

Section 8.2

# Environmental Mitigation Plan

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## List of Attachments

Attachment 8.2-1: Environmental Mitigation Plan

## List of Acronyms

BOEM	Bureau of Ocean Energy Management
CFR	Code of Federal Regulations
COP	Construction and Operations Plan
E-TWG	New York State Environmental Technical Working Group
EFH	Essential Fish Habitat
ESA	Endangered Species Act
GARFO	Greater Atlantic Regional Fisheries Office
HAPC	Habitat Area of Particular Concern
MMPA	Marine Mammal Protection Act
NOAA	National Oceanic and Atmospheric Administration
NYSDEC	New York State Department of Environmental Conservation
NYSERDA	New York State Energy Research and Development Authority
OCS	Outer Continental Shelf
OREC	Offshore Wind Renewable Energy Certificates
PSO	Protected Species Observer
ROSA	Responsible Offshore Science Alliance
RWSC	Regional Wildlife Science Collaborative
U.S.	United States
USFWS	United States Fish and Wildlife Service

## 8.2 ENVIRONMENTAL MITIGATION PLAN

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*6.2.8.2 Proposers must include in their Proposals a detailed Environmental Mitigation Plan that describes how Proposer will mitigate adverse environmental impacts that may be caused by the Project. ... The EMP should detail, to the extent practical, specific measures the Proposer will take to avoid, minimize, and/or mitigate potential environmental impacts of the proposed Project in the categories identified below. Where specific measures are not known for a specific category of impact at the time of proposing, the EMP must describe how the Proposer will work collaboratively with the State, federal agencies, and other stakeholders to define avoidance, minimization, and mitigation measures. The EMP should provide a roadmap for the environmental work to come and provide a degree of certainty that the Proposer is committed to working collaboratively with stakeholders to develop a cost-effective and environmentally responsible Project.*

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### 8.2.1 Environmental Mitigation Plan Summary

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*D.1 The Proposer must briefly present its philosophy and approach to avoiding, minimizing, mitigation, restoring and offsetting (e.g., net positive impacts) the potential environmental impacts of the proposed Project and how the Proposer will use research, data and stakeholder feedback to support decision making with respect to site design, construction, operations and decommissioning.*

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Ørsted and Long Island Wind are committed to building renewable energy projects in balance with nature, which is why in 2021 Ørsted announced an ambition to deliver net-positive impact on biodiversity for all renewable energy projects commissioned by 2030. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The Environmental Mitigation Plan, provided as Attachment 8.2-1,<sup>2</sup> provides additional detail on Ørsted’s philosophy and principles, as well as mitigation measures in effect for the Project. The Environmental Mitigation Plan is modeled on the plan developed and implemented by Sunrise Wind with input and collaboration from the New York State Energy Research and Development Authority (NYSERDA) and the New York State Environmental Technical Working Group (E-TWG). Ørsted intends to align its approach to that of Sunrise Wind so that there is consistency across projects. The approach will also benefit stakeholders whom have built relationships with the Sunrise Wind team and Ørsted will be able to build on those connections for the Project.

Ørsted will work to minimize environmental impacts by siting the Project components in less sensitive areas. [REDACTED]

[REDACTED]

[REDACTED]

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<sup>2</sup> The Environmental Mitigation Plan incorporates the relevant portions of the information set forth in this Section 8 (consistent with the instructions in Appendix D to the Request for Proposal [RFP]) in the form required for the Standardized Component and suitable to be appended to the Offshore Wind Renewable Energy Certificates (OREC) Agreement.

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] Additionally, Ørsted will support collaborative science to further understand the potential impacts of offshore wind and incorporate the results into development, design, construction, and operation of the Project in an environmentally responsible manner.

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] The monitoring efforts may be undertaken within the Lease Area(s) and regionally to support advancement of research priorities and address permitting conditions. The monitoring priorities and projects will be identified with input from stakeholders, including the Regional Wildlife Science Collaborative (RWSC), the Responsible Offshore Wind Alliance (ROSA), and the E-TWG. [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

Ørsted aims to go beyond mitigating to the no-net-loss level. Supported by our ambition for a net-positive impact on biodiversity for all renewable energy projects commissioned by 2030, Ørsted will do its part to address both the climate and biodiversity crises as it advances clean energy development. To achieve this objective, Ørsted will work with local and regional stakeholders to identify potential restoration and protection opportunities that lead to biodiversity improvements for species and habitats that may be impacted by Project activities. As part of its onshore renewable energy portfolio in the United States (U.S.), Ørsted has demonstrated experience working with environmental organizations that support nature restoration and protection; to date, this has included support of habitat protection and restoration in Texas and Kansas with The Nature Conservancy and The Conservation Fund.

[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]



[REDACTED]

## 8.2.2 Communications and Collaboration

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*D.2 The New York State Offshore Wind Master Plan, the New York State Public Service Commission Order Establishing Offshore Wind Standard Framework for Phase 1 Procurement issued on July 12, 2018, the Order Adopting Modifications to the Clean Energy Standard issued on October 15, 2020 pursuant to Case no. 15-E-0302, and the Order on Power Grid Study Recommendations issued on January 20, 2022 pursuant to Case No. 20-E-0197, and this RFP emphasize the value of stakeholder engagement in the development of offshore wind energy Projects. Further, the Orders require Proposers to work with the State-supported Environmental Technical Working Group (“E-TWG”). Many other stakeholders are engaged in offshore wind energy development. The Proposer must describe how it will identify additional stakeholders relevant to both onshore and offshore environmental issues and describe how the Proposer intends to communicate with those stakeholders during survey work, and design, construction, operation and decommissioning of the Project. This description must account for communications with members of the E-TWG and consultations with New York State agencies during the various Project phases.*

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Ørsted's stakeholder engagement will include outreach to and meetings with federal and state agencies and non-regulatory stakeholders, including fishing communities, environmental groups, and local communities. See Section 2.4 of the Environmental Mitigation Plan for a more detailed summary of Ørsted's comprehensive approach to communications and collaboration.

### 8.2.2.1 Regulatory Stakeholders

To help identify stakeholders, Ørsted will leverage Sunrise Wind and Revolution Wind's experience and will commission multiple studies identifying potential federal, state, and local permit approvals and consultations required for the Project, as well as other critical issues and constraints related to the development of the Project. In addition, NYSERDA has identified environmental and regulatory issues related to the development of offshore wind in New York in the New York Offshore Wind Master Plan and the Offshore Wind Cable Corridor Constraints Assessment. The Project Permitting Plan (provided in Section 6.2) identifies the potential agencies and associated authorizations or consultations required for the Project, and the Stakeholder Engagement Plan (provided as Attachment 8.3-1) addresses engagement with regulatory stakeholders.

[REDACTED]

[REDACTED]

### 8.2.2.2 E-TWG

Section 2.4 of the Environmental Mitigation Plan also includes specific provisions to coordinate with members of the E-TWG and consult with New York State agencies. Again, Ørsted will build on the relationships established by Sunrise Wind.

### 8.2.2.3 Other Stakeholders

With regard to non-regulatory stakeholders, Ørsted continually refines its Stakeholder Engagement Plan for a consistent approach that will allow the Project to benefit from the experience of affiliated offshore wind projects. As part of that effort, Ørsted will continue to enhance and leverage its Stakeholder Engagement Plan to identify and engage various interests, including local communities, environmental groups, fishing communities, recreational boating groups, low-income populations, and labor and local business interests. As part of the Stakeholder Engagement Plan (Attachment 8.3-1), Ørsted will proactively reach out to local communities in New York through informational meetings, press releases, website promotion, and social media, and will continue to build on previously established relationships.

## 8.2.3 Environmental Monitoring and Research Pre-, During- and Post -Construction

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*D.3 Environmental research and peer-reviewed publication of research findings is key to advancing the scientific knowledge of how offshore wind energy development might affect marine ecosystems and wildlife. Proposers are encouraged to publish their own work in scientific journals or other scientifically vigorous product, and to coordinate with scientists and regulators interested in investigating environmental and wind energy-related scientific questions. Because offshore wind energy development is in early stages in the US, there is little empirical information as to the effects such development may have on ecological communities specific to the New York Bight. Transparency in new research and peer reviewed publication of results bring higher value, allowing others to build on that work.*

*Thoughtfully planned, designed, and implemented pre-, during- and post-construction monitoring and research to understand wildlife responses and potential effects from development is key for adaptive management. Further, multiple regional sites working together and coordinating monitoring and research in a consistent manner would bring additional value to the scientific understanding of how development of offshore wind energy is affecting regional resources.*

*The Proposer must (to the extent possible at this stage) describe how, for large whales (particularly the North Atlantic right whale), other marine mammals, sea turtles, birds, bats, fish, sturgeon, and invertebrates, it plans to conduct scientifically sound, statistically rigorous studies to accomplish the following:*

*1. Establish baseline data on the presence of these types of wildlife within the area of the proposed Project (including areas where Project-related vessels would travel to reach the Project area);*

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### 8.2.3.1 Baseline Data

Ørsted is committed to collaborative studies pre-, during, and post-construction. Sections 4.1, 5.1, and 6.1 of the Environmental Mitigation Plan set forth completed and ongoing studies available to help establish baseline conditions. Specific to marine biological resources, a number of studies have been conducted in the northern Atlantic Outer Continental Shelf (OCS) by various agencies and organizations and this list will grow as additional research studies are completed supporting approved or soon-to-be approved offshore wind projects in the region. Ørsted will utilize the extensive data collected by these and future studies to establish baseline data within the Project Area. For the purposes of the Environmental Mitigation Plan, [REDACTED]

[REDACTED]







## 8.2.4 Supporting Other Environmental Research

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*D.4 The selected Proposer will be required to coordinate with independent scientists supported by third parties for the purpose of research and publication in peer reviewed journals or other scientifically vigorous products. This coordination may include the provision of reasonably requested Project data, and access to the Project area to examine environmental sensitivities and/or the impacts of offshore wind energy development on the environment. The Proposer must describe how such requests will be considered and processed, and any restrictions on data provision or access the Proposer believes may be required to protect trade secrets or maintain site security. The Proposer shall identify ways to enhance site accessibility for the advancement of third party scientific and technological study.*

*The Proposer may also elect to identify a level of financial commitment that will be appropriated to leverage third-party environmental research funding, including federal or State-supported research into relevant ecological communities and the effects of offshore wind energy development. Such financial commitments will be favorably considered in the proposal review process. Funding identified here should be separate from funding allocated under Section 2.2.7 of the RFP.*

---

Ørsted is committed to supporting third-party research associated with development of the Project and intends to take a collaborative approach to science. The Project Area will be accessible by vessels, including research vessels, for independent scientists to examine any environmental sensitivities as a result of the Project. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## 8.2.5 Marine Mammals and Sea Turtles

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*D.5 The development of offshore wind energy poses some concerns about effects on marine mammals and sea turtles, primarily related to the introduction of man-made sounds, changes in ship traffic, and the long-term presence of turbines in the ocean.*

*Sounds resulting from bottom surveys, ships, and pile driving may risk introducing possible changes in mammal behavior, including effective habitat reduction because of sound avoidance, interruption of life-cycle activities, and injury to hearing. For some marine mammals, low-frequency sounds such as pile driving, if performed in close proximity to an animal, can potentially cause permanent damage to hearing or temporarily make it difficult for the animal to hear predators, prey, and each other.*

*The Proposer must provide a description of how it will work to understand and minimize the Project's risk to marine mammals and sea turtles, with special attention to highly vulnerable and endangered species such as the North Atlantic right whale. At a minimum this should consist of:*

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### 8.2.5.1 Site Characterization

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*1. A basic description of what is known about the proposed site in terms of marine mammal and sea turtle assemblage, temporal and spatial use of the site, and which species the Proposer believes to be of greatest concern and why;*

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To support the assessment of marine mammals, BOEM has issued Guidelines for Providing Information on Marine Mammals and Sea Turtles for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 Code of Federal Regulations (CFR) Part 585 Subpart F (Marine Mammal and Sea Turtle Guidelines; BOEM 2019). In support of development of the Project, marine mammal and sea turtle resources will be assessed to comply with BOEM's site characterization requirements in 30 CFR § 585.626(3).

[REDACTED]

[REDACTED] It is important to recognize when characterizing marine wildlife that they are mobile species with occurrences that vary from year to year and from season to season. Typically, the waters associated with the Project Area are used by marine mammals and sea turtles for foraging, transiting, or migrating. The presence and/or absence of marine mammals and sea turtles within these waters can be affected by a variety of parameters, including water temperature, movements or availability of prey, and human presence or disturbance.

[REDACTED]

### 8.2.5.2 Mitigation Measures

- 
2. A description of proposed measures to minimize the impacts of sound on marine mammals and sea turtles during all phases of Project development. This should include, at a minimum:
- a. Anticipated pre- and post-construction survey techniques to establish an ecological baseline and changes to that baseline within the Project site;
  - b. Minimum size of exclusion zone intended to be monitored during geophysical surveys and construction;
  - c. Planned approaches to understanding marine mammal and sea turtle presence and absence within the development site exclusion zone during site assessment and construction (e.g., a combination of visual monitoring by protected species observers and passive acoustic monitoring, the use of night vision and infra-red cameras during nighttime activities, etc.);
  - d. Proposed temporal constraints on construction activities and geophysical surveys with noise levels that could cause injury or harassment in marine mammals (e.g., seasonal restrictions during periods of heightened vulnerability for priority species; commencing activities during daylight hours and good visibility conditions, dynamic adjustments following the detection of a marine mammal); and
- 

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

---

e. *Proposed equipment and technologies the Proposer would use to reduce the amount of sound at the source, if any.*

---

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

### 8.2.5.3 Ship Strike Reduction

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3. A description of how the Proposer will seek to minimize the risk of ship strikes through timing, speed restrictions, use of shipping lanes, and conformance to the National Oceanic and Atmospheric Administration guidance to avoid ship collision with whales (<https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales>).

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Ørsted recognizes the importance of minimizing the risk of ship strikes. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

### 8.2.6 Birds and Bats

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D.6 Offshore wind energy has the potential to adversely impact birds and bats during siting, construction, and operation. Impacts include direct mortality from collisions with wind turbines and other structures, habitat loss, displacement, and sensory disturbances from sound and light. Since offshore wind is a new industry in the Northwest Atlantic and all potential impacts are not known, it is critical that current use by birds and bats is well understood before construction and use and impacts continue to be monitored during and post- construction so that unexpected impacts can be mitigated for.

The Proposer must provide a description of how it will work to understand and minimize the Project's risk to birds and bats. At a minimum this should include:

1.A description of what is known about the proposed site in terms of bird and bat assemblages, temporal and spatial use of the site by key species, and which species the Proposer believes to be of greatest concern and why;

---

#### 8.2.6.1 Site Characterization

##### Birds

A large number of bird species occur in or potentially fly over the Lease Areas. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**Bats**

[REDACTED]

[REDACTED]

[REDACTED]

- 
2. *The planned approach that the Proposer will use to evaluate risks to birds and bats generally, and those of greatest concern specifically;*
  3. *Steps the Proposer will pursue to minimize risk to birds and bats (e.g., lighting); and*
  4. *Identification of technological approaches to assess impacts or any Proposals for other research or mitigations relating to birds or bats planned or under consideration at this time.*
- 

[REDACTED]

Ørsted anticipates that additional avian surveys may be conducted within New York State nearshore waters, [REDACTED], pending consultation with state and federal wildlife agencies. The results of these studies and consultations will be used to inform Project design and identification of appropriate mitigation and minimization measures.

[REDACTED]

Ørsted has also reviewed the studies [REDACTED], including published data of bat occurrences in offshore and nearshore, as well as the NYSERDA Offshore Wind Master Plan Birds and Bats Study. [REDACTED]

[REDACTED] Bat occurrence onshore is well-documented, [REDACTED]

[REDACTED] Ørsted expects surveys for bat species to be conducted for the onshore portions of the Project, if appropriate, pending consultation with federal and state wildlife agencies and in accordance with applicable permit requirements.

### 8.2.7 Fish, Invertebrates and Their Habitats

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*D.7 The principal potential risks of offshore wind energy development to fish, invertebrates and their habitats include possible changes to the seafloor and other habitats, increased sediment levels in the water column, noise and sensory disturbances, and direct harm to fish and invertebrate species from construction equipment, and foraging/spawning habitat loss. These changes could result in changes in predator/prey relationships, competition between species and changes to fish and invertebrate populations in and around the Project site.*

*The Proposer must provide a description of how it will work to understand and minimize the Project's risk to fish and invertebrates and their habitats. At a minimum this should include:*

- 1. A basic description of what is known about the proposed site in terms of fish and invertebrate assemblage, and temporal and spatial variations in fish, invertebrates, and their habitats at the proposed site. The use of collaborative monitoring models with the fishing community is encouraged to develop trusted baseline data;*
  - 2. Identification of fish and invertebrate species the Proposer believes to be of greatest concern and why;*
- 

A variety of studies of fish and invertebrate resources and their habitats have been funded or conducted by BOEM, NOAA, Rhode Island Coastal Resources Management Council, Rhode Island Division of Marine Fisheries, Connecticut Department of Energy and Environmental Protection, Massachusetts Division of Marine Fisheries, Massachusetts Office of Coastal Zone Management, NYSDEC, NYSERDA, and Ørsted in the waters of the Northeast related to offshore wind development, as described in Sections 6.1.1 and 6.1.2 of the Environmental Mitigation Plan. These studies, [REDACTED]

[REDACTED] identify the fish and invertebrate assemblages, as well as temporal and spatial variations in fish, invertebrates, and their habitats, present within the vicinity of the Project Area

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 
3. *The planned approach that the Proposer will use to evaluate risks and impacts to fish, invertebrates and their habitats generally, and the species or habitats of greatest concern specifically;*
  4. *Steps the Proposer will pursue to minimize risk to fish, invertebrates and their habitats (e.g., foundation type, scour protection, cable shielding for electromagnetic fields, construction windows, siltation/turbidity controls, use of dynamic-positioning vessels and jet plow embedment, port construction and dredging); and*
  5. *Any Proposals for other research or measures taken to reduce risk or impacts to fish, invertebrates or their habitats (e.g., ecosystem or habitat enhancements).*

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Ørsted's approach to evaluating risks and impacts to fish, invertebrates, and their habitats [REDACTED]

[REDACTED]

[REDACTED]

In addition to conducting surveys, Ørsted will consult with federal and state agencies and other stakeholders, [REDACTED] to build a baseline understanding of fisheries resources and to identify sensitive habitats and areas of particular concern in the Lease Areas and along the cable route.

The detailed table in Section 6.3 of the Environmental Mitigation Plan includes Ørsted's approach to potential impacts to fish, invertebrates, and their habitats, and proposed mitigation measures for each stage of the Project. [REDACTED]

---

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

### 8.2.8 Considerations for Subsea and Overland Cables

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*D.8 New York State has developed an Offshore Wind Cable Corridor Constraints Assessment (Assessment) to better understand the constraints of siting cables in New York State waters, at landfall, and along overland routes to existing points of interconnection. The potential environmental impacts of activities associated with subsea and overland cable routes should be identified.*

---

Ørsted reviewed and provided comment on the draft Offshore Wind Cable Corridor Constraints Assessment and considered the findings when conducting detailed cable routing for the Project. In developing the cable routing, Ørsted will seek to avoid, minimize, and mitigate impacts to sensitive habitats and will prioritize use of previously developed or disturbed areas, while also identifying a technically feasible route that considers cable burial requirements. [REDACTED]

[REDACTED]

### 8.2.9 Additional Considerations

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*D.9 The Proposer must outline any additional mitigation strategies not otherwise described herein that would improve the Plan and reduce impacts on the environment.*

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Please see Sections 4.3, 5.3, and 6.3 of the Environmental Mitigation Plan for proposed mitigation strategies addressing the potential environmental impacts from the Project. Mitigation strategies are site-specific, suited for the local environmental conditions, and dependent on Project design and anticipated impact. Additional mitigation strategies will be incorporated based on final coordination and consultation with regulatory agencies and stakeholders.

### 8.2.10 Project Decommissioning

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*D.10 The Proposer must describe how it will develop a decommissioning plan, including coordination with environmental stakeholders, and any elements of its contemplated decommissioning plan that can be identified at this stage. Proposals demonstrating thoughtful consideration of the full life cycle of offshore wind energy projects will be considered favorably.*

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[REDACTED]

In the decommissioning process, Ørsted's waste handling will focus on re-use or recycling, with disposal as the last option. [REDACTED]

[REDACTED]

[REDACTED] Ørsted will collaborate with regulatory authorities and stakeholders to better understand the effects and potential impacts associated with decommissioning prior to and during development of the Project-specific decommissioning plan.

Attachment 8.2-1

# Environmental Mitigation Plan



**Environmental Mitigation Plan**  
**for**  
**Long Island Wind**  
**Version [1.0]**

**Prepared pursuant to ORECRFP24-1**

with

**New York State Energy Research and Development Authority**

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**Orsted**  
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**September 9, 2024**





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## 1.2 OVERALL APPROACH TO INCORPORATING DATA AND STAKEHOLDER FEEDBACK

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*This section should describe how the Developer will use research, data, and stakeholder feedback to update the EMP and support decision-making throughout the life cycle of the project (preconstruction, surveys, site design, construction, operations, and decommissioning).*

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- Long Island Wind shall seek consultation and coordinate with relevant stakeholders.
- Long Island Wind shall review existing research and data and seek input from stakeholders regarding data gaps to inform decisions made throughout the Project life cycle.
- Long Island Wind shall review and seek input from stakeholders on proposed and conducted survey rationales and methodologies as well as design, construction and operation, and decommissioning plans for the Project.
- To the extent that the timeline allows, pre- and post-construction monitoring shall be designed in consultation with stakeholders to improve the understanding of impacts of offshore wind energy development and operations on wildlife.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]











[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



## 2.0 COMMUNICATIONS AND COLLABORATION APPROACH

### 2.1 OVERVIEW AND COMMUNICATION PLAN OBJECTIVES

*This section should provide an overview of the communication plan and objectives and its importance in environmental mitigation.*

- Long Island Wind shall seek methods and processes to allow for a two-way flow of information between key stakeholders and developers, specifically highlighting how Long Island Wind uses this feedback to inform their decision making.
- Long Island Wind shall provide updates to environmental stakeholders in an appropriate manner that would be easily accessed and widely distributed.

[Redacted text]

[Redacted text]

### 2.2 PROJECT ENVIRONMENTAL STAFF, RESPONSIBILITIES, AND CONTACT INFORMATION

*This section will provide information on project environmental staff, their role(s), and contact information. The list should provide stakeholders with an understanding of who should be called for a particular issue or question. It will also include links to the project website so readers know where to find additional information.*

**Table 2.1 Communications Officers and Contact Information**

[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]



[REDACTED]

## 2.4 PARTICIPATION IN STAKEHOLDER AND TECHNICAL WORKING GROUPS

### 2.4.1 Communication with E-TWG

---

*This should describe the communication and collaboration approach with members of the E-TWG and consultations.*

---

- Long Island Wind shall dedicate Project-specific technical resources to the E-TWG.
- To the extent practicable, Long Island Wind shall work with the E-TWG and shall attend E-TWG meetings and workshops.
- Long Island Wind shall identify specific individuals to serve at least one-year terms in the role of primary and secondary core members.

[REDACTED]

[REDACTED]

[REDACTED]

### 2.4.2 Communication with Other New York State Agencies

---

*This should describe communication with New York State agencies during each phase of the project.*

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

### 2.4.3 Communication with Other Stakeholder and Working Groups

---

*This should describe any relevant participation with other stakeholder groups that would help inform the EMP.*

- Long Island Wind shall seek to collaborate with other regulatory agencies and stakeholder groups and participate in such collaborative efforts (e.g., E-TWG, F-TWG, New York State Maritime Technical Working Group [M-TWG], ROSA, RWSC, etc.).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## 2.4.4 Communication and Collaboration with Other Developers

*This should describe any relevant participation and collaboration with other developers in the offshore space, with a focus on communication and collaboration with adjacent leaseholders. This may include but is not limited to shared research efforts, coordination of survey methods, or standardization of navigational and safety protocols.*

- Long Island Wind shall seek to maximize the impact of research efforts such as data collection, methodology, analysis, and dissemination by collaborating with other developers, particularly those in adjacent lease areas, taking on similar initiatives.

[REDACTED]

[REDACTED]

## 2.5 COMMUNICATION METHODS AND TOOLS BY PHASE

### 2.5.1 Methods by Phase

*This section should describe the communication and outreach methods and tools that will be employed for each stakeholder group during each phase of the project.*

- Long Island Wind will continually refine its Stakeholder Engagement Plan during each phase of the Project, subject to applicable permitting requirements.

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

### 3.0 SUPPORTING OTHER RESEARCH

#### 3.1 SUPPORT OF COLLABORATIVE RESEARCH

---

*This section should describe how opportunities for developing or investing in collaborative research with the environmental community to collect ecological data will be identified and undertaken. The description must account for the need to coordinate with members of the E-TWG during data gathering and assessment.*

---

- Long Island Wind will commit to being an active member of regional science organizations (e.g., RWSC, ROSA).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

### 3.4 PROPOSED RESTRICTIONS

---

*This section should describe any restrictions on data provision or access that may be required to protect trade secrets or maintain site security.*

- Long Island Wind shall seek to explain why identified data types are considered commercially sensitive.

[REDACTED]

### 3.5 FINANCIAL COMMITMENT FOR THIRD-PARTY RESEARCH

---

*This section should provide a level of financial commitment, if elected, that will be appropriated to leverage third-party environmental research funding, including federal or State-supported research. These financial commitments are outside those identified in Section 2.2.7 of the RFP and beyond those identified to fulfill state and federal regulatory permitting requirements.*

[REDACTED]

[REDACTED]





[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## 4.0 PROPOSED MITIGATION OF IMPACTS TO MARINE MAMMALS AND SEA TURTLES

### 4.1 BASELINE CHARACTERIZATION

#### 4.1.1 Available Information

---

*Describe existing key literature and datasets that are available for baseline characterization.*

---

- Studies will be available to assess the baseline characteristics for marine mammals and sea turtles potentially occurring within the Project Area. Such studies include, but are not limited to, the following documents.
- NYSERDA and/or NYSDEC studies on marine wildlife and whales:
  - NYSDEC. 2015. List of Endangered, Threatened and Special Concern Fish & Wildlife Species of New York State.
    - <https://www.dec.ny.gov/animals/7494.html>
  - NYSDEC 2024 Current and Proposed Status of All Species on Proposed List
    - [https://www.dec.ny.gov/docs/wildlife\\_pdf/masterlistpropreg.pdf](https://www.dec.ny.gov/docs/wildlife_pdf/masterlistpropreg.pdf)
  - NYSDEC 2017 New York Ocean Action Plan (OAP) 2017-2027
    - [https://www.dec.ny.gov/docs/fish\\_marine\\_pdf/nyoceanactionplan.pdf](https://www.dec.ny.gov/docs/fish_marine_pdf/nyoceanactionplan.pdf)
  - NYSDEC 2018 Summary Report of the New York Bight Sea Turtle Workshop
    - [https://www.dec.ny.gov/docs/fish\\_marine\\_pdf/dmrturtlereport.pdf](https://www.dec.ny.gov/docs/fish_marine_pdf/dmrturtlereport.pdf)
  - NYSDEC 2024 Seagrass Management.
    - <https://www.dec.ny.gov/lands/110813.html>
  - NYSDEC Whale Monitoring Program Final Comprehensive Report for Aerial Surveys Conducted 2017-2020 (Tetra Tech and LGL 2020)
    - [https://www.dec.ny.gov/docs/fish\\_marine\\_pdf/mmaeran3.pdf](https://www.dec.ny.gov/docs/fish_marine_pdf/mmaeran3.pdf)
  - NYSERDA. 2023-2024. Offshore Wind Master Plan 2.0.
    - <https://www.nyserdera.ny.gov/All-Programs/Offshore-Wind/About-Offshore-Wind/Master-Plan>
  - New York Bight Whale Monitoring Program Aerial Survey (NYSDEC 2017 - 2020)
    - <https://dec.ny.gov/nature/waterbodies/oceans-estuaries/bight-whale-monitoring-program/aerial-survey>
  - Normandeau and APEM. 2021b. Digital Aerial Baseline Survey of Marine Wildlife in Support of Offshore Wind Energy. 2016 – Spring 2019 Final Report.

- 21-07a\_Digital\_Aerial\_Baseline\_Survey\_of\_Marine\_Wildlife\_in\_Support\_of\_Offshore\_Wind\_Energy.pdf (normandeau.com)  
/docs/NYSERDA\_Summer\_2018\_Taxonomic\_Analysis\_Summary\_Report.pdf
- BOEM studies on whales, sea turtles, and marine species:
  - BOEM. 2013. Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore Rhode Island and Massachusetts, Revised Environmental Assessment. Office of Renewable Energy Programs. OCSEIS/EA. BOEM 2013-1131.
  - BOEM. 2014. Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore Massachusetts, Revised Environmental Assessment. OCS EIS/EA, BOEM 2014-603.
  - BOEM. 2018. Summary Report: Best Management Practices Workshop for Atlantic Offshore Wind Facilities and Marine Protected Species (2017). Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management, Atlantic OCS Region, Washington, D.C. OCS Study BOEM 2018-015.
    - <https://www.boem.gov/sites/default/files/renewable-energy-program/Final-Summary-Report-for-BMP-Workshop-BOEM-2018-015-%281%29.pdf>
  - BOEM. 2019. Guidelines for Providing Information on Marine Mammals and Sea Turtles for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585.
    - <https://www.boem.gov/sites/default/files/renewable-energy-program/Regulatory-Information/BOEM-Marine-Mammals-and-Sea-Turtles-Guidelines.pdf>.
  - BOEM. 2019. Vineyard Wind Offshore Wind Energy Project Biological Assessment. December 2018 (Revised March 2019) For the National Marine Fisheries Service.
    - <https://www.boem.gov/sites/default/files/documents//Revised%20Biological%20Assessment%20Submitted%20to%20the%20U.S.%20Fish%20and%20Wildlife%20Service.pdf>
  - BOEM. 2020. National Marine Fisheries Service Endangered Species Act Section 7 Consultation Biological Opinion. Construction, Operation, Maintenance and Decommissioning of the Vineyard Wind Offshore Energy Project (Lease OCS-A 0501) GARFO-2019-00343.
    - <https://www.boem.gov/sites/default/files/documents/renewable-energy/Final%20Biological%20Opinion%20from%20NOAA%20Fisheries.pdf>
  - BOEM. 2020. Vineyard Wind 1 Offshore Wind Energy Project Final Environmental Impact Statement.
    - Vineyard Wind 1 Offshore Wind Energy Project Final EIS (boem.gov)
  - BOEM. 2022. South Fork Wind Farm and South Fork Export Cable Project Final Environmental Impact Statement.

- South Fork Wind Farm and South Fork Export Cable Project Final Environmental Impact Statement (boem.gov)
- BOEM. 2022. Revolution Wind Farm and Revolution Wind Export Cable Project Final Environmental Impact Statement
  - Revolution Wind Final Environmental Impact Statement (boem.gov)
- BOEM 2024. Final Environmental Impact Assessment for the Sunrise Wind Project
  - Sunrise Wind Environmental Impact Statement (boem.gov)
- BOEM 2022. Sunrise Wind Project Biological Assessment, December 2022. For the National Marine Fisheries Service
- Sunrise Wind Farm and Sunrise Wind Export Cable – Development and Operation (boem.gov) BOEM. 2022. Empire Offshore Wind, Empire Wind Projects (EW 1 and EW 2) Final Environmental Impact Statement
  - <https://www.boem.gov/renewable-energy/state-activities/empire-wind-final-eis>
- BOEM. 2021. Megafauna Aerial Surveys in the Wind Energy Areas of Massachusetts and Rhode Island with Emphasis on Large Whales: Final Report Campaign 7, 2022.
  - [https://tethys.pnnl.gov/sites/default/files/publications/BOEM\\_2023.pdf](https://tethys.pnnl.gov/sites/default/files/publications/BOEM_2023.pdf)
- NOAA studies on marine mammals and marine turtles:
  - NOAA Fisheries 2024 Atlantic Marine Assessment Program for Protected Species (AMAPPS)– Annual Reports
    - <https://www.fisheries.noaa.gov/resource/publication-database/atlantic-marine-assessment-program-protected-species-annual-reports>
  - NOAA Fisheries. 2022. Office of Protected Resources, Marine Mammal Stock Assessment Reports. (SARs) by Species/Stock
    - <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock>
  - NOAA Fisheries. 2022. The Greater Atlantic Region ESA Section 7 Mapper.
    - <https://www.fisheries.noaa.gov/resource/map/greater-atlantic-region-esa-section-7-mapper>
  - NOAA Fisheries Marine Mammal Unusual Mortality Events
    - <https://www.fisheries.noaa.gov/national/marine-life-distress/active-and-closed-unusual-mortality-events>
  - NOAA Fisheries. n.d.[a]. ESA Threatened and Endangered Species Directory.
    - <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>
- Published Literature

- Baumgartner, M. F., Bonnell, J., Van Parijs, S. M., Corkeron, P.J., Hotchkin, C., Ball, K., Pelletier, L-P., Partan, J., Peters, D., Kemp, J., Pietro, J., Newhall, K., Stokes, A., Cole, T. V. N., Quintana, E., and Kraus, S. D. 2019. Persistent near real-time passive acoustic monitoring for baleen whales from a moored buoy: system description and evaluation. *Methods in Ecology and Evolution*.
  - <https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/2041-210X.13244>
- Baumgartner, M. F., Bonnell, J., Corkeron, P. J., Van Parijs, S. M., Hotchkin, C, Hodges, B. A., Bort Thornton, J., Mensi, B. L., and Bruner, S. M. 2020. Slocum gliders provide accurate near real-time estimates of baleen whale presence from human-reviewed passive acoustic detection information. *Frontiers in Marine Science* 7:100.
  - <https://www.frontiersin.org/articles/10.3389/fmars.2020.00100/full>
- Bellmann, M. A., Brinkmann J., May A., Wendt T., Gerlach S. and Remmers, P. 2020. Underwater noise during the impulse pile-driving procedure: Influencing factors on pile-driving noise and technical possibilities to comply with noise mitigation values. Supported by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit (BMU)), FKZ UM16 881500. Commissioned and managed by the Federal Maritime and Hydrographic Agency (Bundesamt für Seeschifffahrt und Hydrographie (BSH)), Order No. 10036866. Edited by the itap GmbH.
- Cetacean and Turtle Assessment Program (CETAP). 1982. A characterization of marine mammals and turtles in the mid- and north Atlantic areas of the U.S. outer continental shelf. Cetacean and Turtle Assessment Program, University of Rhode Island. Final Report #AA551-CT8-48 to the Bureau of Land Management, Washington, DC, 538 pp.
- Curtice C., Cleary J., Shumchenia E., and Halpin, P.N. 2019. Marine-life Data and Analysis Team (MDAT) technical report on the methods and development of marine-life data to support regional ocean planning and management. Prepared on behalf of the Marine-life Data and Analysis Team (MDAT).
  - <http://seamap.env.duke.edu/models/mdat/MDAT-Technical-Report.pdf>
- Kraus, S.D., S. Leiter, K. Stone, B. Wikgren, C. Mayo, P. Hughes, R.D. Kenney, C.W. Clark, A. N. Rice, B. Estabrook, and J. Tielens. 2016. Northeast Large Pelagic Survey Collaborative Aerial and Acoustic Surveys for Large Whales and Sea Turtles. U.S. Department of the Interior, Bureau of Ocean Energy Management, Sterling, Virginia. OCS Study BOEM 2016-054. 117 pp. + appendices.
  - <https://www.boem.gov/RI-MA-Whales-Turtles/>
- Kraus, S.D., R.D. Kennet, and L. Thomas. 2019. A Framework for Studying the Effects of Offshore Wind Development on Marine Mammals and Turtles. Report prepared for the Massachusetts Clean Energy Center, Boston, MA 02110, and the Bureau of Ocean Energy Management.

- <https://www.boem.gov/sites/default/files/environmental-stewardship/Environmental-Studies/Renewable-Energy/A-Framework-for-Studying-the-Effects.pdf>
- Halpin, P.N., Read, A.J., Fujioka, E., Best., B.D., Donnelly, B., Hazen, L.J., Kot, C., Urian, K., LaBrecque, E., Dimatteo, A., Cleary, J., Good, C., Crowder, L.B., and Hyrenbach, K.D. 2009. OBIS-SEAMAP: The World Data Center for Marine Mammal, Sea Bird, and Sea Turtle Distributions. *Oceanography* 22(2):104–115, doi:10.5670/oceanog.2009.42.
  - [http://www.tos.org/oceanography/assets/docs/22-2\\_halpin.pdf](http://www.tos.org/oceanography/assets/docs/22-2_halpin.pdf)
- Roberts, J. J., Best, B. D., Mannocci, L., Fujioka, E., Halpin, P. N., Palka, D. L., Garrison, L.P., Mullin, K. D., Cole, T. V. N., Khan, C. B., McLellan, W. A., Pabst, A., and Lockhart, G.G. 2016a. Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico. *Scientific Reports* 6, 22615 (2016).
  - <https://www.nature.com/articles/srep22615>
- Roberts J.J., L. Mannocci, and P.N. Halpin. 2016b. Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2015-2016 (Base Year). Document version 1.0. Report prepared for Naval Facilities Engineering Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC.
- Roberts J.J., Mannocci L, Halpin P.N. 2017. Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2016-2017 (Opt. Year 1). Document version 1.4. Report prepared for Naval Facilities Engineering Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC.
  - [https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/April%202019/Duke%20Model%20Information/aftt\\_update\\_2016\\_2017\\_final\\_report\\_v1.4\\_excerpt.pdf](https://www.greateratlantic.fisheries.noaa.gov/protected/whaletrp/trt/meetings/April%202019/Duke%20Model%20Information/aftt_update_2016_2017_final_report_v1.4_excerpt.pdf)
- Roberts J.J., L. Mannocci, R.S. Schick, and P.N. Halpin. 2018. Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2017-2018 (Opt. Year 2). Document version 1.2. Report prepared for Naval Facilities Engineering Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC.
  - [http://seamap.env.duke.edu/resources/dsm/references/USECGOM/AFTT\\_Update\\_2017\\_2018\\_Final\\_Report\\_v1.2\\_excerpt.pdf](http://seamap.env.duke.edu/resources/dsm/references/USECGOM/AFTT_Update_2017_2018_Final_Report_v1.2_excerpt.pdf)
- Roberts, J.J., R.S. Schick, and P.N. Halpin. 2020. Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2018-2020 (Opt. Year 3). Document Version 1.4. Report prepared for Naval Facilities Engineering command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC.
  - [https://seamap.env.duke.edu/seamap-models-files/Duke/Reports/AFTT\\_Update\\_2018\\_2020\\_Final\\_Report\\_v1.4.pdf](https://seamap.env.duke.edu/seamap-models-files/Duke/Reports/AFTT_Update_2018_2020_Final_Report_v1.4.pdf)

- Roberts JJ, Yack TM, Halpin PN (2023) Marine mammal density models for the U.S. Navy Atlantic Fleet Training and Testing (AFTT) study area for the Phase IV Navy Marine Species Density Database (NMSDD). Document version 1.3. Report prepared for Naval Facilities Engineering Systems Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, North Carolina
  - AFTT\_Marine\_Mammal\_Density\_Models\_2022\_v1.3.pdf (duke.edu)
- Kowarski, K.A., Martin, S.B., Maxner, E.E., Lawrence, C.B., Delarue, J.-Y. and Miksis-Olds, J.L. 2023. Cetacean acoustic occurrence on the US Atlantic Outer Continental Shelf from 2017-2020. *Marine Mammal Science* 2023; 39:175-199
  - Cetacean acoustic occurrence on the US Atlantic Outer Continental Shelf from 2017 to 2020 (wiley.com)
- Other state and regional studies on marine mammals and sea turtles:
  - Coastal Research and Education Society of Long Island, Inc. (CRESLI). 2020. CRESLI Seal Research.
    - [https://www.cresli.org/common/news/articles/article\\_detail.cfm?QID=10936&clientID=12000&topicID=0&subsection=sidebar%20/](https://www.cresli.org/common/news/articles/article_detail.cfm?QID=10936&clientID=12000&topicID=0&subsection=sidebar%20/).
  - Kenney R.D. and K.J. Vigness-Raposa. 2010. Marine Mammals and Sea Turtles of Narragansett Bay, Block Island Sound, Rhode Island Sound, and Nearby Waters: An Analysis of Existing Data for the Rhode Island Ocean Special Area Management Plan. University of Rhode Island. Ocean Special Area Management Plan Technical Report #10. pp 337.
  - Sighting, stranding, and entanglement information from the Atlantic Marine Conservation Society, Center for Coastal Studies (CFCS), and CRESLI
  - Online data portals and mapping databases such as the Northeast Ocean Portal, Marine Cadastre, the Northeast Regional Habitat Assessment Data Explorer, the Ocean Biodiversity Information System Spatial Ecological Analysis of Megavertebrate Populations (OBIS-SEAMAP), and the Mid-Atlantic Ocean Data Portal.
    - <https://www.northeastoceandata.org/>
    - <https://marinecadastre.gov/>
    - [https://nrha.shinyapps.io/dataexplorer/\\_w\\_84eaba0c/#/](https://nrha.shinyapps.io/dataexplorer/_w_84eaba0c/#/)
    - <https://seamap.env.duke.edu/>
    - <https://portal.midatlanticocean.org/>
    - AMAPPS Mammal Mammal Model Viewer 2021 (noaa.gov)
- North Atlantic Right Whale resource including Seasonal Management Areas, Right Whale Slow Zones, Dynamic Management Areas, and the Whale Alert application
  - <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales>



- Special Area Management Plan Technical Report #10. pp 337. Long Island Wind will comply with BOEM's site characterization requirements in 30 CFR § 585.626(3).

#### 4.1.2 Data Being Collected

---

*Describe data collected, or will be collected, to support baseline characterization.*

---

- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]

#### 4.2 SPECIES AT RISK

---

*Describe which species the Developer believes to be of greatest concern and why.*

---

- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]
- █ [REDACTED]



### 4.3 POTENTIAL IMPACTS AND MITIGATION MEASURES BY PHASE

The table below should list the potential impacts to marine mammals and sea turtles and proposed mitigation measures. To this end, a description of proposed measures to minimize the impacts of sound on marine mammals and sea turtles during all phases to Project development should be included. In addition, provide a description of the anticipated pre- and post-construction survey techniques to establish an ecological baseline and changes to that baseline within the Project site; the minimum size of exclusion zone intended to be monitored during geophysical surveys and construction; planned approaches to understanding marine mammal and sea turtle presence and absence within development site exclusion zone during site assessment and construction (e.g., a combination of visual monitoring by protected species observers and passive acoustic monitoring, the use of night vision and infra-red cameras during nighttime activities, etc.); proposed temporal constraints on construction activities and geophysical surveys with noise levels that could cause injury to harassment in marine mammals (e.g., seasonal restrictions during periods of heightened vulnerability for priority species; commencing activities during daylight hours and good visibility conditions, dynamic adjustments following the detection of a marine mammal); and proposed equipment and technologies the Developer would use to reduce the amount of sound at the source, if any.

**Table 4.1 Potential Impacts to Marine Mammals and Sea Turtles and Proposed Mitigation Measures**

Potential Impacts	Proposed Mitigation Measures <sup>1</sup>	Phase*			
		1	2	3	4
Underwater noise impacts from geophysical survey equipment	[Redacted]	x	x	x	
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				
	[Redacted]				





Potential Impacts	Proposed Mitigation Measures <sup>1</sup>	Phase*			
		1	2	3	4
	[REDACTED]				
Electric and magnetic fields (EMF), resulting in potential disturbance to marine mammals/sea turtles and/or their prey resource	[REDACTED]	x	x	x	x
Accidental release of waste	[REDACTED]	x	x	x	x

[REDACTED]

\*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommissioning

### 4.4 MONITOR FOR POTENTIAL IMPACTS DURING EACH PHASE

Describe how potential impacts will be monitored on marine mammals and sea turtles during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects.

- Long Island Wind shall seek to collaborate with other regulatory agencies and stakeholder groups to identify research needs and opportunities.

[REDACTED]

[REDACTED]

#### 4.4.1 Assess and Quantify Changes

---

*Describe how changes to environmental resources will be quantified using statistically sound methods.*

---

- Ideally, specific questions and focal taxa shall be chosen for the Project either based on site-specific fisheries risk assessment, or in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species such as marine mammals and sea turtles.
- Monitoring will, to the extent practicable, use appropriate study designs and methodologies to effectively analyze risk prior to construction and evaluate impacts during construction and operation by testing hypotheses and helping to assure statistical power for meaningful data analysis.
- Outside expertise will, if practicable, be consulted during study design and data analysis processes.

[REDACTED]

[REDACTED]

[REDACTED]

#### 4.4.2 Address Data Gaps

---

*Describe how data gaps will be addressed.*

---

- Long Island Wind will work with stakeholders, including regulatory agencies and local groups, in the design phase of the Project to identify data gaps to be addressed through surveys or permitting applications.

[REDACTED]

## 4.5 STRATEGIES FOR DEVELOPING ALTERNATE PROTOCOLS

---

*Describe the process for determining when mitigation strategies are insufficient and under what conditions they might elect to rehabilitate or restore impacted marine mammals and sea turtles in an alternative location.*

---

- As necessary, Long Island Wind shall explore developing alternative mitigation strategies in consultation with the E-TWG, regulatory agencies and relevant stakeholders.

[REDACTED]

[REDACTED]

[REDACTED]



## 5.0 PROPOSED MITIGATION OF IMPACTS TO BIRDS AND BATS

### 5.1 BASELINE CHARACTERIZATION

---

*Describe how baseline data will be established on the presence of bird and bat assemblages, temporal and spatial use of the site by key species within the area of the proposed Project.*

---

#### 5.1.1 Available Information

---

*Describe key existing literature and datasets that are available for baseline characterization.*

---

- Studies are available to assess the baseline characteristics for birds and bats potentially occurring within the Project Area. Such studies include, but are not limited to, the following documents.
- NYSERDA and/or NYSDEC studies on marine wildlife and birds and bats:
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - [REDACTED]
  - NYSERDA. 2017. New York State Offshore Wind Master Plan: Birds and Bats Study. NYSERDA Report 17-25q.
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## 5.2 SPECIES AT RISK

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*Describe which species the Developer believes to be of greatest concern and why.*

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### 5.4.2 Address Data Gaps

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*Describe how data gaps will be addressed.*

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## 5.5 STRATEGIES FOR DEVELOPING ALTERNATE PROTOCOLS

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*Describe the process for determining when mitigation strategies are insufficient and under what conditions they might elect to rehabilitate or restore impacted birds and bats in an alternative location.*

- As necessary, Long Island Wind will explore developing alternative mitigation strategies in consultation with the E-TWG, regulatory agencies and relevant stakeholders.

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## 6.0 PROPOSED MITIGATION OF IMPACTS TO FISH, INVERTEBRATES, AND THEIR HABITATS

### 6.1 BASELINE CHARACTERIZATION

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*Describe what is known about the proposed site in terms fish and invertebrate assemblage, and temporal and spatial variations in fish, invertebrates, and their habitats at the proposed site. The use of collaborative monitoring models with the fishing community is encouraged to develop trusted baseline data.*

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#### 6.1.1 Available Information

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*Describe key existing literature and datasets that are available for baseline characterization.*

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- Studies are available to assess the baseline characteristics for fish, invertebrates and their habitats occurring within the Project Area. Such studies include, but are not limited to, the following documents.
- NYSERDA and/or NYSDEC studies on marine wildlife:
  - NYSERDA. 2017a. New York State Offshore Wind Master Plan: Fish and Fisheries Study. NYSERDA Report 17-25q.
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  - Collie, J.S. and J.W. King. 2016. Spatial and Temporal Distributions of Lobsters and Crabs in the Rhode Island Massachusetts Wind Energy Area. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Atlantic OCS Region, Sterling, Virginia. OCS Study BOEM 2016-073.
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  - <https://marinecadastre.gov/>

- [https://nrha.shinyapps.io/dataexplorer/\\_w\\_84eaba0c/#!](https://nrha.shinyapps.io/dataexplorer/_w_84eaba0c/#!)
- <https://portal.midatlanticocean.org/>
- <https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development>
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    - [https://www.habitat.noaa.gov/application/efhinventory/docs/a10\\_hms\\_efh.pdf](https://www.habitat.noaa.gov/application/efhinventory/docs/a10_hms_efh.pdf)
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## 6.2 SPECIES AT RISK

*Describe which species the Developer believes to be of greatest concern and why.*

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### 6.3 POTENTIAL IMPACTS/RISKS AND MITIGATION MEASURES BY PROJECT STAGE

The table below should list the potential impacts to fish, invertebrates, and their habitats and proposed mitigation measures. To this end, this section should describe how the Developers will minimize risk to fish, invertebrates, and their habitats (e. g., foundation type, scour protection, cable shielding for electromagnetic fields, construction windows, siltation/turbidity controls, use of dynamic-positioning vessels and jet plow embedment).

**Table 6.1 Potential Impacts to Fish, Invertebrates, and Their Habitats and Proposed Mitigation Measures**

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
Micro-siting conflicts with habitats and fishery resources	[REDACTED]	x			
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
Temporary, alteration of the seabed and localized increases in noise and turbidity	[REDACTED]	x	x	x	x
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				
	[REDACTED]				

Potential Impacts	Proposed Mitigation Measures	Phase*			
		1	2	3	4
	[REDACTED]				
Long-term changes to seabed and habitat	[REDACTED]	X	X	X	X
EMF impacts	[REDACTED]		X	X	
Cable burial	[REDACTED]		X	X	
Turbine scour protection	[REDACTED]		X	X	

[REDACTED]

\*Phase: 1: Survey/Design; 2: Construction; 3: Operation; 4: Decommission

## 6.4 MONITOR FOR IMPACTS DURING EACH PHASE

Describe how potential impacts will be monitored on these types of fish and invertebrates during each phase of physical work for the Project (site assessment, construction, operation, and decommissioning) to inform mitigation planning for later phases of the Project as well as for future Projects.

### 6.4.1 Pre/Post Monitoring to Assess and Quantify Changes

Describe how changes to environmental resources will be quantified using statistically sound methods.

- Ideally, specific questions and focal taxa shall be chosen for the Project either based on site-specific fisheries risk assessment, or in relation to broader regional efforts to assess variation between sites and understand cumulative impacts for sensitive species.
- Monitoring will, to the extent practicable, use appropriate study designs and methodologies to effectively analyze risk prior to construction and evaluate impacts during construction and

operation by testing hypotheses and helping to assure statistical power for meaningful data analysis.

- Outside expertise will, if practicable, be consulted during study design and data analysis processes.
- Long Island Wind shall seek to collaborate with other regulatory agencies and stakeholder groups to identify research needs and opportunities.

█ [REDACTED]

█ [REDACTED]

█ [REDACTED]

█ [REDACTED]

### 6.4.2 Addressing Data Gaps

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*Describe how data gaps will be addressed.*

- Long Island Wind shall seek to work with stakeholders, including regulatory agencies, to identify data gaps to be addressed through surveys or permitting applications.

█ [REDACTED]

█ [REDACTED]

█ [REDACTED]

### 6.5 STRATEGIES FOR DEVELOPING ALTERNATE PROPOSALS

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*Describe the process for determining when mitigation strategies are insufficient and under what conditions they might elect to rehabilitate or restore impacted fisheries in an alternative location or when the provision of compensation of some form may be appropriate.*

- As necessary, Long Island Wind shall explore developing alternative mitigation strategies in consultation with the E-TWG, regulatory agencies, and relevant stakeholders.

█ [REDACTED]



## 7.0 CONSIDERATIONS FOR SUBSEA AND OVERLAND CABLES

### 7.1 MITIGATION STRATEGIES FOR SUBSEA AND OVERLAND CABLES

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*This section should describe any additional environmental mitigation strategies for proposed subsea and overland cable routes that support the offshore wind project.*

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- [REDACTED]
- [REDACTED]
- [REDACTED]

## 8.0 ADDITIONAL CONSIDERATIONS

### 8.1 ADDITIONAL MITIGATION STRATEGIES AND EMP REFINEMENT

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*This section should describe any additional mitigation strategies not otherwise described herein that would improve the Plan and reduce impacts on wildlife. In addition, describe how the EMP will be updated and refined based on additional information and stakeholder feedback.*

- Long Island Wind will support collaborative research on potential mitigation strategies and best management practices, with other developers, agencies, and stakeholders.

█ [REDACTED]

### 8.2 PROCESS FOR UPDATING THE EMP

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*This section should describe how feedback from environmental stakeholders, E-TWG, and other agencies and working groups will be incorporated and updated in the EMP.*

- Long Island Wind will continuously evaluate and evolve this EMP so that all the components of the EMP are complete and sufficient.
- Long Island Wind expects that additional guidance and information will become available throughout the planning and regulatory process and as such will continue to consider its relevance to the EMP at the appropriate intervals.
- Updates to the EMP are intended to reflect the results of iterative exchanges with members of the E-TWG, F-TWG, and relevant stakeholders.
- Long Island Wind shall update the EMP in a timely manner that reflects changes made based on key regulatory Project deliverable dates.

█ [REDACTED]

█ [REDACTED]

█ [REDACTED]

## 9.0 PROJECT DECOMMISSIONING

### 9.1 POTENTIAL IMPACTS ON MARINE WILDLIFE, BIRDS, BATS, AND FISHERIES

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*This section should describe potential impacts to marine mammals, sea turtles, birds, bats, and fisheries and habitats from decommissioning the project, based on available information and relevant experience (if any).*

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- In March 2017, Ørsted became the first developer to decommission an offshore wind project, the Vindeby Offshore Wind Farm near Lolland, Denmark (Vindeby Project).

█ [REDACTED]

- Long Island Wind shall collaborate with regulatory authorities and key environmental stakeholder groups to better understand the effects and potential impacts associated with decommissioning.
- Long Island Wind's waste handling processes during decommissioning shall focus on re-use or recycling, with disposal as the last option.

### 9.2 APPROACH FOR DECOMMISSIONING PLAN AND COORDINATION WITH STAKEHOLDERS

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*This section should describe how a decommissioning plan will be developed to identify and mitigate potential impacts, including coordination with stakeholders, and any elements of its contemplated decommissioning plan that can be identified at this stage.*

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- Long Island Wind shall decommission the Project in accordance with all necessary laws and regulations and generate a detailed Project-specific decommissioning plan.
- Long Island Wind shall seek input on the detailed Project-specific decommissioning plan from regulatory agencies, fisheries and marine stakeholders, and local communities.
- Long Island Wind shall use “lessons learned” from the construction and operations activities and apply them when appropriate to the decommissioning plan.

█ [REDACTED]

█ [REDACTED]