreasonable in other respects. The explosion in wind turbine size since this area was leased would make this project the closest, most visible modern, turbine wind complex in the entire world (Exhibit E).

- That extraordinary visibility would destroy the natural beauty of an unvarnished ocean vista from an 18 mile long, 5000-year-old barrier island, cause an extreme, adverse economic impact on the Island (I.8), and reduce shore breezes and raise air temperatures as wind energy is extracted (I.12).

Comment Number: BOEM-2021-0057-0050-15

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Regarding visible impact, at a minimum the turbine exclusion zone that was provided by BOEM for New York State of 17.3 miles based on visible impact should be adopted for New Jersey projects. If not, the EIS needs to provide an explanation as to why that exclusion zone is not being applied to NJ projects.

Comment Number: BOEM-2021-0057-0050-19

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The proposal should exclude turbines within 17.3 miles of shore as was done by the BOEM for New York State (I.9) to mitigate the extreme visible impact

Comment Number: BOEM-2021-0057-0050-47

Organization: Long Beach Island Coalition for Wind Without Impact

Commenter: Robert Stern

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The EIS needs to include current, realistic, quantified impacts of visible turbines on rentals, tourist visits and spending, tourism related jobs and property values.

This project as proposed would be the closest, most visible large turbine wind turbine complex in the entire world -See Exhibit E. It would destroy the natural beauty of an unvarnished ocean vista from an 18 mile long, 5000-year-old barrier Island. It would create out of place, unseemly large vessel traffic along the seaside (Exhibit K). Based on data depicting visible impact comparable to the proposal from previous people surveys and studies it would cause an extreme unreasonable adverse economic impact on the Island.

Comment Number: BOEM-2021-0057-0050-48
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Those results are summarized below using data for the smaller turbines and closer distances previously studied that are visually comparable to what will be seen off of LBI, i.e., having the same upper line of sight.

Visibility:

. The BOEM concluded in its NY Visual Assessment Study ^(V4) that the Jones Beach scenario of 577-foot-high turbines, 15 miles offshore, would have its worst “dominant” visual impact ranking.

. The Vesta-236 turbines approved by the NJ BPU for LBI are at least 850 feet high and would start 9 miles offshore, and therefore would have an even worse and disturbing visual impact.

Comment Number: BOEM-2021-0057-0050-51
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The Need for a Turbine Exclusion Zone to Mitigate Visible Impact- Similar to that provided to New York.

At a minimum the turbine exclusion zone that was provided by BOEM for New York State of 17.3 miles ^{V5} based on visible impact should be adopted for New Jersey projects. If not, the EIS needs to provide an explanation as to why that exclusion zone is not being applied to New Jersey projects.

Comment Number: BOEM-2021-0057-0050-52
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Visual Turbine Renditions.

Key to the public recognizing the severity of the visibility problem are representative renditions of what the turbines would look like from a nearby shore. The public has been and is being misled by statements and visual showings of turbine layouts shown by both the Ocean Wind and Atlantic Shores projects.

Regarding Atlantic Shores, such renditions are currently shown on their website in video format. Several frames are shown from vantage points up and down the coast far away from the project where one would not expect to see the turbines. One frame shown for several seconds is against a dark gray background that looks something like a solar eclipse. One frame that appears to be a reasonable rendition passes by so

fast that you cannot even freeze it to get a good look.

Comment Number: BOEM-2021-0057-0050-53
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

These concerns have been raised to the BOEM multiple times. The COP does contain some renditions. Appendix II-M provides daytime visual renditions from beach observation points very far away from the nearest visible wind turbine, e.g., Seaside Park, 40 miles away, and from inland sites where the view will be blocked by ground cover, e.g., a manor in the Edwin P. Forsythe Reserve 32 miles away, where they obviously will not be visible. Without giving the viewer that distance perspective, they give the misleading impression that the turbines will not be visible from anywhere.

The only rendition from heavily used beaches closer to the turbines, in Beach Haven NJ, at 13.5 miles, is done under pre-dawn, poor light and overcast conditions (Exhibit J, first image) providing a misleading impression on the casual viewer. The renditions from the North Brigantine Natural area are better but still done under overcast conditions, and the persons interested in the view from LBI and Beach Haven may never think to look at them(Exhibit J, second image).

Considering all the above, there appears to be a deliberate effort on the part of Atlantic Shores to obscure the true visual effect of the turbines on a viewer. This deception has gone on long enough. The current set of renditions was prepared by a contractor under Atlantic Shore's direction, and that is no longer acceptable.

[bold: The BOEM, which is ultimately responsible to fully disclose the visual impact, needs to engage another contractor do representative renditions under its direction, release them promptly to the public, include a full set of them prominently in the draft EIS itself, and not defer to the COP.]

Those new representative renditions should be done for the beach observation point in Beach Haven as well as ones in Holgate and Long Beach Township. They should be done for clear, sunny conditions at different times of day, including morning, midday and afternoon, which would be representative of what beachgoers will actually see, especially in the summer.

Comment Number: BOEM-2021-0057-0054-1
Commenter: Ann Adams
Commenter Type: Individual

Comment Excerpt Text:

I hate these. I dont want these in my view as I gaze into the horizon while relaxing on the beach. Put them somewhere else

Comment Number: BOEM-2021-0057-0057-1
Commenter: Jennifer Green
Commenter Type: Individual

Comment Excerpt Text:

This is terrible and not a view we want to see from our beautiful beaches.

Comment Number: BOEM-2021-0057-0063-1

Commenter: Carol Thomas

Commenter Type: Individual

Comment Excerpt Text:

As a summer resident of Brigantine, I would like to comment on this proposed plan that would absolutely ruin the beautiful views of the ocean which is one of the primary reasons people have purchased property on this island. I understand the need for energy conservation, but the proposed depiction of the windfarm appears to significantly take away from the natural beauty of this island. Has this fact even been considered? Are there any alternatives?

Comment Number: BOEM-2021-0057-0064-1

Commenter: Brendan Kelly

Commenter Type: Individual

Comment Excerpt Text:

I offer these comments in opposition to the Atlantic Shores project.

Millions of people flock to the Jersey shore each summer spend time with their families, turn their back on the world and behold the beautiful interplay of nature's elements with our pristine ocean views.

The coastal communities of South Jersey are custodians of this vital resource, just as the communities around Jackson Hole are custodians of the views of the Tetons and communities in Northern California are custodians of views of the redwood forests.

I oppose Atlantic Shores for the following reasons:

1. The visual assessment presented in the Construction and Operations Plan is absolutely devastating to our vital resource: our pristine ocean views, which attract millions of visitors per year.

Comment Number: BOEM-2021-0057-0064-3

Commenter: Brendan Kelly

Commenter Type: Individual

Comment Excerpt Text:

3. The lease area is invalid. On February 9, 2011 BOEM announced the establishment of the Wind Energy Areas in the Federal Register at 76 FR 7226. In this announcement BOEM stated: BOEMRE, in consultation with other Federal agencies and State Renewable Energy Task Forces, has identified the following WEAs in which BOEMRE is proposing to begin the commercial lease issuance process and subsequent SAP approval process

BOEM had an obligation to consider all reasonably foreseeable impacts when establishing the WEAs and through out the lease award process. The negative visual impact of hundreds of wind 800 to 1000 turbines was easily foreseeable in 2011. BOEM did not present this community in 2011 with simulations of the negative visual impact. Instead, BOEM established WEAs in which it is physically impossible to construct the project without the negative visual impact. This failure cannot be mitigated in the current

proceeding. The current proceeding only evaluates trade offs and makes accommodations within the previously established lease area.

In other words: You knew, or should have known, more than 10 years ago that this will devastate our interests, you didn't tell us until now, and you offer no possible solution because it is impossible to build them in the lease area established.

Comment Number: BOEM-2021-0057-0065-1

Commenter: John Sauer

Commenter Type: Individual

Comment Excerpt Text:

A rendering of the proposed wind farm with a view from Brigantine Island was posted on social media, and the rendering showed that the windmills would be very visible from the shore. I am 100% in favor of clean energy, but these windmills should not pollute the beautiful views that residents expect and have grown to enjoy. The residents of Brigantine, myself included have paid extremely high rates for real estate for the access to the natural beauty of the island and the ocean, this wind farm would disrupt that natural beauty.

Comment Number: BOEM-2021-0057-0066-1

Commenter: Peter Hartney

Commenter Type: Individual

Comment Excerpt Text:

I write in opposition to the proposed Atlantic Shores Offshore Wind, LLC's offshore wind projects construction and operation plan currently being considered by BOEM. The proposed development, construction and operation of the two proposed offshore wind projects are to be located 9 - 11 miles off the shoreline of the Borough of Surf City and Long Beach Island will inevitably change the pristine vista of the Atlantic Ocean which exists now and has existed since time immemorial to a vista dominated by fields of industrial windmills thus violating the guarantees of visual access provide for under the Public Trust Doctrine and codified into New Jersey State law.

Comment Number: BOEM-2021-0057-0068-1

Commenter: Nancy Pino

Commenter Type: Individual

Comment Excerpt Text:

As a resident of Brigantine NJ who makes a living from tourism I am VERY MUCH AGAINST having the EYESORE view of these wind turbines. They will be very visible and will destroy the peace and serenity of the current ocean views we have.

Comment Number: BOEM-2021-0057-0069-3

Commenter: Matthew Kelly

Commenter Type: Individual

Comment Excerpt Text:

While I understand the desire for wind energy, the concern is these need to be installed far enough out at sea to not disturb the view from the shore.

Comment Number: BOEM-2021-0057-0070-1

Commenter: Timothy Feeney

Commenter Type: Individual

Other Sections: 10.1

Comment Excerpt Text:

I was stunned after reading the COP for this project. Originally the public was led to believe the location of the wind farm would be no closer than 9.5 miles to the coast and the turbines would be no higher than 850 feet. The details in the COP reveal that the turbines could be as close as 8.7 miles and as high as 1,043 feet. This will create a harsh visual impact to one of the most popular tourist destinations on the east coast, one that is critical to the economic health of the state. The simulated renderings within the COP were shocking. Studies done at the Universities of Delaware and North Carolina have shown negative impacts on local tourist economies because of visible wind farms

Comment Number: BOEM-2021-0057-0071-3

Organization: Vacation Rentals Jersey Shore, LLC

Commenter: Duane Watlington

Commenter Type: Other

Comment Excerpt Text:

It's just common sense NOT to have those turbines visible from the shore! To us Jersey folks, the Jersey Shore is our Grand Canyon! If you have never seen a sunrise on our shore, I encourage you to get up early one morning and watch one. After seeing the simulations Atlantic Shore provided for this project we are horrified of what this view could now become! Our pristine ocean landscape will become industrialized completely ruining the natural, unobscured view to the horizon. If our horizon becomes picketed with rows and rows of wind turbines, this pristine sight will forever be ruined. I am sure you wouldn't approve wind turbines on the rim of the Grand Canyon. Please don't ruin our Jersey Shore with them either.

Comment Number: BOEM-2021-0057-0074-2

Organization: Save Long Beach Island, Inc

Commenter: Christine Leichte

Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

scar the prized Jersey shore by creating the closest, most visible modern turbine wind complex in the world, significantly reducing tourism, rentals and local employment,

Comment Number: BOEM-2021-0057-0074-7

Organization: Save Long Beach Island, Inc

Commenter: Christine Leichte
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

The current proposal by the lead federal agency, the Bureau of Ocean Energy Management (BOEM), would place up to two-hundred, three football-field-high wind turbines 9 to 20 miles offshore of Long Beach Island, New Jersey, one the most beautiful barrier islands on the East coast.

This wind complex will create the closest, largest most visible modern turbine wind complex on earth, with severe impacts on tourism, vacation rentals and property values.

This project is completely unreasonable, has not provided adequate information to residents who are impacted and has lacked realistic accurate renderings. The project as it stands not should be withdrawn for many environmental and economic reasons for a more reasonable alternative that exceeds the project goals and mitigates negative impact.

Comment Number: BOEM-2021-0057-0089-5
Commenter: Gina Cobianchi
Commenter Type: Individual

Comment Excerpt Text:

The Projects' structures above the water could affect the visual character defining historic properties and recreational and tourism areas.

Comment Number: BOEM-2021-0057-0111-10
Commenter: Kathleen Keating
Commenter Type: Individual

Comment Excerpt Text:

11. ADDITIONAL INVOLVEMENT FOR PROTECTION OF THE NEW JERSEY BEACHES, SHORELINE AND SEASCAPE: I urge BOEM to require independent analysis and to actively encourage consideration of the impact of the Projects with reference to the New Jersey Public Trust Doctrine before the COP EIS process continues further. As reflected in the NOI, “land use and coastal infrastructure, navigation and vessel traffic, other marine uses, recreation and tourism and visual resources” are to be analyzed in the EIS process. If these critical aspects with tremendous impact have not already been studied and analyzed it seems necessary to question whether there has been a dereliction of duty by those entrusted with the protection of our beaches and coastline pursuant to the New Jersey Public Trust Doctrine. Contrary to invalid and combative statements in the virtual public meeting I attended, visual impact and impact on the pristine beaches of our fragile barrier island are not special interests of greedy property owners. The protection of our beaches, coastline and seascape are critical national, state and local interests of the public. Academic research details the visual impact of offshore wind projects and independent analysis is critical. I join in the detailed comments submitted by the Coalition for Wind Without Impact citizen group with particular concern that the Atlantic Shores Projects are closest to the shore and the largest in scope and size of any projects in the world. Who is protecting the public interest at this critical juncture? I urge BOEM to investigate and explore before the implications on the ocean, beaches, coastline, and seascape before the COP EIS process continues further. Every aspect of visual impact—distance from the shore, location and configuration within the Project area, size of the wind

turbine generators, color of the wind turbine generators, coloration and lighting of the wind turbine generators—must all be intensely analyzed.

Comment Number: BOEM-2021-0057-0111-9

Commenter: Kathleen Keating

Commenter Type: Individual

Comment Excerpt Text:

10. ADDITIONAL STUDY AS THE VISUAL CHARACTER AND IMPACT OF THE PROJECTS: I urge BOEM to require independent scientific and academic studies of the visual impact of the Projects before the COP EIS process continues further. As reflected in the NOI, “The Projects’ structures above the water could affect the visual character defining historic properties and recreational and tourism areas.” For the purpose of comment here, I join in the detailed comments of the Coalition for Wind Without Impact citizen group which raised serious concerns of misleading visualizations. Moreover, an independent scientific and academic review is imperative. During the virtual meeting I attended, numerous speakers denigrated the significance of the visual impact concern with anecdotal references (‘a smudge on the horizon’), personal preferences (‘I think they are pretty’) and inapposite comparison (‘worry about flooding on the Boulevard if you are concerned about tourism’). Such comments are nonproductive and must yield to independent scientific and academic research. (See, for example, Offshore Wind Turbine Visibility and Visual Impact Threshold Distances by Sullivan, Kirchler, Cothren and Winters.). Such analysis should have been reputably completed before this point in the process and must be fully explored before further steps in the COP EIS process. If BOEM delays such analysis, the operator of the Projects and special interests will become more emboldened to combative strategies. Such analysis should be more comprehensively addressed in the COP and then analyzed in the EIS. To the extent that BOEM has resources on topic, I request references.

Comment Number: BOEM-2021-0057-0115-14

Commenter: Dorothy (Dottie) Reynolds

Commenter Type: Individual

Comment Excerpt Text:

Can we not enjoy the beauty of a magnificent, uncluttered skyline? At night when turbines are lit for safety, it will be like looking at a city instead of the moon and stars.

Comment Number: BOEM-2021-0057-0121-7

Commenter: Horatio (Ray) Nichols

Commenter Type: Individual

Comment Excerpt Text:

4. Re aesthetic considerations and possible economic impacts to owners of residential property along the coast. How will the earths curvature, distance from land, and atmospheric conditions affect the ability of residents to see any of the towers on the horizon? The EIS should include scaled graphics to illustrate this hypothetical consideration. Since this topic has generated a lot of NIMBY related interests, it should be addressed in detail.

Comment Number: BOEM-2021-0057-0130-6
Commenter: Denise Brush
Commenter Type: Individual

Comment Excerpt Text:

The turbines are going to be so far offshore that they will be barely visible

Comment Number: BOEM-2021-0057-0135-2
Organization: TriCounty Sustainability
Commenter: Sean Mohen
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Also let me say that any neighbors who might be concerned about the impact of wind turbines on their ocean views, if we don't go forward with projects like this, thanks to global warming your home won't be at the ocean, your home will be in the ocean.

Comment Number: BOEM-2021-0057-0136-3
Commenter: Walter Clarke
Commenter Type: Individual

Comment Excerpt Text:

So I am sure you are going to hear from other land owners who have property along the coast and they are afraid of property values, they will be decreased by the sight of the windmills and I get that, that's a legit fear but it is just that, it's a fear.

Like one of the earlier commentors mentioned, I was recently up in Block Island, Rhode Island, when I could see the windmills, it was not an eyesore, it was not a problem, and I think if the homeowners were to check the property values on Block Island and check out the sales trends over the last five years, I think they would be very happy about having these windmills come to town quite frankly because they have gone up up up.

Comment Number: BOEM-2021-0057-0139-3
Organization: New Jersey Organizing Project
Commenter: Alison Arne
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

Faced with the threatening prospects, the aesthetic issues around wind turbines that one might see on the clearest day pale in comparison. Offshore wind farms are located far enough from the coastline, at least nine miles out and usually 15 to 20 and if they are visible at all, the impact to the view will be minimal. The lights they will use at night will be visible to airplanes and boats but not to people on shore.

I am a Sandy survivor and used to be able to see the turbines at ACUA from our back deck. I say used to

because I know what climate based natural disasters can do to communities and family. I would give anything to see clean renewable energy in my backyard again. The cost of doing nothing to address climate change is one we can't afford in the state.

The issue isn't that the turbines might be seen from the shore, the real issue is unless New Jersey acts to combat climate change now, flooding from sea levels and continually increasing severe weather will end the shore's beauty and value as we know.

Comment Number: BOEM-2021-0057-0142-1
Organization: Save Long Beach Island, Inc.
Commenter: Wendy Kouba
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

This project is completely unreasonable and should be withdrawn for many environmental and economic reasons. For example, starting at just nine miles offshore with turbines that are three football fields high, the proposed wind complex will create the closest most visible modern turbine wind complex on earth with severe impacts on tourism, vacation rentals and property values.

And for those who reference the very small and very few turbines off of Block Island, I want to make it very very clear that Block Island is not even a distant comparator to what is being proposed for the entire coast of Long Beach Island.

Comment Number: BOEM-2021-0057-0153-2
Commenter: Dennis Yi
Commenter Type: Individual

Comment Excerpt Text:

A few may complain for their views, but this is short sighted, literally and metaphorically. The storms are coming, as are mosquitos with tropical diseases and climate refugees displaced by your actions and if truly these locals think they suffer, consider those poisoned by coal and gas plants.

Comment Number: BOEM-2021-0057-0155-2
Commenter: Kent Fairfield
Commenter Type: Individual

Comment Excerpt Text:

I note as a psychologist, I know that some people are going to say, oh, I live on the shore, I bought this expensive house looking out and on a clear day, 20 miles away, I can see the wind turbines and how annoying that is. Well, I think beyond the annoyance, there will be a lot of people who do look out and occasionally can see it and that does have I think a psychological impact, and say huh, this must be important enough that we are investing in this advanced technology. Huh, they may know things I don't know and I am talking about it with my neighbors and the word goes around, we are talking more about it, and then frankly a lot of people will become very proud that New Jersey has become a leader in

alternative energy,

Comment Number: BOEM-2021-0057-0159-1

Commenter: Brian Scanlon

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

We desperately need large scale wind power off the New Jersey coast. We simply have to get off fossil fuels and we must do so quickly. In this hearing I have listened to some attendees who are upset by the fact that some of the turbines might be visible from Long Beach Island. They will appear to be about a quarter inch above the Horizon. Those opponents fail to realize that unless we combat climate change to the implementation of renewable energy, there won't be a Long Beach Island after the ocean rises. Where are those who oppose this project when new proposals are made to build frack gas power plants in North Bergen, Kearny or the Ironbound section of Newark, all of which have been proposed in the last four years.

Comment Number: BOEM-2021-0057-0160-2

Commenter: Pat Miller

Commenter Type: Individual

Other Sections: 27

Comment Excerpt Text:

Some homeowners there seem to think that the sight of wind turbines ten miles off the coast might be more of a deterrent to tourism than a flooded Long Beach Boulevard, they don't realize that there are very few days when you can even see ten miles off that coast.

Comment Number: BOEM-2021-0057-0188-1

Commenter: Brendan Kelly

Commenter Type: Individual

Comment Excerpt Text:

So, the visual impact is from the shoreline is pretty devastating, and it was easily foreseeable back in 2010 when the lease area was established, so my question for BOEM is why wasn't the visual impact presented to the community ten years ago, we are sort of being presented with a fait de accompli with no alternatives. I go all the way back to the original lease area and say: hey this devastating visual impact is a no go for this lease or any other leases, so I think we got to revisit the original establishment of the WVA because they took care of the barges, they took care of the DOD but it doesn't seem like they asked anything of the community.

Comment Number: BOEM-2021-0057-0189-1

Commenter: Chris Fraga

Commenter Type: Individual

Comment Excerpt Text:

First from a property owner perspective, anyone that's been to Long Beach Island would recognize it is an absolute gem of the Mid-Atlantic. We have beautiful beautiful sand beaches, we have aquatic life including whales, porpoises, great fishing, seals. We have beautiful views from sunrise to sunset.

Second, to protect that beauty, we have very strong controlled development rules and regulations. In fact, you cannot build a commercial property or residential property that surpasses a height limit to keep the integrity and the beauty of the island.

Second, you can't develop additional housing units like duplexes to continue to control responsibly the development of the island. It is a beautiful beautiful place to visit or to call a home.

Second, I am speaking as I mentioned, as a member of the clean energy revolution in the United States. My company and my team and my investors and our entire infrastructure group have put hundreds of people to work on jobs building clean renewable energy projects, but we are socially conscious and environmentally conscious developers. We are held to that standard by the states that we develop projects in, by the counties and by the townships.

And in doing that, as a socially conscious developer, we have to look after every and all stakeholders needs. You will not find a bigger proponent of clean energy than me. I have built an entire company around it, but development must happen in a responsible way that includes environmental studies and I commend the folks that spoke tonight and the studies that have been done on an environmental basis on this project. The financials have to be done responsibly for the developer and for the investors and finally financially it has to work for the New Jersey rate payers and all those that will have jobs from this project and what not.

There is one really big group that's been ignored. I have heard that there has been aesthetic studies done, I have seen the videos that have been posted online, I haven't heard much at all from any of the groups speaking tonight about the community and the people that make up Long Beach Island and I am not just talking about property owners, I am talking about business owners and our extended families and friends that visit and all the renters and day trippers that come to enjoy the beauty.

And so my message is it is perfectly acceptable and perfectly supported to build clean energy in the United States and off our shores but it is completely unacceptable to sacrifice one constituent's needs which are those of us that know, love and enjoy Long Beach Island and the aesthetics of seeing wind turbines, hundreds of wind turbines that are over a thousand feet and in some cases nine or 13 miles offshore are just simply unacceptable and I am not sure how that could possibly pass muster for that checkmark in this process.

Comment Number: BOEM-2021-0057-0193-1

Commenter: B Fallows

Commenter Type: Individual

Comment Excerpt Text:

I am, also, I think reasonably concerned, along with a lot of other people, that the visual impact of this project is -- is very -- as an earlier speaker used -- devastating. It is quite honestly very surprising to me that it's taken me, somebody I think who is pretty plugged into the news of New Jersey and it's going on this long into the process and to learn this afternoon and this evening of how long this process has been going and to have been missing this big piece of the puzzle which is the fact that from these beaches it's going to be very very visible, hundreds of wind turbines, that surprises me, and again, that's because I am

somebody who really does try to stay informed of my state's issues, and I have to imagine and as I have realized as I reached out to people who grew up around and love Long Beach Island too, I am not alone in feeling excluded from this process and this information, and again, I can appreciate the efforts that have been made to go through all the motions that are necessary to get this project approved but I think the visual impact is something that we really do have to consider, it's economic impact and also just the fact that people go to the beach for -- to be in nature and I know that sounds silly because so much of the beach is developed and so much of it is boardwalks and big homes but at the same time, there is something about going to the ocean, that we go there to escape the sort of sights we would be seeing if there is hundreds of wind turbines out on the horizon.

And so, I worry because if it's less quantifiable or a little more emotional sounding that that concern is being taken less seriously especially seeing how in another states and other countries greater efforts have been taken to move these structures further off of the coast.

Comment Number: BOEM-2021-0057-0193-2
Commenter: B Fallows
Commenter Type: Individual
Other Sections: 2.3

Comment Excerpt Text:

I just can't imagine there is not a solution to this. I refuse to believe that there is not a better way to go about this project which again is very exciting, very promising but I have a hard time believing that the innovation or the possibilities aren't there to move these projects away and out of view, that they would be there, but they would not be a disturbance to people who have grown up and on Long Beach Island.

Comment Number: BOEM-2021-0057-0208-1
Commenter: Joy Hudecz
Commenter Type: Individual

Comment Excerpt Text:

As far as the devastating vision of windmills, that's a personal opinion, my personal opinion is they are really cool. I like to watch them, I would go somewhere if I knew there were windmills so I could watch them. I don't like to watch the airplanes that go by with banners advertising insurance and beer and suntan lotion but that doesn't seem to keep tourists away.

Comment Number: BOEM-2021-0057-0209-1
Commenter: Kathleen Keating
Commenter Type: Individual

Comment Excerpt Text:

the visual impact is something which should be studied, and it should not be reduced to a personal preference. I think it should be something that should be scientifically analyzed,

Comment Number: BOEM-2021-0057-0213-4
Commenter: Norah Langweiler

Commenter Type: Individual
Other Sections: 6

Comment Excerpt Text:

know there are many folks who are concerned that offshore wind will impact their quality of life specifically our gorgeous shore views, unfortunately it seems that the loudest voices against developing offshore wind in New Jersey are not the individuals who will be impacted by rising seas and flooding but big business and property owners who claim that the turbines will be too close to the shoreline.

But to me it seems that the issue isn't that the turbines might be seen from shore, the real issue is that unless New Jersey acts to combat climate change now, flooding from rising sea levels and increasingly severe weather will end the shore's beauty and value as we know it.

Sea levels are already rising in New Jersey, and we are more than double the global average. Our pristine shorelines are on the verge of being swallowed up by these raging tides and replaced with husks of our once thriving communities. If we want to preserve the shore for ourselves and future generations, we need offshore wind now.

Comment Number: BOEM-2021-0057-0227-2
Organization: Offshore Power LLC
Commenter: William O'Hearn
Commenter Type: Other
Other Sections: 10.1

Comment Excerpt Text:

Now, number two, regarding the view shed issue, I actually have some good news, my extended family of 45 or so relatives has been holding our annual family reunion on Long Beach Island for 40 years and a few distant smudges on the horizon will not stop us from our weekly rentals in North Beach, Harvey Cedars, Love Ladies and Barnegat Light for many many years to come. I believe many renters feel the same way. In fact, my aunts, uncles, cousins and their kids will be the first ones to sign up for any tours of the Atlantic Shores wind farm that may be available once the turbines are up and running. Just as people are doing for the five turbines installed off of Block Island, Rhode Island and some of us will be eager to jump on any recreational fishing charters headed out to the artificial reefs formed by offshore wind foundations that will be offered on the docks of Barnegat Light and fish for black sea bass, fluke and any other game fish that may be attracted to the turbines.

Comment Number: BOEM-2021-0057-0232-6
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

NSP recommends the VIA assess the turbines under different lighting (including times of day, night, and seasons) and atmospheric conditions, their movement, nighttime lighting (both for aircraft and watercraft, direct and ambient) and include other related project equipment such as electric transmission substations that may be located near or along the shore. Based on our initial review, it appears the visual simulations

included in the VIA may not represent the full spectrum of visibility under certain lighting conditions, and therefore the WTGs may be more visible at certain times of day from certain locations than presented. The NPS recommends that primary simulations should always represent the worst-case scenario as far as visibility. We advise that additional simulations are provided to show the range of visibility under a variety of conditions. It is recognized that atmospheric conditions over the ocean may reduce visibility in under some conditions. However, since visual simulations underrepresent the actual visibility of proposed changes, artificially adding atmospheric haze further reduces the effectiveness of the simulations and should be avoided.

Comment Number: BOEM-2021-0057-0232-7
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

Protecting the night sky is a role NPS typically pursues at a number of NPS units. The opportunity to enjoy starry night skies and other nocturnal phenomenon, as well as landscape features under natural light from the night sky is an integral part of an overall experience of an area. NPS protects natural darkness and other components of natural lightscapes in parks by minimizing light from park facilities, and by educating and working cooperatively with neighboring communities, local governments, and the public to minimize the use of outdoor lighting wherever possible considering public safety and other management objectives.

Comment Number: BOEM-2021-0057-0232-9
Organization: National Park Service Dept of Interior
Commenter: Johnathan Meade
Commenter Type: Federal Agency

Comment Excerpt Text:

In general, NPS recommends the following beneficial measures protective of night skies.

- 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.

NPS appreciates the intended utilization of an Aircraft Detection Lighting System (ADLS) to turn the aviation obstruction lights on and off in response to detection of nearby aircraft due to its enhanced protection of dark night skies. For the offshore component, we request visual simulations for both static images and light-flashing animation at night from multiple KOPs. Please consult with New Jersey SHPO on historic properties that would be sensitive to night lighting and most appropriate as KOPs.

Comment Number: BOEM-2021-0057-0240-20

Commenter: Gregory Roberts
Commenter Type: Individual
Other Sections: 10.3

Comment Excerpt Text:

The wind farm will destroy ocean views, impacting property values, tourism, local businesses, and New Jersey taxpayers. From Project Our Coast NJ: "These 12- Megawatt wind turbines will be among the largest on earth. At 845 feet tall and 722 feet in diameter they are close to the height of the Chrysler Building in NYC and 298 feet taller than the Washington Monument. They will be required to have lighting at night at the top and the base of the turbines for aviation and marine traffic safety." The economic impact could be in the billions.

Comment Number: BOEM-2021-0057-0241-9
Commenter: George Thayer
Commenter Type: Individual

Comment Excerpt Text:

There have been numerous requests for REALISTIC visible renderings of this proposed project, and that request, along with other concerns (eg 7 above), have not been addressed. It appears to me that the worst aspects of this proposed project are being obscured or not fully vetted and forwarded to the public. The only rendering I have seen was a "guesstimate" in our local LBI paper. If there are other, more accurate renderings, than they should be published.

Comment Number: BOEM-2021-0057-0242-4
Commenter: Ralph Thayer Jr.
Commenter Type: Individual

Comment Excerpt Text:

The proposed Atlantic Shores installation off of Long Beach Island and Atlantic City is not quaint. It is an industrial scale installation of two hundred towers, topped with turbines that themselves have a rotor tip height of 1,046.6 feet above mean sea level. To disappear over the horizon these towers would have to be 33 miles out to sea. The proposal as written has these towers just 8.7 to 20 miles off the coast. The Atlantic Shore proposal, Appendix E, provides visual simulations that are jarring in their incongruous appearance jutting out of the water like chain link fence posts. The simulated view from the shore of Beach Haven is, in a word, horrific.

A.3.25 Water Quality

Comment Number: BOEM-2021-0057-0050-59
Organization: Long Beach Island Coalition for Wind Without Impact
Commenter: Robert Stern
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

An important factor impacting marine habitats and migratory patterns on the mid-Atlantic shelf is the “Cold Pool”. This seasonal thermocline is one of the largest of its kind in the global ocean and extends from Nantucket to Cape Hatteras. Wind turbines have been shown to impact the mixing of ocean water both at the surface through their change in wind energy and at other levels through their physical structure.

The impact on the Cold Pool, both off the New Jersey coast and more broadly off the mid-Atlantic shelf, from this project and in conjunction with the other foreseeable offshore wind projects must be carefully assessed. As mentioned in the July 22, 2020 report of the Science Center for Marine Fisheries Management (a project funded by the National Science Foundation) in its critique of the BOEM Supplementary Environmental Impact Statement for the Vineyard Wind Project: “Too much attention cannot be given to the Cold Pool” and “The weakening of the Cold Pool supports the potential of generating the most catastrophic ecological event on the continental shelf the world has ever seen”. The potential impact of this and other such wind projects on the Cold Pool should be clearly understood before this or any new projects are permitted

Comment Number: BOEM-2021-0057-0051-10
Organization: EPA
Commenter:
Commenter Type: Federal Agency

Comment Excerpt Text:

Based on information provided in the COP, it appears that some construction and operation activities may result in discharges requiring NPDES authorization. It would be helpful if the EIS contains information to specifically determine whether the Project will result in discharges of pollutants to waters of the United States requiring authorization.

Comment Number: BOEM-2021-0057-0051-12
Organization: EPA
Commenter:
Commenter Type: Federal Agency

Comment Excerpt Text:

Vessel Discharges

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 DEIS include language that identifies both federal authorities regulating these discharges where applicable.

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. It would be helpful if the EIS describes how the Project will be consistent with state requirements related to vessel discharges.

Comment Number: BOEM-2021-0057-0075-2
Commenter: Jillian Lawrence Lawrence
Commenter Type: Individual

Comment Excerpt Text:

I am also concerned for any environmental impacts that having turbines out in the ocean cause such as oil and lubricant leakage and the transmission of power to the mainland- will this be via a submarine power cable? what's the inspection schedule and what are the possible risks?

Comment Number: BOEM-2021-0057-0119-79
Organization: National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al.
Commenter:
Commenter Type: Non-Governmental Organization

Comment Excerpt Text:

In addition, BOEM should undertake research similar to that conducted in Europe [Footnote 215: See, e.g., chultze, L. K. P., et al. "Increased mixing and turbulence in the wake of offshore wind farm foundations," Id.] to better understand the effects of individual turbines and the cumulative effects of large-scale build out of offshore wind energy on mixing and stratification in the area off southern New England.

Comment Number: BOEM-2021-0057-0234-44
Organization: United States Department of Commerce National Oceanic and Atmospheric Administration (NOAA) Nat'l Marine Fisheries Service
Commenter: Michael Pentony
Commenter Type: Federal Agency

Comment Excerpt Text:

-Impacts to water quality through sediment disturbance or pollutant discharge; project lighting as a potential attractant;

A.3.26 Wetlands and Waters of the U.S.

Comment Number: BOEM-2021-0057-0051-13
Organization: EPA
Commenter:
Commenter Type: Federal Agency

Comment Excerpt Text:

The COP includes a thorough discussion of existing wetlands, streams and other waters of the United

States that may potentially be directly or indirectly affected by the proposed infrastructure or activities associated with the Project. It appears that the Project as designed will largely avoid these types of impacts. We recommend that the discussion in the EIS include the range of design/construction measures highlighted in the COP that can be implemented to avoid and minimize impacts of transmission cables as they transition to shore from the marine environment. This is particularly important given proximity to a number of important regions in the New Jersey Back Bays such as Barnegat Bay and Great Egg Harbor.

In instances where fill is proposed or will otherwise impact wetlands or other waters of the United States, the EIS should explain how the activity will comply with EPA's Clean Water Act regulations issued under Section 404 (b)(1), referred to as "EPA's 404 (b)(1) Guidelines." The EIS should include an evaluation of ways in which each alternative can be designed to avoid, or where unavoidable, minimize direct and indirect impacts to wetlands and other waters. The evaluation of direct and indirect impacts should fully consider both temporary and permanent impacts as well as future impacts from necessary upgrades or maintenance.

Additionally, the evaluation of indirect impacts should include any clearing impacts for the proposed terrestrial construction activities resulting in a change (either permanent or temporary) of cover type within a wetland (e.g., converting a forested wetland to an emergent or scrub/shrub wetland). Furthermore, construction related indirect impacts, including water quality impacts (though unlikely) and erosion or sedimentation impacts to wetlands or waterbodies should be analyzed. EPA recommends close coordination with the U.S. Army Corps of Engineers, National Marine Fisheries Service, appropriate state Coastal Zone Management offices, and others for the portions of the proposed work that falls under their respective jurisdictions.

Comment Number: BOEM-2021-0057-0233-2
Organization: Department of the Army
Commenter: Todd Hoernemann
Commenter Type: Federal Agency

Comment Excerpt Text:

USACE NAP will coordinate with the New Jersey Department of Environmental Protection regarding the limits of jurisdictional wetlands.

Comment Number: BOEM-2021-0057-0233-4
Organization: Department of the Army
Commenter: Todd Hoernemann
Commenter Type: Federal Agency

Comment Excerpt Text:

The COP presently available to the public for comment does not address section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. §408) in table 1.3-1 under Federal Permits/Approvals. Please ensure that anticipated supplemental filing addresses this oversight.

A.3.27 General Support or Opposition

Many comments expressed general support or opposition for the Projects. Some commenters provided comments of support or opposition without providing a justification. Other commenters referred to generic resource topics as a justification for their support or opposition. Table A-2 provides a list of submissions that contained statements of general support or opposition. Commenters are generally supportive of the proposed Projects because they may reduce fossil fuel dependence, reduce climate change impacts, increase job opportunities and improve the local economy, increase resiliency in the electric grid, improve air quality, and/or or add habitat for marine fisheries. Commenters are generally opposed to the proposed Projects because they may adversely affect the aesthetics of the ocean view, marine wildlife and habitat, bats, birds, water quality, recreation and tourism, property values, commercial fisheries, navigation, and the local economy. Commenters proposed moving the Projects farther from shore, conducting long-term studies to assess potential ecosystem impacts, adjusting the number and placement of turbines to reduce long-term impacts, or relocating the Projects to another lease area.

Table A-2 List of Submissions Containing Statements of General Support or Opposition

| Submission ID | Individual Name | Agency/Organization Name |
|----------------------|------------------------|---------------------------------|
| BOEM-2021-0057-0003 | Kathy Flynn | |
| BOEM-2021-0057-0004 | jason irrera | |
| BOEM-2021-0057-0006 | Jo-Ann Sangataldo | |
| BOEM-2021-0057-0008 | Charles Calitri | |
| BOEM-2021-0057-0009 | James Binder | |
| BOEM-2021-0057-0010 | David Hayes | |
| BOEM-2021-0057-0011 | Anonymous | |
| BOEM-2021-0057-0012 | Hector Rivera | |
| BOEM-2021-0057-0015 | Kaitlyn Haymire | |
| BOEM-2021-0057-0017 | Nicholas Palmisano | |
| BOEM-2021-0057-0019 | Brian Frank | |
| BOEM-2021-0057-0020 | Tamar Kieval Brill | |
| BOEM-2021-0057-0025 | Emma Giebel | |
| BOEM-2021-0057-0026 | Robert Van Norman | |
| BOEM-2021-0057-0028 | Walter Korfmacher | |
| BOEM-2021-0057-0029 | Marian Doherty | |
| BOEM-2021-0057-0031 | David Ackerman | |
| BOEM-2021-0057-0032 | Ryan R | |
| BOEM-2021-0057-0034 | Jennifer Nielsen | |
| BOEM-2021-0057-0035 | Anthony Hagen | |
| BOEM-2021-0057-0036 | David Korfhage | |
| BOEM-2021-0057-0038 | Frank Koch | |
| BOEM-2021-0057-0039 | John A. Peterson Jr. | Borough of Seaside Park |
| BOEM-2021-0057-0040 | Lauren Morse | |

| Submission ID | Individual Name | Agency/Organization Name |
|----------------------|---------------------------|--|
| BOEM-2021-0057-0044 | Chuck Edwards | |
| BOEM-2021-0057-0045 | Lynn Petruccio | |
| BOEM-2021-0057-0046 | Christopher Knell | |
| BOEM-2021-0057-0047 | John Hailperin | Beach Haven Taxpayers Association |
| BOEM-2021-0057-0052 | Beth Lowell | Oceana |
| BOEM-2021-0057-0053 | Cyndie Williams | Carpenter Contractor Trust |
| BOEM-2021-0057-0056 | J Clark | |
| BOEM-2021-0057-0058 | Angelisa DiPalma | |
| BOEM-2021-0057-0060 | Maggie Shatt | |
| BOEM-2021-0057-0061 | Anonymous | |
| BOEM-2021-0057-0062 | Anonymous | |
| BOEM-2021-0057-0069 | Matthew Kelly | |
| BOEM-2021-0057-0072 | Duane Watlington | |
| BOEM-2021-0057-0073 | Allyson Sullivan | |
| BOEM-2021-0057-0076 | Joseph Ralph | |
| BOEM-2021-0057-0078 | Mary LaStella | |
| BOEM-2021-0057-0079 | Donald Miller | |
| BOEM-2021-0057-0080 | Stephanie Clemson | |
| BOEM-2021-0057-0084 | Nancy Duchnowski | |
| BOEM-2021-0057-0085 | L Stevens | |
| BOEM-2021-0057-0086 | Anonymous | |
| BOEM-2021-0057-0087 | Anonymous | |
| BOEM-2021-0057-0088 | Sonntag Harry | |
| BOEM-2021-0057-0089 | Gina Cobianchi | |
| BOEM-2021-0057-0090 | Jane M. Asselta | South NJ Development Council |
| BOEM-2021-0057-0092 | Karen Chmiel | |
| BOEM-2021-0057-0093 | Lisa Fadini | |
| BOEM-2021-0057-0094 | Michael Welsh | International Brotherhood of Electrical Workers (IBEW) |
| BOEM-2021-0057-0098 | John Robinson | Local Union 255 |
| BOEM-2021-0057-0099 | | National Wildlife Federation, NJ Audubon, et al. |
| BOEM-2021-0057-0103 | Richard Isaac | Sierra Club |
| BOEM-2021-0057-0108 | | Jersey Renews et al. |
| BOEM-2021-0057-0115 | Dorothy (Dottie) Reynolds | |
| BOEM-2021-0057-0118 | Brandon Burke | Business Network for Offshore |

| Submission ID | Individual Name | Agency/Organization Name |
|---------------------|----------------------|---|
| | | Wind |
| BOEM-2021-0057-0119 | | National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, New Jersey Audubon, et al. |
| BOEM-2021-0057-0123 | Karen Conover | |
| BOEM-2021-0057-0124 | Natalie Thibault | |
| BOEM-2021-0057-0126 | David Pringle | |
| BOEM-2021-0057-0128 | Margaret Collins | |
| BOEM-2021-0057-0129 | Ken Dolsky | |
| BOEM-2021-0057-0130 | Denise Brush | |
| BOEM-2021-0057-0131 | Paul Tashima | |
| BOEM-2021-0057-0132 | Zoe Leach | |
| BOEM-2021-0057-0133 | Henry Gajda | |
| BOEM-2021-0057-0134 | Agnes Marsala | |
| BOEM-2021-0057-0136 | Walter Clarke | |
| BOEM-2021-0057-0137 | Amy Williams | New Jersey Organizing Project |
| BOEM-2021-0057-0140 | Holly Cox | |
| BOEM-2021-0057-0141 | Jamie Klenetsky Faye | |
| BOEM-2021-0057-0149 | Enis Bengul | |
| BOEM-2021-0057-0150 | Walter Korfmacher | |
| BOEM-2021-0057-0151 | Tina Weishaus | |
| BOEM-2021-0057-0153 | Dennis Yi | |
| BOEM-2021-0057-0155 | Kent Fairfield | |
| BOEM-2021-0057-0156 | Sharon Quilter | |
| BOEM-2021-0057-0159 | Brian Scanlon | |
| BOEM-2021-0057-0160 | Pat Miller | |
| BOEM-2021-0057-0161 | Ed Cohen | |
| BOEM-2021-0057-0162 | Ken Jones | |
| BOEM-2021-0057-0163 | Sam Tirone | Business Network for Offshore Wind |
| BOEM-2021-0057-0165 | Jim Wolf | |
| BOEM-2021-0057-0167 | Eric Benson | Clean Water Action |
| BOEM-2021-0057-0168 | Ken Hammond | |
| BOEM-2021-0057-0169 | Richard Isaac | Sierra Club, NJ Chapter |
| BOEM-2021-0057-0170 | Erika Malinoski | |
| BOEM-2021-0057-0175 | David Wallace | |

| Submission ID | Individual Name | Agency/Organization Name |
|----------------------|------------------------|---|
| BOEM-2021-0057-0176 | John Peterson Jr | Borough of Seaside Park |
| BOEM-2021-0057-0177 | Jody Stewart | |
| BOEM-2021-0057-0180 | Kurt Pechmann | |
| BOEM-2021-0057-0191 | Doug OMalley | Environment New Jersey |
| BOEM-2021-0057-0194 | Kari Martin | Clean Ocean Action |
| BOEM-2021-0057-0195 | Debra Coyle | New Jersey Work Environment Council |
| BOEM-2021-0057-0196 | Deborah Schmitt | |
| BOEM-2021-0057-0199 | Daniel LaVecchia | |
| BOEM-2021-0057-0200 | Greg Cudnik | |
| BOEM-2021-0057-0201 | Gabriel Franco | New Jersey Organizing Project |
| BOEM-2021-0057-0202 | Frank Mahoney | |
| BOEM-2021-0057-0211 | Michael Mulroe | |
| BOEM-2021-0057-0212 | | Unitarian Universal Faith Action New Jersey |
| BOEM-2021-0057-0213 | Norah Langweiler | |
| BOEM-2021-0057-0214 | Peggy Middaugh | |
| BOEM-2021-0057-0215 | Patricia Sodolak | |
| BOEM-2021-0057-0217 | Paolo Belardo | |
| BOEM-2021-0057-0218 | Rachel Dawn Davis | Waterspirit |
| BOEM-2021-0057-0219 | Rebecca Hilbert | New Jersey League of Conservation Voters |
| BOEM-2021-0057-0220 | Richard Lawton | New Jersey Sustainable Business Council |
| BOEM-2021-0057-0221 | Suzanne Fairlie | |
| BOEM-2021-0057-0223 | Elizabeth Silleck | |
| BOEM-2021-0057-0225 | Shane Tait | |
| BOEM-2021-0057-0226 | Barbara Stomber | Franciscan Response to Fossil Fuels |
| BOEM-2021-0057-0227 | William O'Hearn | Offshore Power LLC, |
| BOEM-2021-0057-0228 | Rocco Lepore | |
| BOEM-2021-0057-0229 | Jeff Rapaport | |
| BOEM-2021-0057-0236 | Megan Brunatti | State of New Jersey Office of Permitting and Project Navigation |
| BOEM-2021-0057-0237 | Patricia Croisier | |
| BOEM-2021-0057-0238 | Ralph and Dorothy Keen | |
| BOEM-2021-0057-0239 | Daniel LaVecchia | LaMonica Fine Foods |

| Submission ID | Individual Name | Agency/Organization Name |
|---------------------|------------------|---|
| BOEM-2021-0057-0240 | Gregory Roberts | |
| BOEM-2021-0057-0241 | George Thayer | |
| BOEM-2021-0057-0242 | Ralph Thayer Jr. | |
| BOEM-2021-0057-0243 | Robert Stern | Long Beach Island Coalition for Wind Without Impact |

A.3.28 Submissions from Anonymous Commenters

BOEM received 5 submissions from anonymous commenters. Table A-3 provides the Submission ID numbers associated with the anonymous submissions. Submissions from anonymous commenters focused on general support or opposition and project relocation.

Table A-3 List of Submissions from Anonymous Commenters

| Submission IDs |
|---------------------|
| BOEM-2021-0057-0011 |
| BOEM-2021-0057-0061 |
| BOEM-2021-0057-0062 |
| BOEM-2021-0057-0086 |
| BOEM-2021-0057-0087 |