



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
GREATER ATLANTIC REGIONAL FISHERIES OFFICE  
55 Great Republic Drive  
Gloucester, MA 01930

September 30, 2021

Ms. Michelle Morin  
Program Manager  
Office of Renewable Energy  
Bureau of Ocean Energy Management  
45600 Woodland Road  
Sterling, VA 20166

RE: Docket Number BOEM-2021-0052

Scoping Comments for the Notice of Intent to Prepare an Environmental Impact Statement for Sunrise Wind's Proposed Wind Energy Facility Offshore Massachusetts, Rhode Island, and New York

Dear Ms. Morin:

We have reviewed the August 31, 2021, *Federal Register* Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for Sunrise Wind LLC's (Sunrise Wind) proposed wind energy facilities off the coast of Massachusetts, Rhode Island, and New York. The proposed facilities are in a portion of the Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area OCS-A 0500 and the entirety of the area covered by BOEM Renewable Energy Lease Area OCS-A 0487, which have been merged and included in a revised Lease OCS-A 0487 which was issued to Sunrise Wind on March 15, 2021. This letter responds to your request for information as a Cooperating Agency on this project with legal jurisdiction and special expertise over marine trust resources, and as a consulting agency under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Fish and Wildlife Coordination Act (FWCA), and the Endangered Species Act (ESA). We are also an action agency for this project to the extent NOAA provides Incidental Take Authorizations (ITAs) under the Marine Mammal Protection Act (MMPA). If deemed sufficient to do so, we will rely on and adopt your Final EIS to satisfy our independent legal obligations to prepare an adequate and sufficient analysis under the National Environmental Policy Act (NEPA) and the regulations published by the Council on Environmental Quality (CEQ regulations (2020)) in support of our proposal to issue the MMPA ITA for the proposed project. It is our understanding that Sunrise Wind intends to apply for a Letter of Authorization (LOA) pursuant to section 101(a)(5)(A) of the MMPA. Our needs for sufficiency to support adoption are discussed in more detail in Attachment A to this letter.

As we understand from the NOI, BOEM intends to prepare an EIS to consider whether to approve, approve with modifications, or disapprove a Construction and Operations Plan (COP) submitted by Sunrise Wind and analyze the proposed construction and operation of commercial scale wind energy facilities on the outer continental shelf (OCS) approximately 18.9 miles south of Martha's Vineyard, 30.5 miles east of Montauk, New York, and approximately 16.7 miles from Block Island, Rhode Island. The wind facilities, collectively referred to as Sunrise Wind,



includes the construction, operation, and eventual decommissioning of up to 122 wind turbine generators (WTGs) connected by a network of inter-array cables, one offshore converter station, and one onshore converter station. The proposed facilities would generate between 880 and 1,300 megawatts (MW) of energy and be connected to shore by an export cable and an offshore transmission cable making landfall in Long Island, New York, and through an onshore interconnection cable to the Long Island Power Authority Holbrook Substation. The project may use several existing port facilities located in Rhode Island, Connecticut, and New York, to support offshore construction, assembly and fabrication, crew transfer, and logistics, but no final determination has been made on those port locations. The project would be located in water depths ranging from approximately 35 to 62 meters (115–203 feet). The WTGs would be spaced in a grid approximately 1.15 miles (1.0 nautical mile) apart within the lease area, consistent with the layout proposed for other adjacent projects (fixed east-to-west rows and north-to-south columns).

The NOI commences the public scoping process for identifying issues and potential alternatives for consideration in the Sunrise Wind COP EIS. Through the NOI, you are requesting information on significant resources and issues, impact-producing factors, reasonable alternatives (e.g., size, geographic, seasonal, or other restrictions on construction and siting of facilities and activities), and potential mitigation measures to be analyzed in the EIS. In our role as a Cooperating Agency under NEPA, we offer comments and technical assistance related to significant issues, information, and analysis needs for the EIS related to resources in the project area over which we have special expertise or legal jurisdiction, including associated consultation and authorization requirements. Data related to the occurrence and status of these resources, evaluation of effects to them, and development of responsive mitigation are critical elements of the NEPA process, which require early identification of such issues in the scoping process and full evaluation throughout the NEPA process.

The high number of projects moving through the NEPA process between now and 2024 makes it very difficult for us to provide the detailed level of review and interagency cooperation we have provided in the past. The extensive interagency cooperation we have invested with you to improve the NEPA documents for previous wind energy projects is no longer feasible, and we will be required to take a more limited Cooperating Agency role in the process. Nonetheless, with respect to the Sunrise Wind NOI, we offer the following comments, as well as attached technical comments on specific issues of concern (see Attachment A).

## **General Comments**

### *Construction and Operations Plan (COP) Updates*

We rely on the information in the Sunrise Wind COP to help inform the comments and technical assistance provided during the scoping process. The COP was only made available to us through the BOEM website with the publication of the NOI, so our comments related to the COP are limited. Furthermore, sections of the COP accessible from the website are redacted, including benthic habitat mapping report, offshore habitat data, underwater acoustic assessments, as well as other habitat related reports (e.g., marine site investigation report, cable burial feasibility study) that are relevant to any comments and technical assistance we provide during this scoping process. Absent this information, we are limited to the extent of technical assistance we can

provide at this time. As a result, we may need to provide additional comments and technical assistance upon review of any updated information, including potential alternatives to minimize and mitigate impacts of the project on marine and estuarine resources. As we have discussed with you, receipt of this information after the regulatory process has begun is putting a substantial strain on our ability to review these projects as efficiently as possible. We look forward to continuing to work with you on this issue so that we can most effectively keep you informed of issues and concerns related to NOAA trust resources.

We understand that during the NEPA process, applicants are permitted to make modifications and updates to their COPs. We request, however, that if the COP is updated or changed at any time during the regulatory process, you notify the agencies immediately and make the most updated COP available to the agencies and the public. In addition, it is critical that you describe which sections and information in the COP have been updated so we may focus our efforts and provide an efficient review. This description should specifically outline any changes to the proposed action and other information that may affect consultation with our agency. As we have discussed in the past, any updates to the COP that occur after initiation of consultation with our agency may affect our consultation timelines. To reduce the potential need for multiple reviews, supplemental consultation and comment, and project delays, it is essential to ensure that project information is complete before initiating the environmental review for a project or continuing to advance the process for existing projects. Should unexpected revisions to the project occur, coordination with us as soon as possible is critical to help prevent inefficiencies and confusion that can result from multiple reviews, as well as delays that may affect project timelines and consultation initiation and conclusion.

#### *Project Schedule*

BOEM is planning to expedite the review of the Sunrise Wind COP through a two-year timeline to complete the NEPA process and consultations. The schedule also includes milestones for issuance of a requested MMPA Incidental Take Authorization to the developer. As you know, milestone dates associated with our consultations and authorization for this project are posted on the FAST-41 permitting dashboard. Our ability to initiate consultation and meet our milestone dates is contingent upon us making the determination that we have received complete and adequate consultation documents (Biological Assessment (BA) and EFH assessment) that contain all necessary information to consult on the project. Our Biological Opinion under the ESA will be comprehensive and must consider all proposed actions associated with the project, including the proposed issuance of an LOA. The timeline is also contingent upon NMFS' deeming receipt of an adequate and complete MMPA Letter of Authorization (LOA) application by the agreed upon date, currently targeted for May 10, 2022; to meet this deadline and avoid schedule delays, NMFS strongly recommends the applicant submit a draft application to our Office of Protected Resources approximately six months in advance of the May 2022 milestone date. If we do not receive the necessary information to initiate our consultations and start processing the LOA application by the dates outlined in the permitting timeline, it may result in delays in the overall project schedule.

#### *Project Design Envelope*

As described in BOEM's project design envelope (PDE) guidance, a "PDE approach is a permitting approach that allows a project proponent the option to submit a reasonable range of

design parameters within its permit application.” While we understand and support the PDE approach, we note that it is critical to ensure that the range of design parameters are reasonable. A PDE that is too broad would impact your ability to provide a meaningful effects analysis in both the NEPA document and your consultation documents (BA and EFH Assessment). An analysis based on an overly broad PDE may grossly overestimate the effects of the action on protected species and habitat, which would likely result in very conservative mitigation measures.

The *Federal Register* notice refers to a “preliminary proposed action” described as including up to 122 turbines, with foundation types that may include monopiles, gravity base structures, or both. It is unclear if the proposed action is expected to be further modified during the NEPA process and at what point in the process any modifications may occur. As we noted above, we must have all necessary information, including an adequate and complete BA and EFH Assessment to initiate consultation. Modifications to the proposed action after consultation has been initiated may lead to delays in the project timeline, as these changes may affect our analysis in any consultations that are underway, including potential changes to EFH conservation recommendations and/or terms and conditions or reasonable and prudent measures being considered in the ESA consultation. The NEPA document should evaluate a reasonable PDE, with a proposed action that is consistent between the NEPA document and the consultation documents.

#### *NOAA Trust Resources*

To be successful in meeting the Administration’s goal for responsible offshore development, we must identify, understand, and fully consider the effects of large-scale development of the OCS on our ocean resources and work to avoid and minimize adverse effects. In Attachment A we provide detailed scoping comments related to NOAA trust resources in the project area and alternatives and mitigation measures to consider for evaluation as you develop the EIS for this project. Of particular concern for this project area are effects to North Atlantic right whales and Atlantic cod. Critically endangered North Atlantic right whales occur in the Sunrise Wind lease area, along the proposed cable corridor, and along many of the anticipated vessel transit routes. The status of this species is extremely poor. The proposed construction, operation, and decommissioning of the Sunrise Wind project may have adverse effects on North Atlantic right whales and this warrants special consideration throughout the environmental review process. In addition, the project area overlaps with spawning habitat for Atlantic cod, a species of economic and cultural significance to our region. As you develop the EIS, it will be critical to fully consider both project and cumulative effects of offshore development on North Atlantic right whales and Southern New England Atlantic cod and evaluate ways to avoid and minimize adverse impacts to these species and their habitats. We strongly encourage you and the developer to consider all available options to minimize risk to these species and their habitats as a result of project development.

#### **Conclusion**

Thank you for the opportunity to provide comments during this important scoping process. We will continue to support the Administration’s efforts to advance offshore renewable energy through our participation in the offshore wind development regulatory and planning processes. We are committed to implementing our national strategic goals to maximize fishing

opportunities while ensuring the sustainability of fisheries and fishing communities. In addition, we strive to recover and conserve protected species while supporting responsible resource development. To the extent possible, we will continue working with you to provide the necessary expertise, advice, and scientific information to avoid areas of important fishing activity and sensitive habitats; minimize impacts to fisheries and protected species; and support the conservation and sustainable management of our marine trust resources. To ensure we can continue to meet our collective objectives and ambitious timelines, it is imperative that we capitalize and build upon our collaboration on recent projects and integrate lessons learned into future project development and review. This will improve the quality of the NEPA document for this project and future projects, expedite our reviews, and result in more efficiencies in the process. We appreciate your willingness to work with us to address these challenges and recognize the collaborative work among our agencies to help gain efficiencies in the regulatory process. We look forward to continuing to work with you in this regard.

Should you have any questions regarding these comments, please contact Sue Tuxbury in our Habitat and Ecosystem Services Division at (978) 281-9176 or [susan.tuxbury@noaa.gov](mailto:susan.tuxbury@noaa.gov). For questions regarding the EFH consultation for this project, please contact Alison Verkade in our Habitat and Ecosystem Services Division at (978) 281-9266 or [alison.verkade@noaa.gov](mailto:alison.verkade@noaa.gov). For questions regarding ESA and section 7 comments, please contact Julie Crocker in our Protected Resources Division at (978) 282-8480 or [Julie.Crocker@noaa.gov](mailto:Julie.Crocker@noaa.gov). For questions regarding MMPA Incidental Take Authorizations, please contact Jaclyn Daly in the Office of Protected Resources at (301) 427-8438 or [jaclyn.daly@noaa.gov](mailto:jaclyn.daly@noaa.gov).

Sincerely,



Michael Pentony  
Regional Administrator

cc: Brian Hooker, BOEM  
JT Hesse, BOEM  
Tom Nies, NEFMC  
Chris Moore, MAFMC  
Bob Beal, ASMFC  
Tim Timmerman, EPA  
Greg Lampman, NYSERDA  
James Gilmore, NYSDEC  
Jeffery Zappieri, NYDOS  
Dan McKiernan, MADMF  
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Brian Thompson, CTDEEP  
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Jon Hare, NEFSC  
Greg Power, NMFS APSD  
Candace Nachman, NMFS Policy

Cristi Reid, NMFS Policy  
Christine Jacek, USACE  
Naomi Handell for USACE-NAN

## ATTACHMENT A SUNRISE WIND SCOPING COMMENTS

### **Alternatives Analysis**

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

For more vulnerable and difficult-to-replace resources such as natural hard bottom complex substrates (particularly those with macroalgae and/or epifauna), submerged aquatic vegetation (SAV), dense faunal beds (e.g., cerianthid beds), shellfish habitat and reefs, other biogenic reefs, and prominent benthic features, alternatives that avoid and minimize impacts to these habitats should be evaluated and given full consideration. Compensatory mitigation should be provided for unavoidable adverse effects. Inherent to this is the necessity to conduct high-resolution benthic habitat mapping that characterizes and delineates all habitats in the lease area and within all potential cable corridor areas. To facilitate efficient review of the alternatives, we recommend the EIS discussion of the alternatives and comprehensive analyses associated with each be grouped into the three corresponding elements of the proposed project: (1) wind farm area; (2) offshore export cable routes and associated corridors; and (3) inshore export cable routes and associated corridors and landfall points. The proposed project should have multiple alternatives for each element that could be “mixed and matched” in the final selection of the single and complete project.

### *Fisheries Habitat Impact Minimization Alternative*

The proposed Sunrise Wind project would be located on the southern edge of Cox Ledge, with a portion of the proposed development overlapping with hard bottom complex habitat that is

Essential Fish Habitat (EFH) for a number of managed fish species and trust resources for which NMFS has conservation responsibilities. While the minimization of impacts should be considered in the development of all alternatives, given the particular complexity of habitat in this lease area and the importance of Cox Ledge to NOAA trust resources, it will be critical for you to consider a discrete alternative that reduces impacts to fisheries habitats that are more sensitive and vulnerable to impacts. Cox Ledge is an important area for fishing activity, and adverse impacts to fish habitat or recruitment of economically valuable species may result in subsequent impacts on commercial and recreational fishing opportunities and associated communities. It will be especially important to consider both impacts to complex habitats and habitat use by Atlantic cod, a species that is culturally and economically significant to the region. Atlantic cod aggregate to spawn in the project area, and spawning activity is particularly vulnerable to disruption. The complex habitats used by Atlantic cod and other species are vulnerable to disturbances or alterations that can impact the physical and biological components of these habitats that provide complexity. Impacts to the physical (e.g. three-dimensional structure, crevices) and biological (e.g. epifauna) may be permanent or long-term, typically taking years to decades for recovery. Therefore, an alternative that minimizes effects of the project on these important habitats should be considered in the EIS.

Our ability to provide you with specific details and technical assistance related to this alternative(s) is limited by the habitat data available to us. While the offshore benthic habitat reports have not yet been made available to us and we have not yet received sufficient data to provide specific locations of concern, based on preliminary review of information from early coordination meetings we expect complex habitat areas to be found along the northern project boundary, where the project overlaps with Cox Ledge and known areas of cod spawning activities. There may also be large areas of complex habitats along the central and eastern portions of the lease area. The alternative should evaluate the habitat data and identify areas where construction should be avoided or where micrositing should be considered to minimize impacts. The alternative should not only consider locations for turbine removal and/or micrositing, but also consider portions of the lease where cod spawning aggregations have been detected and areas dominated by complex habitats that provide important functions for associated living marine resources, such as Atlantic cod.

A habitat minimization alternative(s) should consider impacts of the project both in the lease area as well as along the export cable. These components may be considered as two separate alternatives or a one alternative that identifies measures to reduce fisheries habitat impacts for the entire project area and includes both the lease area and the export cable corridor. This habitat impact minimization alternative(s) should evaluate not just impacts of WTG construction and operation, but also ways to minimize impacts from cables on sensitive habitats. This should include the inter-array cable routes and proposed export cable corridor, and potential routing modifications that avoid and minimize impacts to important, sensitive, and complex habitats located in the project area, including submerged aquatic vegetation (SAV). Specifically, the inter-array and export cables should be routed to avoid and minimize impacts to complex habitats and the onshore cable landing where SAV has been historically mapped. While the onshore landing includes the use of HDD for the final landfall connection, an in-water work area appears to fall within the mapped SAV beds, thus alternative in-water work areas should be considered and evaluated. Routing and construction methods that allow for full cable burial to



minimize permanent habitat impacts and potential interactions with fishing gear should be considered as a component of this alternative. This habitat alternative (or alternatives) should be evaluated as an individual alternative(s) that may be mixed or matched with other identified alternatives.

While measures to minimize impacts of the project on vulnerable habitats and species should be considered for all alternatives, the fisheries habitat impact minimization alternative should consider and fully evaluate these measures in detail. Specifically, measures to avoid and minimize impacts to complex habitats, cod spawning activity, squid spawning and egg development, as well as other vulnerable habitat features and life stages. Measures to avoid disrupting spawning activity (e.g. time of year restrictions, project placement) and settlement areas (e.g. avoiding complex habitats) should be fully evaluated. Further, this alternative should consider measures to increase habitat value through the material and composition of any proposed scour protection, for both cables and turbines. The analysis should consider how different types of materials employed may or may not maximize the habitat value for juvenile species, such as Atlantic cod. Mitigation measures evaluated through this alternative may also be considered or mixed and matched with other alternatives.

#### *Offshore Converter Station*

Sunrise Wind has proposed an Offshore Converter Station and one direct current (DC) submarine export cable bundle in place of using alternating current (AC) submarine cable bundles for exporting wind energy onshore from the lease area. Of particular concern for fisheries resources are the proposed water withdrawals required for the offshore converter station, including the potential for impingement or entrainment of early life stages of marine species, heated effluent discharge, and differences in EMF emission levels. Currently, the COP presents the results of impact assessments to resources associated with the proposed DC cable export option. While differences in the project components that would be necessary for the proposed DC export option and an AC export option are presented, there is no evaluation of how the different project components associated with each option would affect resources. An alternative that evaluates and considers the impacts to resources as a result of both an AC and the proposed DC export option should be included in the EIS.

In addition to an overall evaluation of the proposed water withdrawals and heated effluent discharges effects for vulnerable life history stages of species expected to occur in the project area, specific evaluations should focus on impacts to Atlantic cod and North Atlantic right whales. A species-specific evaluation of potential impacts to Atlantic cod eggs and larvae should also be included in the analysis of this alternative. This evaluation should incorporate and fully consider the proximity of cod spawning activity in the project area to evaluate the potential effects of the OCS to Atlantic cod. Similarly, the EIS should fully consider the potential for impingement or entrainment of copepods, which are a critical foraging resource for North Atlantic right whales.

The analysis of this alternative should address how each project component of the two different options (DC versus AC) would affect fisheries resources and the species that depend on those resources for food. This analysis should address not only what resources and habitats would be impacted, but also include a temporal component for each project element by specifying the duration of the identified impact and any expected recovery timeframes. For example, the DC

option requires only one foundation with a seawater cooled converter station that will operate for the life of the project, resulting in continuous impacts from water withdrawals and effluent discharges over the life of the project; whereas the AC option would require additional in-water structures with associated construction and operation impacts, which may vary based on resources present.

The alternative should be structured to allow for a “mix and match” approach to be combined with each other alternative evaluated in the EIS. For example, if this alternative is incorporated into the Fisheries Habitat Minimization Alternative, the refinement of the export cable corridor and inclusion of higher habitat value cable protection could further minimize any long-term to permanent impacts that could result from the installation of multiple cable bundles necessary for the AC cable option. The alternative should fully evaluate how each option (DC versus AC) would affect the resources in the project area considering both the duration and extent of each identified impact.

#### *Coordinated Cable Routing*

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

#### **Affected Environment**

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

The description of the “Affected Environment” should recognize the ocean environment as dynamic, not static, and acknowledge that the environment, and species within the environment, vary over time and seasons. This section should include information on the physical (temperature, salinity, depth, and dissolved oxygen) and biological (e.g. plankton) oceanography. It is important that the EIS discuss seasonal changes and long-term trends in the environment as well as hydrodynamic regimes and how they influence the distribution and abundance of marine resources. Within this section, the EIS should include results of on-site surveys, site-specific habitat information, and characterization of benthic and pelagic communities. Additional details should be provided related to all habitat types located within the project area with a particular focus on complex habitats.

The “Affected Environment” section should also include all of the biological, cultural, and socioeconomic issues related to fisheries and marine resources that may be affected by this project, including species that live within, or seasonally use, the immediate project area and adjacent locations, including habitat use for spawning activity. For benthic resources, fish, and invertebrate species, this section should include an assessment of species status and habitat requirements, including benthic, demersal, benthopelagic, and pelagic species and infaunal, emergent fauna, and epifaunal species living on and within surrounding substrates. The discussion of the affected commercial and recreational (party/charter and private angler) fisheries should assess landings, revenue, and effort; fishery participants, including vessels, gear types, and dependency upon fishing within the project area; potential impacts beyond the vessel owner level (e.g., shoreside support services such as dealers, processors, distributors, suppliers, etc.); and coastal communities dependent on fishing. Our offshore wind socioeconomic impacts page (available at: [https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm\\_medium=email&utm\\_source=govdelivery](https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm_medium=email&utm_source=govdelivery)) can help identify important commercial and recreational fisheries, while the status of many species can be found on our individual species pages (available at: <https://www.fisheries.noaa.gov/find-species>), and recent trends can be found on our Stock SMART page (available at: <https://www.st.nmfs.noaa.gov/stocksmart?app=homepage>). Information that can help characterize communities engaged in fishing activity can be found on our website describing social indicators for coastal communities (available at: <https://www.fisheries.noaa.gov/national/socioeconomics/social-indicators-coastal-communities>) and should be integrated into the EIS.

The section describing the “Affected Environment” for protected species should include information on the seasonal abundance and distribution of marine mammals, sea turtles, ESA-listed marine fish, anticipated habitat uses (e.g., foraging, migrating), threats, and the habitats and prey these species depend on throughout the area that may be directly or indirectly impacted by the project. The status of marine mammal stocks (see our stock status reports<sup>1</sup>), population trends, and threats should also be identified. Similar information should also be provided for all ESA listed species (see relevant status reviews on our ESA Species Directory, <https://www.fisheries.noaa.gov/species-directory/threatened-endangered>).<sup>2</sup> As the EIS is developed, specificity between species groups (e.g., low frequency vs. mid frequency cetaceans) of marine mammals and sea turtles should be incorporated. A broad grouping approach (e.g., all marine mammals) creates uncertainty and gaps in the analysis and does not fully represent the variability of impacts amongst different taxa. As species within these taxa have different life histories, biology, hearing capabilities, behavioral and habitat use patterns, distribution, etc., project effects may not have the same degree of impact across all species. Thus, the impact conclusions (e.g., minor, moderate, major) are clearer and better supported if the document describes the degree of impacts to each species (e.g., green sea turtle vs. hawksbill) or groups of species (e.g., mysticetes, odontocetes, pinnipeds). Additionally, for some marine mammal species (e.g., harbor porpoise), data from European wind farms can be used to support each

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<sup>1</sup> <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>

<sup>2</sup> Please note that NOAA Fisheries biological opinions should not be used as a reference unless referring to specific conclusions for which the particular project that the biological opinion was issued. We do not recommend relying on NOAA Fisheries Biological Opinions to support conclusions reached by BOEM for other projects that were not the subject of that Opinion.

determination. This approach also allows the analysis to better identify the ability of those species or groups to compensate when exposed to stressors and better identify the benefit from mitigation and monitoring measures. This approach would ensure the analysis reduces uncertainty and reflects the best available scientific information. Also, wherever possible, we encourage you to identify effects to individuals (e.g., injury, behavioral disturbance, disrupted foraging), as well as impacts at the population level.

### **Environmental Consequences**

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

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

It is important that the analysis provides a sufficient evaluation of baseline conditions and uses

the best available information to evaluate the alternatives and support the analysis of effects. Any conclusions related to the level and direction of project impacts should be fully supported by the analysis in the EIS and be consistent with impact definitions identified in the EIS. Importantly, the significance criteria definitions identifying the level of impacts from the project (e.g., negligible, minor, moderate, major) should not embed terms defined by other statutes (e.g., the definition of minor should not refer to the MMPA definition of "level A harassment") or apply other statute definitions to the impact criteria used for NEPA purposes. Rather, these definitions should be written in a way that it is clear to a reader how these impact determinations consider the spectrum of effects to individual animals (e.g., temporary behavioral disturbance, injury). We also encourage you to use definitions that are appropriate for the resource being considered (e.g., benthic habitat vs. marine mammals). As you know, we recently worked with you on the South Fork EIS to develop significance criteria definitions for impacts to NOAA trust resources (i.e. marine mammals, and benthic habitat, EFH, finfish and invertebrates). That collaborative work should be carried forward for this and future NEPA documents. As we have stated in the past, to the extent that any conclusions are based on inclusion of mitigation measures, those measures must be clearly defined and include an indication as to whether the measure is considered part of the proposed action and will be required upon approval, or an option that may be implemented by the developer at their own discretion. In preparation of the NEPA document for Sunrise Wind, we strongly recommend you review and incorporate comments we have made on previous BOEM documents to ensure a robust and sufficient analysis of NOAA trust resources.

Using the best scientific information available for all marine trust resources is critical to analyzing the impacts resulting from this project. Data used should include a sufficient range of years to reflect natural variability in resource conditions and fishery operations, but also current conditions. We recommend that fisheries and marine resource survey analyses consider at least 10 years of data up to and including data within the past two years. This is especially important for marine mammals given recent distribution and habitat utilization shifts.

Temporary, long-term, and permanent direct and indirect impacts to water quality, protected species, habitats, and fisheries (ecological and economic) throughout construction, operation, and decommissioning should be addressed in the EIS. The temporal classification (e.g., temporary, long-term, or permanent) should be appropriate for the species, habitat types and impacts considered and should be clearly and consistently defined. The time of year that construction activities occur is also an important factor in evaluating potential biological, economic, and social impacts of the project and should be clearly specified for each project activity to the extent possible.

It will be particularly important to evaluate how construction timing overlaps with cod spawning activity in the project area and across Southern New England. Cod spawning in Southern New England occurs between November and April. Successful cod spawning relies on the presence of aggregations of cod and complex behavioral interactions that require the use of low frequency sound communication ("grunts") by the males to attract females for "mating." If this mating behavior is disrupted and the aggregations are dispersed, reproduction may not occur for the rest of the spawning season, or even in subsequent years if cod abandon spawning grounds that have been affected. The potential overlap of project construction and in-water activities should be

fully evaluated in the EIS, as well as measures to avoid and minimize impacts to cod spawning.

In addition to focused evaluations on protected species, fish, invertebrates, and habitats, the “Environmental Consequences” section of the EIS should include a subsection evaluating impacts to commercial and recreational fisheries. The EIS should discuss biological impacts to marine species caused by the temporary or permanent loss/conversion of bottom habitat (i.e., resource distribution, productivity, or abundance changes) and direct or indirect socioeconomic impacts to commercial and recreational fishing activities and support businesses from project construction and operation such as loss of access to important fishing areas due to the presence of structures (WTGs, substations, cables, scour protection). This evaluation should also include any potential displacement of fishing activities and resulting changes to catch rates and increased gear conflicts, bycatch, and fishing pressure in other locations. When structuring the fishery socioeconomic impact evaluation, you should address all of the elements identified in the checklist we provided in January 2021, or explain why specific elements on that checklist were not included in the EIS. As noted above, our fishery socioeconomic impact summaries can and should serve as the foundation for this analysis in the EIS, although additional project-specific analysis may be necessary to address particular impacts or mitigation/compensation arrangements with affected fisheries.

It is vital that all costs and benefits of available alternatives, including the no action alternative, are considered in a cost-benefit analysis. Costs and benefits should include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider (including potential economic, environmental, public health and safety, distributive impacts, equity, etc.).

The NEPA document should address effects of the project on Environmental Justice, including those specific to fishing communities with minority and low-income populations. We anticipate Environmental Justice concerns will be included as required under Executive Order 12898 (E.O. 12898, 59 FR 7629; February 16, 1994) Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This E.O. requires that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories...” and take into account E.O. 13985 (86 FR 7009; January 20, 2021) On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. In addition, for coastal communities that include tribal nations who value the sea and fish to sustain Native American life, projects should also consider E.O. 13175 (65 FR 67249; November 6, 2000), which requires federal agencies to establish regular and meaningful consultation and collaboration with tribal officials where tribal implications may arise.

### **Mitigation**

NEPA requires identification and consideration of reasonable mitigation measures to address adverse impacts resulting from the construction and operation of the wind energy facility and associated cable installation as well as the likelihood of their implementation. Under NEPA, mitigation includes:

- Avoiding an impact by not taking a certain action or parts of an action;
- Minimizing an impact by limiting the degree or magnitude of the action and its implementation;
- Rectifying an impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating an impact over time, through preservation and maintenance operations during the life of the action; and
- Compensating for an impact by replacing or providing substitute resources or environments.

The EIS must clearly identify which mitigation measures are included as part of the proposed action and thus, evaluated in the analysis, which measures are proposed as required, and measures that are optional and could be implemented by the developer to potentially reduce impacts. The document should provide information on how mitigation measures are considered in the context of the definition of effects levels (e.g. negligible, minor, moderate, major), and how mitigation would offset those levels of effect. Mitigation measures must be relevant to the impact to be mitigated and capable of actually reducing impacts (e.g., as proposed in the COP, a monitoring study alone is not an effective mitigation measure). An analysis of the effectiveness of any proposed mitigation should also be evaluated in the EIS. Measures to avoid and minimize impacts such as speed restrictions for project vessels, soft start procedures, noise dampening technologies, construction time of year restrictions, anchoring plans, or micro-siting should be discussed in detail, including what resources would benefit from such mitigative measures and how/when such benefits (or impact reductions) would occur. We strongly encourage BOEM to require measures that reduce noise levels during construction to the maximum extent practicable where data suggests technology is more effective (e.g., if bubble curtains are proposed, requiring a double bubble curtain vs. single bubble curtain). The EIS should analyze temporary effects and anticipated recovery times for marine resources within the impacts analysis.

While the project should be planned and developed to avoid and minimize adverse effects to marine resources and existing uses (i.e. fisheries habitat, fishing and NMFS scientific survey operations) to the greatest extent practicable, compensatory mitigation should be proposed to offset unavoidable permanent and temporary impacts. This should include discussion and evaluation of potential compensatory mitigation for unavoidable adverse impacts to fisheries habitats and the lost functions and values resulting from those impacts. Compensatory mitigation for both ecological losses as well as social and economic losses should be discussed in the EIS, and incorporate all affected entities. Compensatory mitigation for social and economic impacts from this and other projects should consider any increased operational costs (i.e., increased steaming time to search for fish or transiting around turbines) or loss of fisheries revenue (i.e., lower catch) resulting from the construction and operation of the project. Compensatory mitigation should also consider more conservative quotas set in response to reduced scientific survey access and associated increased uncertainty in stock assessments along with any potential proposed measures to compensate for such losses. Additionally, the potential for bycatch measures resulting from protected species interactions due to shifts in fishing activity and increased uncertainty in protected species assessments should be analyzed and discussed. Details of compensation plans describing qualifying factors, time constraints, allowed claim frequency, etc. should also be included when possible, particularly if used as mitigation measures

to reduce economic impacts from access loss/restriction, effort displacement, or gear damage/loss. Finally, mitigation necessary to offset negative impacts to longstanding marine scientific survey operations (e.g., loss of access to project areas, changes to sampling design, habitat alterations, and reduced sampling due to increased transit time) and fisheries dependent data collections must also be considered and evaluated in the document (see description of scientific survey impacts below).

### **Cumulative Effects**

The EIS should include a complete analysis of the cumulative impacts of the project. This analysis should describe the effects of the proposed project, which in combination with any past, present, and reasonably foreseeable future actions, may result in cumulative impacts on the ecosystem and human environment. This analysis should include a broad view of all reasonably foreseeable activities, including but not limited to, energy infrastructure (including future wind energy projects), sand mining, aquaculture, vessel activity, fisheries management actions, disposal sites, and other development projects. Consistent with efforts to evaluate the cumulative effects for both the Vineyard Wind and South Fork Wind projects, offshore wind development projects that have been approved and those in the leasing or site assessment phase should also be evaluated. Specifically, the cumulative effects analysis should consider all 16 COPs BOEM recently announced it plans to process by 2025. We encourage you to use the final cumulative impact analysis from the Vineyard Wind project to help inform discussions of cumulative effects on marine resources from other offshore wind development projects for this EIS. However, for this project, additional focus on cumulative impacts of multiple projects potentially impacting marine resources in the area at the same time and over consecutive seasons should also be incorporated. Although lease auctions for the New York Bight have not yet been conducted, consideration of the impacts from potential projects in the New York Bight Wind Energy Areas are warranted, particularly if the lease areas are defined and auctions completed before the EIS for this project has been finalized.

The EIS should evaluate cumulative impacts of project construction, operation, and decommissioning. Consideration of impacts from multiple projects throughout the region and outside the Rhode Island/Massachusetts Wind Energy Area is particularly important for migrating species of marine mammals, sea turtles, fish, and invertebrates that may use or transit multiple proposed project areas. The potential cumulative impacts on the migration and movements of these species resulting from changes to benthic and pelagic habitats and potential food sources due to the presence of multiple projects should be evaluated in the cumulative effects analysis.

### *Assessment of Hydrodynamics and Oceanographic Conditions*

An assessment of the potential impacts of the Sunrise Wind project-specific (turbine level) and the full build-out/cumulative offshore wind scenario on hydrodynamics, and oceanographic and atmospheric conditions, will help evaluate impacts on species distribution and the effects to hydrodynamic conditions. The potential impact of offshore wind development is not well known, but the large scale energy extraction and the physical presence of wind turbine foundations could have a significant impact on wind speeds, wave heights, currents, vertical stratification of the water column, and primary production in this region, which could affect the ecology, habitat, and egg/larvae and prey distribution of a number of federally managed fish



species and protected species. We recognize there is uncertainty regarding the scope and scale of these impacts; however, it is critical that these issues are thoroughly addressed and that the EIS makes use of the best available scientific information, including the consideration of preliminary results of ongoing studies, to support any conclusions regarding these impacts. In particular, the EIS should contain a robust assessment of the potential effects of both the Sunrise Wind project and the full build-out scenario on prey resources for critically endangered North Atlantic right whales and other species. Potential impacts to plankton distribution should be clearly discussed as their distribution, aggregation, and possible abundance may shift, and this could have a significant impact on North Atlantic right whales, along with other large whales and numerous species of planktivorous pelagic fish, as zooplankton are the primary source of prey for many higher trophic level organisms. Given the consideration of including an offshore converter station that will withdraw large amounts of water, consideration of impingement and entrainment of plankton must be factored into this analysis. In addition, consideration of impacts to species recruitment and larval distribution due to changes to ocean stratification and circulatory patterns resulting from the development of wind projects should be discussed in this section.

#### *Assessment of Overlapping Activities*

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

The EIS should fully evaluate the cumulative effects of overlapping acoustic and benthic disturbance impacts on cod spawning aggregations across multiple spawning seasons. As discussed above, the project area overlaps with known spawning grounds for Atlantic cod. Because cod stocks region-wide are depleted in part due to low recruitment in recent years, adverse impacts to the spawning and recruitment of Atlantic cod associated with this project may result in significant long-term cumulative impacts to the southern New England spawning component of the Georges Bank stock. Cod that spawn in southern New England may soon be designated as a separate stock by the New England Fishery Management Council based on previously peer reviewed research. Overall, regional cod stocks are in poor condition and additional impacts to their discrete spawning aggregations and future recruitment, including cumulative impacts from multiple offshore wind development projects, may be detrimental to their recovery and result in significant long-term cumulative impacts to this distinct stock component and the species at large. The EIS must evaluate the potential cumulative effects of construction activity from this project and adjacent projects occurring during periods of cod spawning over multiple years, including the potential for population level effects should construction be permitted during periods of spawning activity.

In addition, an assessment of cumulative impacts of existing and proposed transmission cables

should also be considered. Based on the proposed wind development projects in this region, there is the potential for substantial additive impacts associated with the number of required cables. As part of the cumulative effects analysis, measures to minimize the additive impacts should be considered, including the evaluation of designated cable routes and coordination and consolidation with adjacent projects to minimize cumulative impacts.

#### *Assessment of Regional Fishery Impacts*

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

#### *Project-specific Monitoring Programs and Regional Surveys*

Given the extent of potential offshore wind development on the OCS and in this region in particular, the cumulative effects analysis will be a critical component of the EIS. Establishing a regional monitoring program will be important to help understand potential impacts of wind energy projects and identify potential mitigation measures for any future projects. As you are aware, we have been working with state agencies, developers, and research institutions through the Responsible Offshore Science Alliance to develop a regional scientific research and monitoring framework, including project-specific monitoring plan/study guidance to better identify and understand cumulative impacts and interactions between marine resources, fisheries, and offshore wind energy. Similarly, we are engaged in the development of the Regional Wildlife Science Entity in an effort to address regional science and monitoring of impacts to wildlife and protected species. It is imperative that project-specific monitoring efforts are integrated into existing regional monitoring programs throughout the outer continental shelf, unless there is a project or location specific research question explicit to characteristics and dynamics unique to the site and relevant to trust resources management. Monitoring at multiple

scales and which takes an ecosystem-based approach to assessing monitoring needs of fisheries, habitat, and protected species should be required. This will be important to not only assess the cumulative impacts of project development; it will also help inform any future development. You should also coordinate with our agency early in the process related to any potential effects of monitoring activities on NOAA trust resources; we note that survey or monitoring activities may require permits or authorizations from us.

### **Endangered Species Act**

The following listed species may be found in the Sunrise Wind lease area: Endangered North Atlantic right (*Eubalaena glacialis*), fin (*Balaenoptera physalus*), sei (*Balaenoptera borealis*), and sperm (*Physeter macrocephalus*) whales; endangered Kemp's ridley (*Lepidochelys kempii*) and leatherback (*Dermochelys coriacea*) sea turtles; threatened North Atlantic distinct population segment (DPS) of green (*Chelonia mydas*) sea turtles and Northwest Atlantic DPS of loggerhead (*Caretta caretta*) sea turtles; and five DPSs of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). Sea turtles are present in the lease area seasonally, with occurrence largely limited to May - November. Additionally, oceanic whitetip shark (*Carcharhinus longimanus*) and giant manta ray (*Manta birostris*) may occasionally occur in the more offshore portions of the project area. More information on these species is available on our regional ESA information site<sup>3</sup>. North Atlantic right whale sightings are available at our NOAA Right Whale Sightings Map page<sup>4</sup>. Please note, a NOAA Tech Memo<sup>5</sup> was recently published with a new population estimate (368 individuals as of January 2019) for North Atlantic right whales. We note that this population estimate is significantly lower than the estimate in the 2020 Stock Assessment Report<sup>6</sup>, which was a minimum population estimate of 408 individuals as of January 2018 (Hayes et al. 2021). The 2021 draft marine mammal Stock Assessment Reports are anticipated to be available later this year. There is no designated critical habitat that overlaps with the lease area. We do not have sufficient information on the project to determine if any vessel transit routes would overlap with any designated critical habitat. Depending on vessel traffic routes, additional ESA species may occur in the project area. Please see Attachment B to this letter for a list of recommended scientific references for consideration related to the presence of ESA-listed species in or near the lease area.

### *ESA Section 7 Consultation*

Under section 7(a)(2) of the ESA, each Federal agency is required to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species. Because the activities that are reasonably certain to occur following the proposed approval of the Sunrise Wind COP (including surveys, construction, operation, and decommissioning) may affect ESA-listed species and/or designated critical habitat, section 7 consultation is required. It is our understanding BOEM will be the lead Federal agency for this consultation, and that you will coordinate with any other Federal agencies that may be issuing

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<sup>3</sup> <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-critical-habitat-information-maps-greater>

<sup>4</sup> <https://apps-nefsc.fisheries.noaa.gov/psb/surveys/MapperiframeWithText.html>

<sup>5</sup> Pace, RM. 2021. Revisions and Further Evaluations of the Right Whale Abundance Model: Improvements for Hypothesis Testing. NOAA Tech Memo NMFS-NE-269; 49 p. Available online at <https://apps-nefsc.fisheries.noaa.gov/rcb/publications/tm269.pdf>

<sup>6</sup> <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports>

permits or authorizations for this project, as necessary, so that we can carry out one consultation that considers the effects of all relevant Federal actions (e.g., issuance of permits by the U.S. Army Corps of Engineers and/or the U.S. Environmental Protection Agency and issuance of any MMPA take authorization by NOAA's National Marine Fisheries Service (NMFS)) regarding any wind energy facility proposed in the lease area. Given the extremely tight timelines proposed for this project, it is critical that we receive a draft Biological Assessment with the Cooperating Agency draft of the DEIS. This BA must reflect all activities associated with the full scope of the Sunrise Wind project including clearly defined mitigation and monitoring measures that BOEM considers as part of the proposed action. Further, the BA must reflect any and all proposed survey or monitoring activities proposed for any stage of the project, including surveys of fisheries resources. We encourage you to use the ESA Information Needs Checklist when developing the BA.

### *Considerations for the EIS*

We expect that any environmental documentation regarding a proposed wind facility in the lease area will fully examine all potential impacts to our listed species, the ecosystems on which they depend, and any designated critical habitat within the action area. We have developed a checklist (ESA Information Needs document) to identify information needs for considering effects of wind projects on ESA-listed species and critical habitats and we strongly encourage you to use that as you develop the EIS. We also strongly urge you to carefully consider the information we have provided for the Vineyard Wind and South Fork NEPA documents and to incorporate that into this EIS as appropriate.

The construction and operation of a wind energy facility and installation of subsea electrical cables have the potential to impact listed species and the ecosystems on which they depend. Potential effects of offshore wind energy development on listed species that should be considered by BOEM when making any determinations about construction and operation in the Sunrise Wind project area include:

- Potential for an increased risk of vessel strike due to increases in vessel traffic and/or shifts in vessel traffic patterns due to the placement of structures;
- Impacts of elevated noise during any geophysical and geotechnical surveys, pile driving, wind turbine operations, and other activities;
- Potential interactions, including entanglement, injury, and mortality, of listed species from proposed surveys or monitoring of fisheries resources;
- Any activities which may displace species from preferred habitats, alter movements or feeding behaviors, increase stress and/or result in temporary or permanent injury or mortality;
- Disruption of benthic habitats during construction and conversion of habitat types that may affect the use of the area, alter prey assemblages or result in the displacement of individuals;
- Impacts to water quality through sediment disturbance or pollutant discharge; project lighting as a potential attractant;
- Effects from electromagnetic fields and heat from inter-array and export cable to listed species and their prey (i.e. ability to forage, attraction, etc.); and
- Potential changes to pelagic habitat resulting from the presence of wind turbines.

The EIS should also consider how any proposed wind farm may displace or alter fishing or existing vessel activity that may change the risk to protected species from interactions with fisheries or vessels either within or outside the lease area, including potential risks of interactions with recreational fishing activity around foundations and entanglement in marine debris that may become ensnared on the foundations. Additionally, the EIS should consider effects of any surveys that may occur following potential COP approval that may affect listed species (e.g., gillnet or trawl surveys to characterize fisheries resources), as well as any pre- or post-construction monitoring that may affect listed species. For further information on effects to consider, please refer to the ESA Information Needs document.

It is our understanding BOEM will develop a Biological Assessment (BA) to support your eventual request for ESA section 7 consultation. While we understand that you intend to prepare the BA as a stand-alone document (i.e., you are not planning for the EIS to serve as the BA), we anticipate and expect that the BA will be an appendix to the EIS. We are not opposed to an approach whereby the EIS would serve as the BA, provided sufficient detail and analyses are included. We understand the BA and the NEPA document are likely to evaluate effects of activities consistent with a design envelope and are likely to take a “maximum impact scenario” approach to assessing impacts to listed species that may occur. We encourage early coordination with us to determine which impact-producing factors should be analyzed based on a “worst case” or “maximum impact” scenario and which parts of the design envelope would need to be narrowed to carry out a reasonable analysis that would support your request for section 7 consultation.

Through the EIS, you should consider requiring the development of minimization and monitoring measures that minimize the risk of exposure to potentially harassing or injurious levels of noise to marine mammals, sea turtles, and Atlantic sturgeon. Mitigation measures should be required during pile driving that will act to reduce the intensity and extent of underwater noise and avoid exposure of listed species to noise that could result in injury or behavioral disturbance. The use of protected species observers to establish and monitor clearance zones prior to pile driving is essential and project scheduling should take into account the need for adequate visibility during the pre-pile driving clearance period, as well as for the duration of pile driving activities. Real-time and archival passive acoustic monitoring should also be used as a secondary detection/monitoring system during construction, to increase situational awareness in vessel corridors and around the project area, and to monitor the distribution of marine mammals in the lease area during construction and operations. We encourage you to work with Sunrise Wind to develop a project schedule that minimizes potential impacts to North Atlantic right whales. Specifically, you should consider time of year restrictions for pile driving that would avoid pile driving during the months when the density of North Atlantic right whales is highest in the lease area and the development of robust measures for other times of year that would minimize the exposure of right whales to noise that could result in behavioral disturbance (e.g., requirements for use of best available sound reduction technology, consideration of reduced hammer energy, etc.). You will also need to carefully consider recent information on the use of the MA/RI and MA Wind Energy Areas by North Atlantic right whales and the increased seasonal use of these areas documented in recent years. This includes recent analyses which identify areas overlapping the Sunrise Wind lease area as

hotspots for right whales during the spring season, with records of feeding and social behavior (Quintana-Rizzo et al. 2021).

Marine mammal responses to sound can be highly variable, depending on the individual hearing sensitivity of the animal, the behavioral or motivational state at the time of exposure, past exposure to the noise which may have caused habituation or sensitization, demographic factors, habitat characteristics, environmental factors that affect sound transmission, and non-acoustic characteristics of the sound source, such as whether it is stationary or moving (NRC 2003)<sup>7</sup>. While BOEM and Sunrise Wind will need to consider effects to all listed species, given the imperiled status of North Atlantic right whales, implementing measures to ensure that no right whales are injured or killed as a result of the Sunrise Wind project is critical. We note that given the rapid pace of development of the lease blocks adjacent to the Sunrise Wind project and continued uncertainty surrounding construction schedules, consideration of the potential for overlapping construction periods (e.g., construction in multiple, adjacent leases in the same season) will be essential.

Mitigation measures should also be included that minimize the risk of vessel strike for whales, sea turtles, and Atlantic sturgeon, including consideration of vessel speed restrictions regardless of vessel size and robust measures to monitor vessel transit routes for North Atlantic right whales, including requirements for use of lookouts, reduced speeds, and use of PAM and other tools to increase the ability to detect and avoid whales along vessel transit routes. We strongly encourage you to require that vessels of all sizes reduce speeds to 10 knots or less in all Seasonal Management Areas and Slow Zones, including Slow Zones triggered by acoustic detections of North Atlantic right whales. Recent events and new information (see, <https://doi.org/10.1111/mms.12745>) demonstrate that large whales are susceptible to lethal vessel strikes from vessels of all sizes. Any surveys or monitoring that are carried out related to the project (e.g., gillnet or trap surveys to document fisheries resources) must carefully consider the effects to North Atlantic right whales and other ESA-listed species, and mitigation measures should be considered to eliminate the potential for entanglement of whales and to minimize risk to sea turtles and Atlantic sturgeon during such activities.

### **Marine Mammal Protection Act (MMPA)**

Section 101(a) of the MMPA (16 U.S.C. 1361) prohibits persons or vessels subject to the jurisdiction of the United States from taking any marine mammal in waters or on lands under the jurisdiction of the United States or on the high seas (16 U.S.C. 1372(a)(1), (a)(2)). Sections 101(a)(5)(A) and (D) of the MMPA provide exceptions to the prohibition on take, which give us the authority to authorize the incidental but not intentional take of small numbers of marine mammals, provided certain findings are made and statutory and regulatory procedures are met. ITAs may be issued as either (1) regulations and associated Letters of Authorization (LOAs) or (2) Incidental Harassment Authorizations (IHAs). LOAs may be issued for up to a maximum period of five years; IHAs may be issued for a maximum period of one year. We also promulgated regulations to implement the provisions of the MMPA governing the taking and importing of marine mammals (50 Code of Federal Regulations (CFR) part 216) and published application instructions that prescribe the procedures necessary to apply for an ITA. U.S.

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<sup>7</sup> National Research Council (NRC). 2003. Ocean noise and marine mammals. National Academy Press; Washington, D.C.

citizens seeking to obtain authorization for the incidental take of marine mammals under NMFS' jurisdiction must comply with these regulations and application instructions in addition to the provisions of the MMPA.

Information about the MMPA and 50 CFR part 216 is available on our website at <https://www.fisheries.noaa.gov/topic/laws-policies#marine-mammal-protection-act>. Information on the application process is available at <https://www.fisheries.noaa.gov/node/23111> and the application along with detailed instructions is available at <https://www.fisheries.noaa.gov/national/marine-mammal-protection/apply-incident-take-authorization>.

Because activities associated with the construction of Sunrise Wind have the potential to result in the harassment<sup>8</sup> of marine mammals, we anticipate that a request for an ITA pursuant to section 101(a)(5) of the MMPA may be submitted to us by the project proponent. NMFS' proposal to issue an ITA that would allow for the taking of marine mammals, consistent with provisions under the MMPA and incidental to an applicant's lawful activities, is a major federal action under 40 CFR 1508.1(q)<sup>9</sup>, requiring NEPA review. Rather than prepare a separate NEPA document, NMFS, consistent with the CEQ regulations at 40 CFR 1506.3, intends to adopt BOEM's Final EIS to support its decision to grant or deny Sunrise Wind's request for an ITA pursuant to section 101(a)(5)(A) or (D) of the MMPA. NOAA may adopt all or portions (e.g., specific analyses, appendices, or specific sections) of a NEPA document prepared by another federal agency if the action addressed in the adopted document (or portion) is substantially the same as that being considered or proposed by NOAA, and NOAA determines the document (or portion) satisfies 40 CFR 1506.3.

When we serve as a Cooperating Agency and we are adopting another agency's EIS, we ensure all resources under our jurisdiction by law and over which we have special expertise are properly described and the effects sufficiently evaluated, documented, and considered by the lead agency EIS. Of particular importance is that the Draft and Final EIS address comments and incorporate edits NMFS provides during document development and Cooperating Agency review. As a Cooperating Agency per 40 CFR 1501.8, we must determine that the Final EIS properly addresses our comments and input in order for NMFS to determine the EIS is suitable and legally defensible for adoption, per 40 CFR 1506.3 and NOAA's NEPA procedures<sup>10</sup>, and subsequent issuance of an ITA.

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<sup>8</sup> Harassment, (as defined in the MMPA for non-military readiness activities (Section 3(18)(A)), is any act of pursuit, torment, or annoyance that has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment) or any act of pursuit, torment, or annoyance that has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns (Level B harassment). Disruption of behavioral patterns includes, but is not limited to, migration, breathing, nursing, breeding, feeding or sheltering.

<sup>9</sup> All references to the Council on Environmental Quality NEPA regulations included in this letter apply to the 2020 regulations effective September 14, 2020.

<sup>10</sup> NOAA Administrative Order (NAO) 216-6A "Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and EO 13690, Floodplain Management; and 11990, Protection of Wetlands" issued April 22, 2016 and the Companion Manual for NAO 216-6A "Policy and Procedures for Implementing the National Environmental Policy Act and Related Authorities" issued January 13, 2017.

As such, the document body must contain the following items: the purpose and need of NMFS' action, a clear description of NMFS' roles and responsibilities as both a cooperating and adopting agency (language we previously provided to BOEM for the South Fork Draft EIS), and a range of alternatives which incorporate a description of NMFS' action, to include the No Action alternative.

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

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

As part of our review, we must also determine if your EIS meets the requirements of 40 CFR Part 1500-1508, specifically basic requirements for an EIS as described in 40 CFR 1502. Therefore, the EIS must contain an adequate evaluation of the impacts on all marine mammals that may be present in the project area. In order to take a requisite "hard look" at environmental impacts, the analysis should consider the affected environment and degree of impact on each resource which involves an evaluation of direct and indirect effects, as well cumulative effects; the duration of the impact; whether it is beneficial or adverse and the geographic scale in which the action is occurring (e.g., local, regional). Specifically, the EIS must include an analysis of the impacts of elevated underwater noise on marine mammals resulting from pile driving, site characterization surveys, and other project-related activities; the risk of vessel strike due to increases in vessel traffic and/or changes in vessel traffic patterns; any activities that may increase the risk of entanglement; any activities that may result in the displacement of individuals or changes to migratory behavior; any activities that may result in altered prey assemblages or changes in feeding behavior; and any other activities that may result in harassment, injury, or mortality to marine mammals.

For specific marine mammal issues, we refer you to the discussion on marine mammals in the ESA section above. We note because all marine mammals are protected under the MMPA, those



comments apply to all marine mammal species. We specifically recommend that the analysis of impacts on marine mammals and corresponding significance determinations be separated by species group (i.e., mysticetes, odontocetes, and pinnipeds). For the noise impacts analysis, we recommend a similar approach using the hearing groups identified in NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (NMFS, 2018).

### **Magnuson-Stevens Fishery Conservation and Management Act**

As currently described in the NOI, this facility (inclusive of the wind farm area, offshore and inshore export cables and corridors, and shoreside landing points) will be constructed, operated, and maintained in areas designated essential fish habitat (EFH) for various life stages of species managed by the New England Fishery Management Council (NEFMC), Mid-Atlantic Fishery Management Council (MAFMC), and NMFS. Species for which EFH has been designated in the project area include, but are not limited to, Atlantic cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), monkfish (*Lophius americanus*), ocean pout (*Zoarces americanus*), summer flounder (*Paralichthys dentatus*), pollock (*Pollachius virens*), silver hake (*Merluccius bilinearis*), winter flounder (*Pseudopleuronectes americanus*), Northern longfin squid (*Doryteuthis pealii*), winter skate (*Leucoraja ocellata*), little skate (*Leucoraja erinacea*), windowpane flounder (*Scophthalmus aquosus*), bluefish (*Pomatomus saltatrix*), black sea bass (*Centropristis striata*), red hake (*Urophycis chuss*), scup (*Stenotomus chrysops*), yellowtail flounder (*Limanda ferruginea*), Atlantic sea scallop (*Placopecten magellanicus*), Ocean quahog (*Arctica islandica*), and Atlantic surfclam (*Spisula solidissima*). The proposed project area is also designated EFH for several Atlantic highly migratory species, including, but not limited to albacore tuna (*Thunnus alalunga*), yellowfin tuna (*Thunnus albacares*), bluefin tuna (*Thunnus thynnus*), blue shark (*Prionace glauca*), sandbar shark (*Carcharhinus plumbeus*), white shark (*Carcharodon carcharias*), dusky shark (*Carcharhinus obscurus*), tiger shark (*Galeocerdo cuvier*), and sand tiger shark (*Carcharias taurus*). The sand tiger shark has been listed as a Species of Concern by NOAA.

The most up-to-date EFH and HAPC designations should be used in your evaluation of impacts to EFH. HAPCs are a subset of EFH that are especially important ecologically, particularly susceptible to human-induced degradation, vulnerable to developmental stressors, and/or rare. EFH and HAPC for species managed by the NEFMC have been modified under the Omnibus Amendment which was approved and implemented in 2018. The EFH mapper should be used to query, view, and download spatial data for the species managed by the New England, Mid-Atlantic, and South Atlantic Councils and for Highly Migratory Species. The EFH mapper can be accessed from our habitat website at <https://www.habitat.noaa.gov/protection/efh/efhmapper/>. You should also be aware that the Final Amendment 10 to the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) went into effect on September 1, 2017. This amendment contains several changes to the EFH designations for sharks and other highly migratory species. More information can be found on our website at <https://www.fisheries.noaa.gov/topic/atlantic-highly-migratory-species>.

### *Considerations for the EIS*

The NEPA document, and the EFH, benthic resources, finfish and invertebrates sections, in particular, should accurately describe the project area, including both the export cable corridor

and lease area, and the resources that rely upon these habitats. The document should fully describe the distinct habitat features of the entire project area and the importance of different habitat types for providing structure and refuge, particularly for juvenile species and other sensitive life stages. The evaluation of project impacts should not only consider impacts of the project against the cumulative geographic scope (e.g. the OCS), but also clearly evaluate anticipated impacts of project construction and operation to the distinct habitat types found in the lease area, along the export cable route, and inshore landfall locations. The document should analyze the effects to the physical habitat features and the biological consequences of those effects. It will be important to consider impacts of the project on all life stages (adults, juveniles, larvae, eggs), and we recommend focusing on species and life stages that may be more vulnerable to impacts.

The Sunrise Wind project is proposed to be constructed on the southern edge of Cox Ledge and overlaps with unique and complex habitats. Impacts to complex habitats are known to result in long recovery times and are potentially permanent. Loss of these important habitats may result in cascading long term to permanent effects to species that rely on this area for spawning and nursery grounds and the fisheries and communities that target such species. The evaluation of impacts from project construction and operation should evaluate the potential for recovery and the anticipated recovery times based on the habitat type and components that would be impacted. The analysis should fully consider the potential impacts of proposed action to complex habitats in the lease area and cable corridor. Complex habitats may be permanently impacted or take years to decades to recover from certain impacts and this variability in recovery times by habitat type and components should be fully discussed and analyzed in the document.

The analysis should include a broad discussion of the potential effects of habitat alteration from construction and operation of the project using the best available scientific information. The analysis should address the potential impact of converting smaller-grained hard habitats (e.g. pebbles and cobbles) that support early life history stages of finfish to artificial reefs that may attract larger predator species. Within soft bottom habitats WTGs may create a reef effect, and the document should clearly distinguish the difference between man-made structures and the natural complex habitat present in the project area. Specifically, artificial habitats are only a component of the EFH designation for two managed fish species (black sea bass and red hake) in the region. The distinction between the natural and man-made structures should be incorporated into the analysis and should not be evaluated as equal in terms of habitat functions and values. The limitations of habitat value from scour and cable protection, and other man-made structures, should be clearly disclosed and analyzed.

Atlantic cod EFH for vulnerable early life history stages have been designated in the project area. Ongoing studies and the evaluation of historical data suggest that portions of the lease area are used by Atlantic cod for spawning. The southern New England spawning population represents the southernmost spawning contingent of this species along the Atlantic coast and contributes to the availability of the species throughout Southern New England waters. Recent information indicates these fish comprise a genetically distinct spawning population. The protection of this spawning population enhances genetic diversity and may increase the potential for the species as a whole to adapt to climate change. As discussed above, Atlantic cod spawn in southern New England between November and April. Spawning aggregations can be easily disturbed by in-

water activities and disruptions to spawning aggregations may affect reproductive success, which could result in significant long-term effects to the stock, particularly if construction activities occur during spawning periods over multiple seasons. The NEPA document should fully evaluate potential impacts of project construction and operation on Atlantic cod, including potential impacts to early life stages (e.g. habitats that support early stage juveniles after they settle to the bottom) and spawning activity from pile driving and ground disturbing activities, as well as the cumulative population level effects that may occur as a result of construction timing over multiple seasons. Further, the proposed OCS will result in both entrainment and impingement impacts as well as heated effluent discharges that may adversely affect planktonic stage Atlantic cod eggs and larvae. Specific measures to avoid and minimize these impacts should also be analyzed and discussed in the NEPA document.

In addition to Atlantic cod, spawning activity and sensitive life stages (eggs, larvae and juveniles) of other managed species are present throughout both the lease area and export cable corridor. The EIS should discuss impacts to sensitive life stages that may be more vulnerable to impacts. For example, both winter flounder and longfin squid (two species with designated EFH in the project area) have demersal eggs found within the project area and export cable corridor that are particularly vulnerable to sedimentation and burial. The COP notes that nearly 5,300 acres may experience up to 10 mm of additional sediment build up following construction activities, which could result in mortality for demersal eggs such as those laid by longfin squid within the project area and along the export cable corridor. Similar to cod, squid demonstrate spawning migration to the same areas each year and elaborate spawning behavior that can be disrupted by noise and particle movement. As proposed, construction of cables is expected to occur in Quarters 2 and 4 during peak squid spawning season, while foundation installation is expected to occur during Quarters 3 and 4 and overlap with the peak cod spawning season. These activities would have detrimental impacts to these important species and should be thoroughly evaluated in the EIS, including measures to minimize impacts to these species and their habitats sessile shellfish species may also be more vulnerable to project impacts. Potential impacts of the project on vulnerable life stages, including potential impacts to recruitment, should be discussed in detail and specific measures for avoiding and minimizing impacts should be identified in the document.

#### *EFH Consultation*

In the MSA, Congress recognized that one of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats. Congress also determined that habitat considerations should receive increased attention for the conservation and management of fishery resources of the United States. As a result, one of the purposes of the MSA is to promote the protection of EFH in the review of projects conducted under federal permits, licenses, or other authorities that affect or have the potential to affect such habitat.

The MSA requires federal agencies to consult with the Secretary of Commerce, through NMFS, with respect to “any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act,” 16 U.S.C. § 1855(b)(2). This process is guided by the requirements of our EFH regulation at 50 CFR 600.905. Pursuant to the MSA, each FMP must identify and

describe EFH for the managed fishery, and the statute defines EFH as “those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity” 16 U.S.C. § 1853(a)(7) and § 1802(10). NOAA’s regulations further define EFH adding, “waters” include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; “substrate” includes sediment, hard bottom, structures underlying the waters, and associated biological communities; “necessary” means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity” covers a species' full life cycle.

The EFH final rule published in the *Federal Register* on January 17, 2002, defines an adverse effect as: “any impact which reduces the quality and/or quantity of EFH.” The rule further states that:

An adverse effect may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat and other ecosystems components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from action occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

As stated above, adverse impacts to EFH may result from actions occurring within or outside of areas designated as EFH. In addition, the EFH final rule also states that the loss of prey may have an adverse effect on EFH and managed species. As a result, actions that reduce the availability of prey species, either through direct harm or capture, or through adverse impacts to the prey species' habitat may also be considered adverse effects on EFH. The EFH regulations state that for any Federal action that may adversely affect EFH, Federal agencies must provide NMFS with a written assessment of the effects of that action on EFH (50 CFR 600.920(e)). This EFH Assessment should include analyses of all potential impacts, including temporary and permanent and direct and indirect individual, cumulative, and synergistic impacts of the proposed project.

The EFH assessment must contain the following mandatory elements: (i) a description of the action, (ii) an analysis of the potential adverse effects of the action on EFH and the managed species, (iii) the federal agency’s conclusions regarding the effects of the action on EFH, and (iv) proposed mitigation, if applicable (50 CFR 600.920(e)(3)). Due to the potential for substantial adverse effects to EFH from the proposed project, an expanded EFH consultation as described in 50 CFR 600.920(f) is necessary for this project. As part of the expanded EFH consultation, the EFH Assessment for the proposed project, the assessment should also contain additional information, including: (i) the results of an on-site inspection to evaluate the habitat and the site specific effects of the project, (ii) the views of recognized experts on the habitat or species that may be affected, (iii) a review of pertinent literature and related information, (iv) an analysis of alternatives to the action, and (v) other relevant information.

The EFH expanded consultation process allows the maximum opportunity for NMFS and the

Federal action agency, in this case BOEM, to work together to review the action's impacts on EFH and federally managed species, and for our agency to develop EFH conservation recommendations (EFH CRs) to avoid, minimize or otherwise offset adverse effects to EFH and federally managed species. Although the EFH consultation is a separate review mandated pursuant to the MSA, our EFH regulations encourage the consolidation of the EFH consultation with other interagency consultation, coordination, and environmental review procedures required by other statutes, such as NEPA, where appropriate. Because the information contained within the EIS is needed to support a complete EFH Assessment, we request you use the NEPA document as the vehicle within which to present the EFH assessment. The EFH Assessment should be included within a separate section or appendix of the DEIS document and be clearly identified as an EFH assessment.

#### *Considerations for the EFH Assessment*

We understand you permit the use of a Project Design Envelope (PDE) in the preparation of a COP, and the NEPA document will focus on analysis of the maximum impacts that would occur from the range of design parameters. However, for purposes of the EFH consultation, the EFH Assessment should be consistent with the EFH regulations under the MSA. Specifically, you are required to include in your assessment an analysis of the potential adverse effects on designated EFH, including the site-specific effects of the project, and measures that can be taken to avoid, minimize, or offset such effects (CFR 600.920(d-e)). You must assess the potential adverse impacts that would occur as a result of the range of design parameters under consideration in the PDE, rather than a maximum impact scenario. Of particular concern is the adequacy of the habitat information that will be provided in the EFH assessment. Accurate characterization and delineation of habitats within the project area is a critical component of the EFH assessment and a prerequisite for meaningful and appropriate EFH conservation recommendations to be developed for incorporation into the project. Should the EFH assessment provide insufficient details to assess impacts of the project, we may determine that the assessment is incomplete and that consultation under the MSA cannot be initiated, or we may provide precautionary conservation recommendations based upon the level of information and analysis available.

To help ensure adequate information to initiate the EFH consultation, the expanded EFH Assessment should include full delineation, enumeration, and characterization of all habitat types in the project area including the lease areas, cable corridors and landing sites. Particular attention should be paid to HAPCs, sensitive life stages of species, ecologically sensitive habitats, and difficult-to-replace habitats such as natural hard bottom substrates, particularly substrates with attached macroalgae and epifauna (including corals), SAV, and shellfish habitat and reefs. The habitat mapping data should also be shared directly with us in usable GIS format for review, apart from the body of the EFH Assessment and maps and figures contained therein. To aid BOEM and project applicants in the development of comprehensive and complete EFH Assessments, we have published our *Recommendations for Mapping Fish Habitat*<sup>11</sup>, dated March 2021. This document is an updated version, which was previously submitted to you on May 27, 2020. To further streamline the consultation process, we also shared a technical assistance document with you in January of 2021, titled *Essential Fish Habitat (EFH) Information Needs for Offshore Wind Energy Projects in the Atlantic* which provides a checklist

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<sup>11</sup>[https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/60637e9b0c5a2e0455ab49d5/1617133212147/March292021\\_NMFS\\_Habitat\\_Mapping\\_Recommendations.pdf](https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/60637e9b0c5a2e0455ab49d5/1617133212147/March292021_NMFS_Habitat_Mapping_Recommendations.pdf)

of information that should be incorporated into the EFH Assessment.

As stated in our habitat mapping recommendations, EFH checklist, and through regular communication with you, early coordination in the consultation process, particularly for projects at the size and scale of offshore wind development, is essential. We are concerned about the limited early coordination and communication for the Sunrise Wind project, particularly related to habitat mapping and data collection prior to initial benthic sampling in this unique habitat area. While some coordination has occurred subsequent to the initial sampling, there has been limited coordination and data sharing subsequent to follow-up surveys. As we have previously discussed, early coordination on proposed habitat mapping procedures, including: 1) data collection (sampling design and methodologies); 2) data processing and interpretation (including habitat characterization); and 3) the development of maps that accurately delineate fish habitat, benefits all parties and will help avoid unnecessary delays in project development and consultations. It is critical that the data being collected can be used to accurately characterize and delineate fish habitat within the lease area and cable corridors to ensure we can differentiate and distinguish between, and within, areas of sensitive and complex habitats to provide appropriate conservation recommendations.

This is particularly important for an area such as Cox Ledge which is dominated by complex habitats and unique features. Accurate characterization of these complex habitats and features at a fine scale will be critical to ensure our recommendations are appropriate and feasible. As we have discussed previously, early coordination and sharing of collected data is critical to ensure we can provide constructive feedback and identify any concerns early in the process to help avoid delays in the review process. Moving forward with habitat mapping efforts without appropriate coordination may result in the need for additional field seasons/sampling to collect and interpret additional data to accurately map fish habitat for consultation purposes. Coordination with us prior to finalizing the delineations and characterization of the new data will streamline project review and allow us to provide the most appropriate EFH conservation recommendations. Continuing to move forward with habitat mapping efforts without appropriate coordination may result in the need for additional field seasons/sampling to collect and interpret additional data to accurately map fish habitat for consultation purposes.

In the absence of fine-scale and accurate fish habitat characterization and delineation, we must take a conservative approach to our assessment of project impacts and development of conservation recommendations for the project. Given the complexity of habitat in the project area and in consideration of the time necessary for reviewing such technical information, we request all data related to habitat mapping (acoustic survey results, seafloor sampling data, GIS data, figures/maps, etc.) be shared with us as soon as practicable (once it is processed), so we can begin reviewing and providing comments, which will allow for more streamlined project review and consultation.

### **Fish and Wildlife Coordination Act**

The FWCA provides authority for our involvement in evaluating impacts to fish and wildlife from proposed federal actions that may affect waters of the United States. The FWCA requires that wildlife conservation be given equal consideration to other features of water resource development programs through planning, development, maintenance and coordination of wildlife

conservation and rehabilitation. The Act does this by requiring federal action agencies to consult with us "with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development" (16 USC 662.) One of the reasons that Congress amended and strengthened the FWCA in 1958 was that it recognized that "[c]ommercial fish are of major importance to our nation[,]" and that federal permitting agencies needed general authority to require "in project construction and operation plans the needed measures for fish and wildlife conservation" S.Rep. 85-1981 (1958). As a result, our FWCA recommendations must be given full consideration by federal action agencies. Your consultation with us under the FWCA may occur concurrently with the EFH consultation under the MSA.

Under the FWCA, our authority extends to numerous other aquatic resources in the area of the proposed project, including, but not limited to, the following species and their habitats: American lobster (*Homarus americanus*), sand lance (*Ammodytes dubius* and *Ammodytes americanus*), striped bass (*Morone saxatilis*), American shad (*Alosa sapidissima*), alewife (*Alosa pseudoharengus*) and blueback herring (*Alosa aestivalis*) (collectively known as river herring), Atlantic menhaden (*Brevoortia tyrannus*), Atlantic silversides (*Menidia menidia*), oyster (*Crassostrea virginica*), blue mussel (*Mytilus edulis*), tautog (*Tautoga onitis*), weakfish (*Cynoscion regalis*) and other assorted fish and invertebrates. NOAA jointly manages a number of these species through Interstate FMPs with the Atlantic States Marine Fisheries Commission. A list of Commission species and plans can be found on their website at <http://www.asmfc.org>.

We anticipate all of these species will be included in your impact assessments, both in the EFH Assessment and NEPA document. We also expect the assessment to include impacts to the recreational and commercial fishing communities that rely on these species. The behaviors and habitat needs of diadromous and estuary-dependent fishes (associated with cable route locations) may not be represented by a discussion solely of the surrounding marine fishes in the WTG area. The discussion for FWCA species should be designed around an ecological guild model that uses locally important species to evaluate the project impacts to organisms or populations associated with the various trophic levels and life history strategies exhibited by FWCA species known to occupy the project area as residents or transients. Focus should be on issues surrounding particular species, life history stages, or habitat components that would be most susceptible to the various potential project impacts.

### **Fisheries Management Comments**

Species important to both commercial and recreational interests are found within the project area and associated cable corridor. The COP adequately identifies most species and fisheries that may be affected by the proposed operations based on a good overview of available information, but substantially underestimates the number of vessels that may be affected by this project. As noted in our socioeconomic impact summary reports for this project (available at [https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND\\_AREA\\_REPORTS/Sunrise\\_Wind.html#Most\\_Impacted\\_FMPs](https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/Sunrise_Wind.html#Most_Impacted_FMPs)), skates, monkfish, silver hake (whiting), scup, longfin squid, Northeast multispecies (yellowtail flounder), summer flounder, American lobster, and Atlantic sea scallop are the primary commercial fisheries affected in terms of landing amounts and fishery revenue. The project area is the primary fishing location for the skate bait fishery. Impacts to the skate bait fishery could have indirect impacts on other fisheries (lobster,

Jonah crab, red crab) if bait supply is disrupted as a result of this project. When evaluating fishery impacts, the EIS should discuss these fisheries and associated direct and indirect impacts.

While our socioeconomic impact reports offer comprehensive summaries of historic fishery operations within the project area, some limitations should be noted. The true scale of surfclam/ocean quahog fishery operations within the project area and along the export cable corridor is somewhat masked and not directly identified in the species and fishery management plan (FMP) tables in our socioeconomic impact summary reports. Because we are required to protect confidential information, most surfclam/ocean quahog landings and revenues are aggregated in the “all others” category in Tables 1.1 and 1.2, respectively. Some sense of the scale of surfclam/ocean quahog operations can be identified in Tables 4.1 and 4.2, which describe fishery landings and revenue by gear type, respectively. While the COP notes the generally high historic activity by this fishery in affected areas based on vessel monitoring system (VMS) data, the EIS should more thoroughly evaluate the potential impacts on this fishery even if precise estimates cannot be shared. Because lobster vessels are only required to submit vessel trip reports (VTRs) if they are issued a Federal permit for another species (many are not), lobster and Jonah crab operations are not fully captured in available VTR data and are underrepresented in our socioeconomic impact summary report. Similarly, information on highly migratory species catch are only partially captured in VTRs available from the Greater Atlantic Regional Fisheries Office and are instead found in VTRs available from our Southeast Regional Office and the large pelagics survey (available at <https://www.fisheries.noaa.gov/recreational-fishing-data/recreational-fishing-data-downloads>). Such sources should be consulted when preparing the EIS.

Our party/charter recreational fishing summary report ([https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND\\_AREA\\_REPORTS/party\\_charter\\_reports/Sunrise\\_Wind\\_rec.html](https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/WIND/WIND_AREA_REPORTS/party_charter_reports/Sunrise_Wind_rec.html)) provides detailed information on for-hire fishing activities within this project area. The report identifies the summer flounder, scup, black sea bass, and Northeast multispecies (groundfish) fisheries as the primary party/charter fisheries that operate in this area, and identifies the number of annual vessel trips and angler trips into the area by port. Private angler recreational catch data are not collected with sufficient area precision to determine the amount of catch inside a particular wind project area. Despite this limitation, the project area is likely to affect important regional recreational fisheries and a discussion of party/charter and private angler catch should be included in the EIS. Any requests for fishery data should be submitted to [nmfs.gar.data.requests@noaa.gov](mailto:nmfs.gar.data.requests@noaa.gov).

BOEM should use information from all available and appropriate sources to characterize fishing operations and evaluate the potential impacts of the proposed project on private anglers, commercial and party/charter fishing vessels, and associated communities. As noted above, consideration of data across a broad time frame (10 years or more), including data from the most recent 2 years, is necessary to reflect both recent operations and annual fluctuations in fishing operations due to changing environmental conditions, market price, and management measures. As such, the COP and future EIS should include the most recent information available. We rely on VTRs as the best source of area-based data for all federally-managed commercial and party/charter fisheries. Both VMS and automatic identification system (AIS) data provide higher resolution spatial data, but such sources are not adequate to provide information on all



commercial fisheries or fishing vessels, especially the skate and whiting fisheries which do not have a VMS requirement. As discussed in the COP, multiple sources of data should be analyzed together to present a more complete picture of overall fishery operations and avoid drawing inappropriate conclusions by considering only one data source. In evaluating the use of existing data sources, please refer to the list of data limitations provided in our January 2021 socioeconomic checklist. When using these data to analyze the impacts of the proposed project, BOEM should recognize such limitations and tailor impact conclusions based on the data used. Care should be taken to put operations into the proper context in future analysis to avoid mischaracterizing fishing operations and potential impacts associated with the proposed project. Further, assumptions and methods used to extrapolate data from incomplete data sources should be clearly articulated, although extrapolations should be minimized to avoid reaching inaccurate conclusions from limited data. The socioeconomic impact analysis in the EIS for this project should request and use updated data reflecting the correct areas identified for this project.

A quantitative analysis of the potential biological, social and economic costs of the project to fishing industries and their communities must be included in the EIS. As noted above, we have provided a checklist outlining the elements we expect to be included in an analysis of the socioeconomic impacts of this project. Our previously referenced socioeconomic impact summaries address nearly all of the elements on the checklist and can be used as the foundation of such an analysis. The analysis should also address potential costs associated with reduced fishing revenues as a result of short or long-term effort displacement, impacts on catch rates, changes to species composition, potential impacts of construction activity on spawning success and future recruitment, and permanent or short-term changes to EFH during construction, operation, and decommissioning the project. Vessels may experience increased operational costs from increased insurance rates to fish within wind farms or additional fuel required to transit around wind farms or search for new fishing locations. Opportunity costs such as revenue lost by fishing effort that is displaced into less productive areas, including vessels displaced out of the project area and those already fishing in an area into which displaced vessels move, should be assessed. This is a critical analysis, as even marginal changes in costs could be impactful for some fisheries. Similarly, analysis of the affiliated non-market social impacts of such activities should be included in the EIS, including impacts to cultural norms, fishermen or fishing community social relationships, and health and well-being (see Fisheries Social Impact Assessment Guidance Document <https://media.fisheries.noaa.gov/dam-migration/01-111-02.pdf> and Practitioner's Handbook [https://spo.nmfs.noaa.gov/sites/default/files/TM212\\_0.pdf](https://spo.nmfs.noaa.gov/sites/default/files/TM212_0.pdf)). Finally, the EIS should consider and discuss any mitigation measures contemplated to reduce any adverse impacts to fishing operations, particularly those due to loss of area access or gear damage/loss.

Consistent with our comments on other projects, we recommend BOEM avoid/minimize impacts to fishery resources and existing and anticipated future fishing operations from this project. As noted above, this project could alter EFH for certain species, while construction activities and noise could disrupt spawning behavior, mask species communications, and negatively impact eggs and larvae. If WTGs increase habitat preferred by species such as black sea bass and enhance the geographic expansion of such stocks, the project could also alter predator/prey relationships and increase sources of natural mortality, while also attracting increased recreational fishing effort. These effects could have short- and potentially long-term impacts to

such resources and resulting consequences to fisheries that target them. Apart from indirect biological impacts, the project could result in direct impacts to fishing operations in the form of reduced area access, increased steaming time, and navigational/operational impediments. Beyond the operational impacts (access/navigation) due to the presence of structures, the COP notes that pre-construction preparation could involve relocating boulders and unexploded ordnance (UXO). Shifting the location of known obstructions or UXO may cause safety impacts to vessels, including gear/vessel damage and personal injury. Because dredge gear is used substantially throughout the project area and export cable, it is also important for the project to bury cables as deeply as possible to avoid damage to both fishing gear and cables. The EIS should discuss these issues and include measures to avoid and minimize such impacts.

### **Federal Fisheries Surveys, Fisheries Dependent Data, & Stock Assessments**

We continue to observe that the impacts to our scientific surveys are incorrectly characterized and not accurately described in the COP prepared for this action. It is inaccurate to suggest that survey vessels or airplanes could simply alter course to avoid WTGs, or that a sampling location that is occupied by a WTG could be removed from future consideration without affecting the survey, sampling design assumptions, or concomitant scientific advice derived from the data collections. The brief text provided in the COP related to scientific surveys contradicts the best available scientific information on the issue. This should be rectified in the final version of the COP. More importantly, the analysis in the COP should not be carried forward into the EIS prepared for this project.

As noted for other wind development projects, the Sunrise Wind project is anticipated to have major adverse impacts on NMFS Northeast Fisheries Science Center scientific surveys, which will, in turn, result in adverse impacts on fishery participants and communities, conservation and recovery of protected species, and on the American public. This project would have direct impacts on the federal multi-species bottom trawl survey conducted on the FSV Henry Bigelow, the surfclam and ocean quahog clam dredge surveys conducted on chartered commercial fishing platforms, the integrated benthic/sea scallop habitat survey, ship and aerial-based marine mammal and sea turtle surveys, and the shelf-wide Ecosystem Monitoring Survey (Ecomon). Based on standard operating practices conducted by the NOAA Office of Marine and Aviation Operations, WTG arrays would preclude safe navigation and safe and effective deployment of mobile survey gear on NOAA ships. The impacts to our scientific surveys from this project will be driven by four main mechanisms: 1) exclusion of NMFS sampling platforms from the wind development area, 2) impacts on the random-stratified statistical design that is the basis for data analysis and use in scientific assessments, advice, and analyses; 3) the alteration of benthic, pelagic, and airspace habitats in and around the wind energy development; and 4) potential reductions in sampling outside wind areas caused by potential increased transit time by NOAA vessels. Adverse effects on monitoring and assessment activities would directly impact the critical scientific information used for fisheries management and the recovery and conservation programs for protected species. These impacts would result in increased uncertainty in the surveys' measures of abundance, which could potentially lead to lower quotas for commercial and recreational fishermen and lower associated fishing revenue based on current fishery management council risk policies. These impacts will occur over the lifetime of wind energy operations at the project area and in the region (to at least 2050).

Given the anticipated development of offshore wind in our region, it is critical to expeditiously establish and implement a regional federal scientific survey mitigation program to address this significant issue. Such a survey mitigation program would include the following elements:

1. Evaluation of scientific survey designs;
2. Identification and development of new survey approaches;
3. Calibration of new survey approaches;
4. Development of interim provisional survey indices;
5. Integration of project-specific monitoring plans to address regional survey needs; and
6. Development of new data collection, analysis, management, and dissemination systems.

Information from project-specific mitigation plans could be critical inputs to the development and implementation of any future federal survey mitigation program if they are designed to address project level impacts on federal surveys. Project-level impacts on scientific surveys should require project-level mitigation measures for each of the seven scientific surveys disrupted by the Sunrise Wind project. Monitoring activities currently employed by Vineyard Wind have not been designed to mitigate project level impacts on NMFS scientific surveys. As project monitoring plans are further considered and developed, these approaches should be standardized, meet existing scientific survey protocols and develop new methods using independent-peer review processes, and methods should be calibrated to and integrated with federal regional scientific surveys, and annual data collections implemented for the operational life span of the project, or until such time as a programmatic federal scientific survey mitigation program is established. Text provided in documents prepared for other projects with similar impacts can be used to inform the assessment of scientific survey impacts for this project. Consistent with work we have done with you in the past, the NEPA document should include a full description of scientific surveys to be impacted, the history of each time series, and relative importance of the impacted scientific surveys on management advice, decision-making, and other end-users. We encourage you to work closely with us to ensure potential impacts to our scientific survey operations and consequent effects to fisheries stock assessments, fishery management measures, and protected species conservation efforts are evaluated in the EIS for this and other projects, including any efforts to mitigate such impacts.

In addition to impacts on fisheries independent survey data collections, analysis of impacts on fisheries dependent data collections, e.g., landings, biological samples, and observer data, due to potential changes in effort should also be required. This assessment should consider potential changes in mortality rates for target and non-target species and potential fisheries interactions with marine mammals and threatened and endangered species. This analysis should also consider the potential changes in fisheries dependent data collections on stocks expected to be impacted by offshore wind development impact producing effects and on the anticipated displacement of fishing operations. How these effects impact specific stock assessments should also be evaluated in addition to how these changes may impact the effectiveness of fishery management measures in meeting their objectives.

## Attachment B

### Suggested Scientific References (Not Exhaustive) Regarding Use of the Project Area by ESA-Listed Species, see ESA Information Needs Checklist for additional sources on the abundance and distribution of listed species

#### *Fish*

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