

# Environmental Mitigation Plan Public



This Plan contains proprietary, and/or commercially sensitive information of Bay State Wind LLC (d/b/a Sunrise Wind 2) which has been redacted from the "Public Version" of this Proposal. This Plan should be treated as a non-public record that is exempt from disclosure to the extent permitted under applicable laws and/or as expressly set forth in the Request for Proposals.

# **Environmental Mitigation Plan**

**for**

## **Sunrise Wind 2**

**Version [1.0]**

**Prepared pursuant to ORECRFP22-1**

with

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

Albany, NY

**Prepared by**

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**Sunrise  
Wind 2**

Powered by  
Ørsted &  
Eversource

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## 1.0 ENVIRONMENTAL MITIGATION PLAN SUMMARY

### 1.1 OVERALL PHILOSOPHY AND PRINCIPLES

---

*This section should describe the overall philosophy and principles the Developer will follow to avoid, minimize, restore, and off-set potential environmental impacts.*

---

- At Ørsted, we have a vision of a world that runs entirely on green energy. As one of the world's largest green energy developers, sustainability is deeply rooted in what we do and who we are as a company. As part of our overall philosophy, we have built our sustainability targets around the UN's Sustainable Development Goals and assisted with writing the UN Sustainable Ocean Global Principles. Our annual Sustainability report can be found here - <https://orsted.com/sustainability/esg-ratings-and-reporting/sustainability-report/we-can-make-green-energy-a-force-for-positive-change>
- All energy infrastructure is built in a unique environment where we aim to do our utmost to protect the natural ecosystems. It is central that we manage environmental impacts on these ecosystems well to acquire permission to build wind farms. In 2018, we adopted a new offshore wind biodiversity policy, and in 2021, we set an ambition to deliver a net-positive biodiversity impact from all new renewable energy projects commissioned from 2030 at the latest - <https://orsted.com/en/media/newsroom/news/2021/06/697759855099726>.
- Ørsted's net-positive biodiversity ambition aims to address both the climate and biodiversity crisis through a sustainable build-out of green energy at scale including protection of natural habitats and wildlife.

• [REDACTED]

• [REDACTED]

• [REDACTED]

• [REDACTED]

• [REDACTED]



## 1.2 OVERALL APPROACH TO INCORPORATING DATA AND STAKEHOLDER FEEDBACK

---

*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).*

---

- Sunrise Wind 2 shall seek consultation and coordinate with relevant stakeholders.
- Sunrise Wind 2 shall review existing research and data and seek input from stakeholders regarding data gaps to inform decisions made throughout the Project life cycle.
- Sunrise Wind 2 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 to improve the understanding of impacts of offshore wind energy development and operations on wildlife.

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]



### 1.3 EXISTING GUIDANCE AND BEST PRACTICES THAT WILL BE FOLLOWED

---

*This section should present a list of existing guidance documents, publications, tools, and/or plans that will be followed to support the EMP. Include links, if available, for all references.*

---

- [REDACTED]

[REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]





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- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
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- [REDACTED]
- [REDACTED]
- [REDACTED]
- [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.*

---

- Sunrise Wind 2 shall seek methods and processes to allow for a two-way flow of information between key stakeholders and developers, specifically highlighting how Sunrise Wind 2 uses this feedback to inform their decision making.
- Sunrise Wind 2 shall provide updates to environmental stakeholders in an appropriate manner that would be easily accessed and widely distributed.

- [REDACTED]

- [REDACTED]

## **2.2 COMMUNICATION OFFICERS/POSITIONS, RESPONSIBILITIES, AND CONTACT INFORMATION**

*This section will provide a list of communication officers, their role, and name 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**

| Project    | Role/Responsibility | Contact Information |
|------------|---------------------|---------------------|
| [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]          |



| Project    | Role/Responsibility | Contact Information |
|------------|---------------------|---------------------|
| [REDACTED] | [REDACTED]          | [REDACTED]          |
| [REDACTED] | [REDACTED]          | [REDACTED]          |

### 2.3 IDENTIFICATION OF STAKEHOLDERS

*This section should describe the process by which stakeholders relevant to environmental issues will be identified and classified by stakeholder group.*

- [REDACTED]
- [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.*

---

- Sunrise Wind 2 shall dedicate Project-specific technical resources to the E-TWG.
- To the extent practicable, Sunrise Wind 2 shall work with the E-TWG and shall attend E-TWG meetings and workshops.
- Sunrise Wind 2 shall identify specific individuals to serve at least one-year terms in the role of primary and secondary core members.

• [REDACTED]

[REDACTED]

[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.*

---

- Sunrise Wind 2 shall seek to collaborate with other regulatory agencies and stakeholder groups and consider memberships and participation in such collaborative efforts (e.g., E-TWG, F-TWG, ROSA, RWSC, etc.).

- [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.*

---

- Sunrise Wind 2 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]

## 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.*

- Sunrise Wind 2 will continually refine its Stakeholder Engagement Plan during each phase of the Project, subject to applicable permitting requirements.

**Table 2.2 Proposed Outreach Methods and Tools by Project Phase**

| Proposed Outreach Methods/Tools | Phase* |   |   |   |
|---------------------------------|--------|---|---|---|
|                                 | 1      | 2 | 3 | 4 |
| [REDACTED]                      | █      | █ | █ | █ |
| [REDACTED]                      | █      | █ | █ | █ |
| [REDACTED]                      | █      | █ | █ | █ |
| [REDACTED]                      | █      | █ | █ | █ |
| [REDACTED]                      | █      | █ | █ | █ |

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

### 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.*

---

- Sunrise Wind 2 shall commit to being an active member of regional science organizations (e.g., RWSC, ROSA).

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

#### 3.2 HANDLING/PROCESSING REQUESTS

---

*This section should describe how requests for coordination with third-party supported scientists will be processed - including providing reasonably-requested Project data and access to the Project area for independent scientists examining environmental sensitivities and/or the impacts of offshore wind energy development on the environment for the purpose of publication in peer-reviewed journals or other scientifically rigorous products.*

---

- [REDACTED]
- [REDACTED]

- [REDACTED]

### 3.3 DATA AVAILABILITY

---

*This section should describe how data will be made available in accordance with Section 2.2.8 of the RFP.*

---

- [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.*

---

- Sunrise Wind 2 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. Or, if elected, provide the level of commitment to a general fund for supporting third-party research into potential environmental effects of offshore wind energy development.*

---

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

### 3.6 PROPOSED OR EXISTING COMMITMENTS/COLLABORATIONS

---

*This section should describe proposed or existing commitments and collaborations with third-party researchers in support of monitoring activities and assessing impacts.*

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• [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. The full list of data sources used for baseline characterization will be located in the Sunrise Wind 2 COP.
- 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 2019 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 2020 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. 2017. Offshore Wind Master Plan.
    - <https://www.nyserdera.ny.gov/All%20Programs/Programs/Offshore%20Wind/About%20Offshore%20Wind/Master%20Plan>

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- New York Bight Whale Monitoring Program Aerial Survey (NYSDEC 2020)
  - <https://www.dec.ny.gov/lands/113818.html#Methods>
- Normandeau and APEM. 2019a. Digital Aerial Baseline Survey of Marine Wildlife in Support of Offshore Wind Energy. Second Annual Report Summer 2016 – Spring 2018 Fourth Interim Report.
  - [https://remote.normandeau.com/docs/NYSERDA\\_2016-2018\\_4th\\_Semi-Annual\\_report.pdf](https://remote.normandeau.com/docs/NYSERDA_2016-2018_4th_Semi-Annual_report.pdf)
- Normandeau and APEM. 2019b. Digital Aerial Baseline Survey of Marine Wildlife in Support of Offshore Wind Energy, Summer 2018 Taxonomic Analysis Summary Report.
  - [https://remote.normandeau.com/docs/NYSERDA\\_Summer\\_2018\\_Taxonomic\\_Analysis\\_Summary\\_Report.pdf](https://remote.normandeau.com/docs/NYSERDA_Summer_2018_Taxonomic_Analysis_Summary_Report.pdf)
- Normandeau and APEM. 2019c. Digital Aerial Baseline Survey of Marine Wildlife in Support of Offshore Wind Energy, Fall 2018 Taxonomic Analysis Summary Report.
  - [https://remote.normandeau.com/docs/NYSERDA\\_Fall\\_2018\\_Taxonomic\\_Analysis\\_Summary\\_Report.pdf](https://remote.normandeau.com/docs/NYSERDA_Fall_2018_Taxonomic_Analysis_Summary_Report.pdf)
- Normandeau and APEM. 2019d. Digital Aerial Baseline Survey of Marine Wildlife in Support of Offshore Wind Energy.
  - [https://remote.normandeau.com/docs/NYSERDA\\_Spring\\_2019\\_Taxonomic\\_Analysis\\_Summary\\_Report.pdf](https://remote.normandeau.com/docs/NYSERDA_Spring_2019_Taxonomic_Analysis_Summary_Report.pdf)
- Normandeau and APEM. 2020. Digital Aerial Baseline Survey of Marine Wildlife in Support of Offshore Wind Energy Winter 2018-2019 Taxonomic Analysis Summary Report.
  - [https://remote.normandeau.com/docs/NYSERDA\\_Winter\\_2018\\_19\\_Taxonomic\\_Analysis\\_Summary\\_Report.pdf](https://remote.normandeau.com/docs/NYSERDA_Winter_2018_19_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

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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)
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  - NOAA Fisheries 2017. 2017 Annual Report of a Comprehensive Assessment of Marine Mammal, Marine Turtle, and Seabird Abundance and Spatial Distribution in US waters of the Western North Atlantic Ocean – AMAPPS II.
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- 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.
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  - 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/).
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  - 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/>
- 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. Sunrise Wind 2 will comply with BOEM's site characterization requirements in 30 CFR § 585.626(3).

### 4.1.2 Data Being Collected

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

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- Observations of all right whales and dead, entangled, or distressed marine mammals shall be communicated to federal authorities as soon as is practicable, and no later than 24 hours after occurrence

- [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]

### 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]

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| Potential Impacts  | Proposed Mitigation Measures | Phase* |   |   |   |
|--|------------------------------|--------|---|---|---|
|  |                              | 1      | 2 | 3 | 4 |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
| Underwater noise impacts from construction and installation activities | [REDACTED]                   |        | X |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |
|  | [REDACTED]                   |        |   |   |   |

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| Potential Impacts                   | Proposed Mitigation Measures | Phase* |   |   |   |
|-------------------------------------|------------------------------|--------|---|---|---|
|                                     |                              | 1      | 2 | 3 | 4 |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
| Vessel strikes on<br>marine mammals | • [REDACTED]                 | x      | x | x | x |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |
|                                     | [REDACTED]                   |        |   |   |   |





| Potential Impacts | Proposed Mitigation Measures   | Phase* |   |   |   |
|-------------------|--|--------|---|---|---|
|                   |  | 1      | 2 | 3 | 4 |
|                   | <ul style="list-style-type: none"> <li>o [REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> </ul> |        |   |   |   |

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

#### 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.*

- Sunrise Wind 2 shall seek to collaborate with other regulatory agencies and stakeholder groups to identify research needs and opportunities.

##### 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.
- 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 from RWSC and other specialist committees and regulatory agencies will be consulted during study design and data analysis processes.

- [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

#### 4.4.2 Address Data Gaps

---

*Describe how data gaps will be addressed.*

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- Sunrise Wind 2 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.*

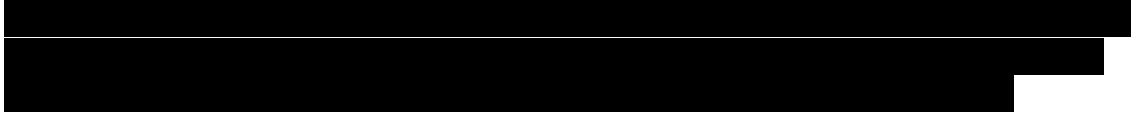
---

- As necessary, Sunrise Wind 2 shall explore this further in consultation with the E-TWG, RWSC, regulatory agencies and relevant stakeholders.

[REDACTED]

[REDACTED]

[REDACTED]



## 5.0 PROPOSED MITIGATION OF IMPACTS TO BIRDS AND BATS

### 5.1 BASELINE CHARACTERIZATION

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*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.*


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#### 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 birds and bats potentially occurring within the Project Area. Such studies include, but are not limited to, the following documents. The full list of data sources used for baseline characterization is located in the Sunrise Wind COP.
- NYSERDA and/or NYSDEC studies on marine wildlife and birds and bats:
  - 
  - NYSERDA. 2017. New York State Offshore Wind Master Plan: Birds and Bats Study. NYSERDA Report 17-25q.
    - <https://www.nyserderda.ny.gov/All-Programs/Programs/Offshore-Wind/About-Offshore-Wind/Master-Plan>
  - NYSERDA. 2017. New York State Offshore Wind Master Plan: Cable Landfall Permitting Study. NYSERDA Report 17-25q.
    - <https://www.nyserderda.ny.gov/All%20Programs/Programs/Offshore%20Wind/About%20Offshore%20Wind/Master%20Plan>
  - Normandeau and APEM. 2019. Remote Marine and Onshore Technology Digital Aerial Baseline Survey of Marine Wildlife in Support of Offshore Wind Energy. Prepared for New York State Energy Research and Development Authority.
    - [https://remote.normandeau.com/portal\\_data.php?pj=6&public=1](https://remote.normandeau.com/portal_data.php?pj=6&public=1)

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- BOEM and USFWS studies on marine species, seabirds, and bats:
  - Dowling, Z., P.R. Sievert, E. Baldwin, L. Johnson, S. von Oettingen, and J. Reichard. 2017. Flight Activity and Offshore Movements of Nano-Tagged Bats on Martha's Vineyard, MA. OCS Study BOEM 2017-054. U.S. Department of the Interior, Bureau of Ocean Energy Management, Sterling, VA. 39 pp.
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  - Loring, P., P.W.C. Paton, J.D. McLaren, H. Bai, R. Janaswamy, H.F. Goyert, C.R. Griffin, P.R. Sievert. 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 2019-017. 140 p.
  - Pelletier, S.K., K. Omland, K.S. Watrous, and T.S. Peterson. 2013. Information Synthesis on the Potential for Bat Interactions with Offshore Wind Facilities – Final Report. U.S. Dept of the Interior, Bureau of Ocean Energy Management, Headquarters, Herndon, VA. OCS Study BOEM 2013-01163. 119 pp.
  - Spiegel, C.S., A.M. Berlin, A.T. Gilbert, C.O. Gray, W.A. Montevecchi, I.J. Stenhouse, S.L. Ford, G.H. Olsen, J.L. Fiely, L. Savoy, M.W. Goodale, and C.M. Burke. 2017. Determining Fine-scale Use and Movement Patterns of Diving Bird Species in Federal Waters of the Mid-Atlantic United States Using Satellite Telemetry. OCS Study BOEM 2017-069. US Department of the Interior, Bureau of Ocean Energy Management, Sterling, VA.
  - Veit, R.R., T.P. White, S.A. Perkins, S. Curley. 2016. Abundance and Distribution of Seabirds off Southeastern Massachusetts, 2011-2015. U.S. Department of the Interior, Bureau of Ocean Energy Management, Sterling, Virginia. OCS Study BOEM 2016-067. 82 pp.

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  - <http://www.dec.ny.gov/animals/7312.html>.
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  - Cryan, P.M. and A.C. Brown. 2007. Migration of bats past a remote island offers clues toward the problem of bat fatalities at wind turbines. *Biological Conservation* 139:1-11.
  - Hatch, S.K., E.E. Connelly, T.J. Divoll, I.J. Stenhouse, and K.A. Williams. 2013. Offshore observations of eastern red bats (*Lasiurus borealis*) in the Mid-Atlantic United States using multiple survey methods. *PLoS ONE* 8: e83803.
  - Sjollema, A.L., J. E. Gates, R.H. Hilderbrand, and J. Sherwell. 2014. Offshore activity of bats along the mid-Atlantic coast. *Northeastern Naturalist* 21: 154–163.
  - [REDACTED]
  - USGS NABat Monitoring Program. <https://sciencebase.usgs.gov/nabat/#/results>
- Agency coordination and communication

### 5.1.2 Data Collected

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

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

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## 5.2 SPECIES AT RISK

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

---

[REDACTED]

[REDACTED]

[REDACTED]

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- [REDACTED]

**5.3 POTENTIAL IMPACTS/RISKS AND MITIGATION MEASURES BY PROJECT STAGE**

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*The table below should list the potential impacts and mitigation measures to understand and minimize the Project's risk to birds and bats. At a minimum this should include the steps the Developer will pursue to minimize risk to birds and bats (e.g., lighting), and 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.*

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**Table 5.1 Potential Impacts and Risk to Birds and Bats and Proposed Mitigation Measures**

| Potential Impacts                                    | Proposed Mitigation Measures | Phase* |   |   |   |
|--|------------------------------|--------|---|---|---|
|  |                              | 1      | 2 | 3 | 4 |
| Collision risk to marine birds and bats              | • [REDACTED]                 |        | x | x |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
| Habitat impacts including breeding and nesting areas | [REDACTED]                   |        | x | x | x |
|  | [REDACTED]                   |        |   |   |   |

[REDACTED]

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| Potential Impacts | Proposed Mitigation Measures | Phase* |   |   |   |
|-------------------|------------------------------|--------|---|---|---|
|                   |                              | 1      | 2 | 3 | 4 |
|                   | [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 |
|                   | <ul style="list-style-type: none"> <li>[REDACTED]</li> </ul> |        |   |   |   |
|                   | [REDACTED]   |        |   |   |   |

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

## 5.4 MONITOR FOR IMPACTS DURING EACH PHASE

*Describe how potential impacts will be monitored on birds and bats 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.*

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

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

- Pre- and post-construction monitoring shall be designed in such a way that it improves understanding of the impacts of offshore wind energy development on birds and bats, including identifying specific questions and taxa on which to focus monitoring efforts for the Project, 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 from RWSC and other specialist committees and regulatory agencies will be consulted during study design and data analysis processes.

- [REDACTED]
- [REDACTED]

- [REDACTED]

#### 5.4.2 Address Data Gaps

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*Describe how data gaps will be addressed.*

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- Sunrise Wind 2 shall work with stakeholders, including regulatory agencies, the E-TWG, RWSC, and local groups, in the design phase of the Project to identify data gaps to be addressed through surveys or permitting applications.

- [REDACTED]

#### 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.*

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- As necessary, Sunrise Wind 2 will explore this further in consultation with the E-TWG, RWSC, regulatory agencies and relevant stakeholders.

- [REDACTED]

## 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. The full list of data sources used for baseline characterization is located in the Sunrise Wind COP.
- 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.
    - <https://www.nyserderda.ny.gov/All-Programs/Programs/Offshore-Wind/About-Offshore-Wind/Master-Plan>
- BOEM studies on marine habitats and lobsters and crabs:
  - 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.
  - Guida, V., A. Drohan, H. Welch, J. McHenry, D. Johnson, V. Kentner, J. Brink, D. Timmons, and E. Estela-Gomez. 2017. Habitat Mapping and Assessment of Northeast Wind Energy Areas. Sterling, VA: US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2017-088. 312 p.

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- BOEM Office of Renewable Energy Programs. 2019. Guidelines for Providing Benthic Habitat Survey Information for Renewable Energy Development on the Atlantic Outer Continental Shelf Pursuant to 30 CFR Part 585. June 2019.
- Online data portals and mapping databases such as the Northeast Ocean Portal, Marine Cadastre, the Northeast Regional Habitat Assessment Data Explorer, 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://portal.midatlanticocean.org/>
- NOAA and Northeast Fisheries Science Center studies and stock assessment reports:
  - Cargnelli, L.M., S.J. Griesbach, P.L. Berrien, W.W. Morse, and D.L. Johnson. 1999a. Essential fish habitat source document: Haddock, *Melanogrammus aeglefinus*, life history and habitat characteristics. NOAA Tech Memo NMFS-NE-128. 31 p.
  - Cargnelli, L.M., S.J. Griesbach, D.B. Packer, P.L. Berrien, D.L. Johnson, and W.W. Morse. 1999b. Essential Fish Habitat Source Document: Pollock, *Pollachius virens*, Life History and Habitat Characteristics. NOAA Tech Memo NMFS-NE-131. 38 p.
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  - Cargnelli, L.M., S.J. Griesbach, D.B. Packer, and E. Weissberger. 1999d. NOAA Tech Memo NMFS-NE-142.22 p.
  - Cargnelli, L.M., S.J. Griesbach, D.B. Packer, and E. Weissberger. 1999e. Essential Fish Habitat Source Document: Ocean Quahog, *Arctica islandica*, Life History and Habitat Characteristics. NOAA Tech Memo NMFS-NE-148. 20 p.
  - NOAA. 2009. Consolidated Atlantic Highly Migratory Species Fishery Management Plan, Amendment 1, Chapter 5.
  - NOAA Fisheries. 2017. Amendment 10 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan: Essential Fish Habitat. Office of Sustainable Fisheries, Atlantic Highly Migratory Species Management Division. 442 p.
    - [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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- NOAA Fisheries. 2020a. Essential Fish (EFH) Habitat Mapper.
  - <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>.
- NOAA Fisheries. 2020b. Species Directory.
  - <https://www.fisheries.noaa.gov/species-directory>
- NEFSC. 2016. 61st Northeast Regional Stock Assessment Workshop (61st SAW) Assessment Summary Report. Northeast Fisheries Science Center Reference Document 16-13. 26 p.
  - <https://www.nefsc.noaa.gov/publications/crd/crd1613/crd1613.pdf>
- NEFSC. 2017a. Operational Assessment of 19 Northeast Groundfish Stocks, Updated Through 2016. Northeast Fisheries Science Center Reference Document 17-17. 259 p.
  - <https://www.nefsc.noaa.gov/publications/crd/crd1717/>.
- NEFSC. 2017b. 62nd Northeast Regional Stock Assessment Workshop (62nd SAW) Assessment Report. Northeast Fisheries Science Center Reference Document 17-03. 822 p.
  - <https://www.nefsc.noaa.gov/publications/crd/crd1703/>.
- NEFSC. 2017c. Scup Stock Assessment Update for 2017.
  - [https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/596fb26bc534a5fa937b2c07/1500492396171/5Scup\\_2017\\_Assessment\\_Update.pdf](https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/596fb26bc534a5fa937b2c07/1500492396171/5Scup_2017_Assessment_Update.pdf).
- NEFSC. 2017d. 63rd Northeast Regional Stock Assessment Workshop (63rd SAW) Assessment Report. Northeast Fisheries Science Center Reference Document 17-10. 409 p.
  - <https://www.nefsc.noaa.gov/publications/crd/crd1710/>.
- NEFSC. 2018a. 65th Northeast Regional Stock Assessment Workshop (65th SAW) Assessment Summary Report. Northeast Fisheries Science Center Reference Document 18-08. 38 p.
  - <https://www.nefsc.noaa.gov/publications/crd/crd1808/>.

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  - <https://www.nefsc.noaa.gov/publications>
- NEFSC. 2020. Operational assessment of the black sea bass, scup, bluefish, and monkfish stocks, updated through 2018. NEFSC Ref Doc 20-01; 160 p. Available from:
  - <http://www.nefsc.noaa.gov/publications/>
- NEFSC. 2021. Ecology of the Northeast US Continental Shelf: Zooplankton. <https://appsnefsc.fisheries.noaa.gov/nefsc/ecosystem-ecology/zooplankton.html>. Accessed: Accessed January 10, 2023.
- Additional state and regional studies and other published data for the waters of the northeast Atlantic related to offshore wind development:
  - ASMFC. 2012. Habitat Addendum IV to Amendment 1 to the Interstate Fishery Management Plan for Atlantic Sturgeon.
    - [http://www.asmfc.org/uploads/file/sturgeonHabitatAddendumIV\\_Sept2012.pdf](http://www.asmfc.org/uploads/file/sturgeonHabitatAddendumIV_Sept2012.pdf)
  - ASMFC. 2017. 2017 Atlantic Sturgeon Benchmark Stock Assessment and Peer Review Report.
    - [http://www.asmfc.org/uploads/file//59f8d5ebAtlSturgeonBenchmarkStockAssmt\\_PeerReviewReport\\_2017.pdf](http://www.asmfc.org/uploads/file//59f8d5ebAtlSturgeonBenchmarkStockAssmt_PeerReviewReport_2017.pdf).
  - ASMFC. Species.
    - <http://www.asmfc.org/fisheries-management/program-overview>
  - Atlantic Sturgeon Status Review Team. 2007. Status Review of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*).
    - [https://www.nao.usace.army.mil/Portals/31/docs/civilworks/JamesRiver/NMFS\\_Atantic\\_sturgeon\\_status\\_review\\_2007.pdf](https://www.nao.usace.army.mil/Portals/31/docs/civilworks/JamesRiver/NMFS_Atantic_sturgeon_status_review_2007.pdf)
  - Breece, M., Fox, D.A., Dunton, K.J., Frisk, M.G., Jordaan, A., and Oliver, M.J. 2016. Dynamic seascapes predict the marine occurrence of an endangered species. *Methods in Ecology and Evolution*.
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- Dunton, K.J., Chapman, D., Jordaan, A., Feldheim, K., O'Leary, S.J., McKpwn, K.A., and Frisk, M.G. 2012. Genetic mixed-stock analysis of Atlantic Sturgeon *Ascipenser oxyrinchus* in a heavily exploited marine habitat indicates the need for routine genetic monitoring. *Journal of Fish Biology*, 80: 207-217.
- Dunton, Keith J., Adrian Jordaan, David O. Conover, Kim A. McKown, Lisa A. Bonacci, and Michael G. Frisk. 2015. Marine Distribution and Habitat Use of Atlantic Sturgeon in New York Lead to Fisheries Interactions and Bycatch, *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science*. 7:1, 18-32.
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- Greene, J.K., Anderson, M.G., Odell, J., and Steinberg, N., eds. 2010. The Northwest Atlantic Marine Ecoregional Assessment: Species, Habitats and Ecosystems. Phase One. The Nature Conservancy, Eastern U.S. Division, Boston, MA.
- Griswold, C.A. and J. Prezioso. 1981. In-situ observations on reproductive behavior of the long- finned squid, *Loligo pealei*. *Fishery Bulletin* 78: 945–947.
- 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. *Scientific Reports, Nature Research*, 9:12432.
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- Scotti, J., J. Stent, and K. Gerbino. 2010. Final Report: New York Commercial Fisherman Ocean Use Mapping. Prepared for Cornell Cooperative Extension Marine Program.
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  - [https://www.iccat.int/Documents/Meetings/Docs/2014\\_SKJ\\_ASSESS\\_ENG.pdf](https://www.iccat.int/Documents/Meetings/Docs/2014_SKJ_ASSESS_ENG.pdf).
- ICCAT. 2016a. Report of the 2016 ICCAT North and South Atlantic Albacore Stock Assessment Meeting.
  - [https://www.iccat.int/Documents/Meetings/Docs/2016\\_ALB\\_REPORT\\_ENG.pdf](https://www.iccat.int/Documents/Meetings/Docs/2016_ALB_REPORT_ENG.pdf)
- ICCAT. 2016b. Report of the 2016 ICCAT Yellowfin Tuna Stock Assessment Meeting. Accessed July 2019.
  - [https://www.iccat.int/Documents/SCRS/DetRep/YFT\\_SA\\_ENG.pdf](https://www.iccat.int/Documents/SCRS/DetRep/YFT_SA_ENG.pdf).
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  - [https://www.iccat.int/Documents/Meetings/Docs/2017\\_SCRS\\_REP\\_ENG.pdf](https://www.iccat.int/Documents/Meetings/Docs/2017_SCRS_REP_ENG.pdf).
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- MAFMC. 1998. Amendment 12 to the Atlantic Surfclam and Ocean Quahog Fishery Management Plan. Mid-Atlantic Fishery Management Council in cooperation with the National Marine Fisheries Service, and the New England Fishery Management Council, October 1998.
- MAFMC. 1998a. Amendment 12 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP). Published in cooperation with National Marine Fisheries Services (NOAA Fisheries). 7 October 1998.

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- MAFMC. 1998c. Amendment 12 to the Atlantic Surfclam and Ocean Quahog Fishery Management Plan. Mid-Atlantic Fishery Management Council in cooperation with the National Marine Fisheries Service, and the New England Fishery Management Council, October 1998.
- MAFMC. 2011. Amendment 11 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan. Mid-Atlantic Fishery Management Council. May 2011.
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  - <https://walrus.wr.usgs.gov/usseabed/> Accessed: 6/30/2020

• [REDACTED]

**6.1.2 Data Being Collected**

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

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• [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## 6.2 SPECIES AT RISK

---

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

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- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]

- [REDACTED]



### 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]                 |        |   |   |   |
| Temporary, alteration of the seabed and localized increases in noise and turbidity | • [REDACTED]                 | x      | x | x | x |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |
|  | • [REDACTED]                 |        |   |   |   |

[REDACTED]

| Potential Impacts                       | Proposed Mitigation Measures   | Phase* |   |   |   |
|---|--|--------|---|---|---|
|   |  | 1      | 2 | 3 | 4 |
|   | [REDACTED]   |        |   |   |   |
| Long-term changes to seabed and habitat | <ul style="list-style-type: none"> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> </ul> | x      | x | x | x |
| EMF Impacts                             | <ul style="list-style-type: none"> <li>[REDACTED]</li> <li>[REDACTED]</li> <li>[REDACTED]</li> </ul> |        | x | x |   |
| Cable burial                            | <ul style="list-style-type: none"> <li>[REDACTED]</li> <li>[REDACTED]</li> </ul>                     |        | x | x |   |
| Turbine Scour Protection                | <ul style="list-style-type: none"> <li>[REDACTED]</li> </ul>   |        | x | x |   |

\*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

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

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- 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 from ROSA and other specialist committees and regulatory agencies will be consulted during study design and data analysis processes.
- Sunrise Wind 2 shall seek to collaborate with other regulatory agencies and stakeholder groups to identify research needs and opportunities.

• [REDACTED]

• [REDACTED]

• [REDACTED]

• [REDACTED]



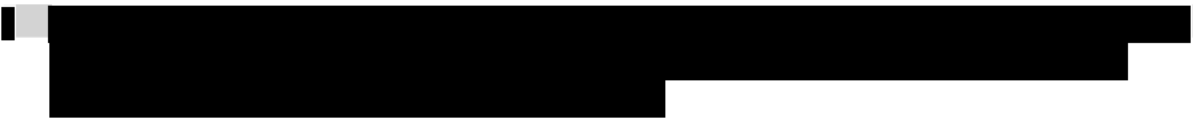
### 6.4.2 Addressing Data Gaps

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*Describe how data gaps will be addressed.*

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- Sunrise Wind 2 shall seek to work with stakeholders, including regulatory agencies, to identify data gaps to be addressed through surveys or permitting applications.



### 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.*

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- As necessary, Sunrise Wind 2 shall explore this further in consultation with the E-TWG, regulatory agencies and relevant stakeholders.



## 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**

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*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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### **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.*

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- Sunrise Wind 2 will support collaborative research on potential mitigation strategies and best management practices with other developers, agencies, and stakeholders.



### **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.*

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- Sunrise Wind 2 will continuously evaluate and evolve this EMP so that all the components of the EMP are complete and sufficient.
- Sunrise Wind 2 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.
- Sunrise Wind 2 shall update the EMP in a timely manner that reflects changes made based on key regulatory Project deliverable dates.

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

## **9.0 PROJECT DECOMMISSIONING**

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*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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### **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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- Sunrise Wind 2's waste handling processes during decommissioning shall focus on re-use or recycling, with disposal as the last option.
- Sunrise Wind 2 shall collaborate with regulatory authorities and key environmental stakeholder groups better understand the effects and potential impacts associated with decommissioning.
- In March 2017, Ørsted became the first developer to decommission an offshore wind project, the Vindeby Offshore Wind Farm near Lolland, Denmark (Vindeby Project).

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### **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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- Sunrise Wind 2 shall decommission the Project in accordance with all necessary laws and regulations and generate a detailed Project-specific decommissioning plan.
- Sunrise Wind 2 shall seek input on the detailed Project-specific decommissioning plan from regulatory agencies, fisheries and marine stakeholders, and local communities.



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- Sunrise Wind 2 shall use “lessons learned” from the construction and operations activities and apply them when appropriate to the decommissioning plan.

- [REDACTED]

[REDACTED]