



April 14, 2023

Jessica Stromberg  
BOEM Office of Renewable Energy Programs  
45600 Woodland Road  
Sterling, Virginia 20166

Re: Draft Environmental Impact Statement for SouthCoast Wind Project offshore Massachusetts

Dear Ms. Stromberg,

Please accept these comments from the New England Fishery Management Council (New England Council) and the Mid-Atlantic Fishery Management Council (Mid-Atlantic Council) regarding the draft environmental impact statement (DEIS) for the SouthCoast<sup>1</sup> Wind Project. The DEIS analyzes the potential environmental impacts of the project as described in the Constructions and Operations Plan (COP) submitted by the developer (i.e., the proposed action), as well as the impacts of four other alternatives including sub-alternatives, and a no action alternative.

The New England Council manages over 28 marine fishery species in federal waters and is composed of members from the coastal states of Maine to Connecticut. The Mid-Atlantic Council manages commercial and recreational fisheries for more than 65 marine species<sup>2</sup> in federal waters and is composed of members from the coastal states of New York to North Carolina (including Pennsylvania). In addition to managing these fisheries, both Councils have enacted measures to identify and conserve essential fish habitat (EFH), protect deep sea corals, and sustainably manage fisheries for forage species. The Councils support policies for U.S. wind energy development and operations that will sustain the health of marine ecosystems and fisheries resources. While the Councils recognize the importance of domestic energy development to U.S. economic security, we note that marine fisheries throughout New England and the Mid-Atlantic, including within the SouthCoast Wind project area and in surrounding areas, are profoundly important to the social and economic well-being of communities in this region and provide numerous benefits to the nation, including domestic food security.

Our key recommendations are as follows. Additional details are provided below.

- 60-day comment periods are preferable over 45-day periods for public review and input on DEIS documents. Public meetings should avoid conflicts with other meetings on related topics and should use an interactive format. We appreciate BOEM's extension of this comment period.
- Clarify in the purpose and need section that BOEM is not only bound to consider approval of projects large enough to meet existing state energy procurements.

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<sup>1</sup> This project was formerly named Mayflower Wind. The project is referred to as Mayflower Wind throughout the DEIS given that the name change occurred immediately prior to release of the DEIS. We use SouthCoast wind below.

<sup>2</sup> Fifteen species are managed with specific Fishery Management Plans, and over 50 forage species are managed as "ecosystem components" within the Mid-Atlantic Council's FMPs.

- Consider breaking analysis of the project into phases, given the size of the project, additional site evaluation that has not yet been completed, and partial procurement status (1,204 out of up to 2,400 MW).
- The project design envelope (PDE) is very broad which makes evaluation of preferred alternatives and impacts analysis extremely difficult. This envelope should be refined prior to publication of the FEIS to focus on likely turbine capacities/sizes, foundation types, substation locations, and cable layouts.
- Under No Action, compare to both scenarios, i.e., where all other wind projects are constructed and where no other projects are constructed, except those currently under construction (VW1 and South Fork). The DEIS evaluates No Action as non-offshore wind activities and offshore wind projects already in operation (Block Island and CVOW research) and projects underway (VW1 and South Fork) (page 3.5.5-22) and does not account for the numerous other proposed projects.
- Identify which mitigation measures are assumed for the purpose of impacts determinations, more specifically than generally stating that adverse impacts could be reduced if BOEM's recommendations are implemented as they relate to project siting, design, navigation, access, safety measures, and financial compensation (page 3.6.1-59).

### **General Process Comments**

Given the current pace of offshore wind energy development in this region combined with workload constraints, we are unable to provide a detailed review of this project and the DEIS. For example, this comment period immediately followed comment periods on DEIS documents for three other wind projects in our region and overlapped with the comment period for BOEM's Renewable Energy Modernization Rule. The analysis in the DEIS has important ramifications for terms and conditions which may be implemented through final project approval, including fisheries mitigation and compensation measures. With this in mind, we strongly encourage BOEM to consider the recommendations listed in the wind energy policies adopted by both Councils, which apply across all projects.<sup>3</sup> Our two Councils worked together on and adopted the same wording for these policies. We also urge BOEM to adopt the recommendations provided by NOAA Fisheries for this project, including recommendations regarding data considerations, impacts analysis, and ways to minimize the negative impacts of this project on marine habitats, commercial and recreational fisheries, and fishery species.

We appreciate that BOEM has chosen to extend this comment period to 60 days, consistent with multiple other projects (e.g., Sunrise, CVOW, and New England Wind). A 60-day comment period is much more reasonable than the original 45 days given the length and complexity of the DEIS. Also, we encourage BOEM to select public meeting times that avoid other related meetings. For example, the March 22 meeting overlapped a BOEM/DOE offshore wind transmission stakeholder workshop. We also recommend a more interactive approach during these meetings, more specifically allowing stakeholders to engage directly with BOEM staff to more fully understand a topic or a response to a question.

Massachusetts has agreed to purchase a total of 1,204 MW from this project through two procurements. However, the lease area could generate a total of 2,400 MW and SouthCoast Wind is

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<sup>3</sup> Available at [https://www.mafmc.org/s/MAFMC\\_wind\\_policy\\_Dec2021.pdf](https://www.mafmc.org/s/MAFMC_wind_policy_Dec2021.pdf)

actively exploring additional offtake opportunities, including upcoming state solicitations, as well as contracts with private entities (page 1-5). We are concerned that SouthCoast Wind may pursue opportunities for offtake agreements with private entities. It is unclear how this process would differ from the state process and any terms and conditions and mitigation measures that can be required as part of the PPAs. The FEIS should provide more details about these types of contracts.

We are also concerned that this DEIS was published before key information regarding the project has been collected and made available. For example, the rationale provided on pages 2-30 and 2-31 for not analyzing an alternative to “preclude the development of WTG within a 20-km buffer of the Nantucket Shoals 30-m isobath” provides many examples of why BOEM’s approach to environmental analysis of this project is problematic. This alternative was suggested by NMFS to reduce potential impacts on an important foraging area for the critically endangered North Atlantic right whale, as well as other species such as sea ducks. The DEIS states that this alternative would allow SouthCoast to meet its existing procurements if most remaining turbine locations could be used; however, this cannot be determined given that full geotechnical data has been analyzed for only about two thirds of the potential turbine locations throughout the lease area. In addition, this alternative would only leave 162 MW of remaining nameplate capacity (assuming an 18 MW turbine) for future solicitations, considering the 1,204 MW already procured. This is described as economically infeasible and is presumed to be too low for upcoming state procurements and is therefore stated to be equivalent to a no action alternative for the entire project. However, this capacity combined with procurements to date totals 1,366 MW, which is in the size range of other projects undergoing review. It is unfair to ask the public to comment on preferred alternatives when information is not available to determine which specific turbine locations are feasible and when the project must meet requirements for energy solicitations which have not yet occurred and are not clearly defined. Note that NEPA regulations do not say that incomplete information is justification for not analyzing a reasonable alternative; rather, they say that the missing or incomplete information should be noted in the analyses (40 CFR 1502.21). This is a clear example of why BOEM should not release DEIS documents for public comment until all potentially relevant information can be provided for the public to make informed comments.

## **Purpose and Need**

The National Environmental Policy Act requires consideration of a range of alternatives which could meet the defined purpose and need for the action. The purpose and need section of the SouthCoast Wind DEIS (i.e., Section 1.2) is very ambiguous and does not provide clear criteria for determining which specific configurations of the project may meet the purpose and need of the action. Relevant criteria are listed in a subsequent section (i.e., Section 2.2: Alternatives Considered but Not Analyzed in Detail) which is not referenced in Section 1.2. This is confusing for readers of the DEIS and should be corrected in the FEIS.

Section 1.2 of the DEIS (Purpose and Need of the Proposed Action) notes that “the purpose of BOEM’s action is to determine whether to approve, approve with modifications, or disapprove [SouthCoast] Wind’s COP... BOEM’s action is needed to fulfill its duties under the lease, which requires BOEM to make a decision on the lessee’s plan to construct and operate a commercial-scale, offshore wind energy facility in the Lease Area (Proposed Action)” (page 1-5). The DEIS notes that this purpose is based on 1) BOEM’s authority under the Outer Continental Shelf Lands Act, 2) the Biden Administration’s goal to develop 30 GW by 2030, while protecting biodiversity and ocean co-use, and 3) consideration of the goals of the applicant.

Section 2.2 indicates that an alternative would not be analyzed in detail if “it does not meet most of the goals of the applicant,” including if it “results in the development of a project that would not allow the developer to satisfy contractual offtake obligations” (page 2-28). The existing Massachusetts offtake awards are later described as “integral” to the purpose and need for the project (page 2-30). The DEIS notes that a total of 1,204 MW has been procured for this project. However, the lease area could generate a total of 2,400 MW and SouthCoast Wind is actively exploring additional offtake opportunities, including upcoming state solicitations, as well as contracts with private entities (page 1-5).

As we have stated in previous comment letters for other wind projects, the implication that BOEM will not consider approval of projects smaller than proposed by the developer or necessary to meet existing procurements is very concerning as it limits BOEM’s ability to consider ways to reduce the potential negative impacts, including “protecting biodiversity and ocean co-use.” The SouthCoast Wind FEIS and future DEIS and FEIS documents for other projects should indicate that “approve with modifications” could mean approving a smaller project than what is proposed in the COP or than would be necessary to meet existing procurements. We also suggest expanding on the terms biodiversity and ocean co-use to make it clear that the project will avoid risks to the health of marine ecosystems, ecologically and economically sustainable fisheries, and ocean habitats. BOEM should clearly acknowledge that if these risks cannot be avoided, they should be minimized, mitigated, and compensated for.

### **Alternatives to Meet the Purpose and Need**

The Draft EIS evaluates the following alternatives:

- Alternative A is the no action alternative, under which the project would not be approved or constructed.
- Alternative B is the proposed action which includes up to 149 total foundations occupied by a combination of up to 147 wind turbine generators and up to five offshore substation platforms. Alternative B would use two export cable corridors, each containing multiple export cables, with HVDC planned for the Brayton Point landfall and AC planned for the Falmouth landfall. The project would provide up to 2,400 MW of energy.
- Alternative C is the fisheries habitat impact minimization alternative. This alternative includes two sub-alternatives that route the Brayton Point HVDC export cable over land to avoid impacting habitats in the Sakonnet River. Sub-alternative C-1 runs the length of Aquidneck Island, Rhode Island. Sub-alternative C-2 is routed through Little Compton and Tiverton, Rhode Island. In both cases the total cable length is similar to the proposed action, but offshore cabling is replaced with onshore cabling. The offshore aspects of the project would be the same as Alternative B.
- Alternative D removes up to six turbines on the easternmost edge of the lease area adjacent to Nantucket Shoals to reduce impacts on protected species including North Atlantic Right Whales.
- Alternative E includes three sub-alternatives for foundation structures. Alternative E1 considers monopiles and piled jackets, E2 considers suction buckets, and E3 considers gravity-based structures. Alternatives E2 and E3 are under consideration to reduce construction noise and therefore impacts to species within and around the project area.

- Alternative F considers HVDC cabling for the Falmouth export cable instead of AC cables connected to offshore substations, which would allow fewer cables to be run through Muskeget Channel compared to Alternative B (3 vs. 5 export cables).

The DEIS indicates that the action alternatives are not mutually exclusive and BOEM may select a combination of alternatives that meet the purpose and need of the proposed project. We assume that any combination of Alternatives B-F would meet the purpose and need. If this is not the case, the FEIS should clarify.

We are concerned with the size of the project design envelope (PDE) for SouthCoast Wind given it is uncertain which foundation types, cable types, turbine size, placement positions for both wind turbine generators and offshore substations, etc. will be chosen in the FEIS. Allowing flexibility in the final design has resulted in too wide of an envelope and high uncertainty in estimating the actual impacts of the project. We recommend the FEIS consider a narrower design envelope than what is described in the DEIS based on developments that will likely occur between drafting of the DEIS and FEIS (e.g., phasing out of smaller turbine sizes and decisions regarding foundation types, and the number and design of offshore substations). In addition to making the project difficult to conceptualize for members of the public, it also makes it challenging for federal agency consultations, since it is hard to provide targeted conservation recommendations when a wide range of approaches might be taken to developing the area.

Other projects along the Atlantic coast have used a phased approach for impacts analysis. It is unclear why the developer and BOEM did not take this approach here, given the large size of the project and uncertainties regarding future procurements. To date, procurements for SouthCoast Wind only amount to half the capacity of the proposed project (804 MW and 400 MW, both to Massachusetts). In various sections of the EIS, future procurements are described as essential to the success of the project. Different considerations, including different mitigation measures, may be relevant for different phases of the project. Therefore, it is problematic to analyze the entire lease area as if it is one project. We recommend that the FEIS analyze the existing procurements as a single phase (or two phases given that there are two procurements), with future procurements analyzed as a separate phase. Additional supplemental analysis may be needed after additional details about future procurements are known. Note that project phasing is referred to in the context of the two offtake locations, in a footnote to the alternatives considered but not analyzed in detail (page 2-35), but this phasing is not referenced under Alternative B.

The capacity at each offtake point should be clearly noted, and the FEIS should clarify whether both offtake locations will be developed regardless of the total project capacity. Based on BOEM's response to our question during the March 22 public meeting, it seems that each location can accommodate a maximum of 1,200 MW. The intended offtake at each location will influence the number of cables required and therefore the width of the cable corridors. The project design envelope suggests up to six 320 kV cables to Brayton Point (1,920 MW) and five 345 kV cables to Falmouth (1,725 MW). Combined, this far exceeds 2,400 MW. In addition, the PDE suggests that 525 kV HVDC cables could be used at Falmouth, while smaller 320 kV HVDC cables are indicated for Brayton Point. The FEIS should explain why different cable capacities are being considered for each offtake, since higher capacity cables could reduce the number of cables required, thereby avoiding impacts of additional cables. A clear explanation in the FEIS is especially important because HVDC offtake to Falmouth is not described in the COP.

The FEIS would benefit from additional details about the offshore project design. The DEIS does not indicate the size of turbines that might be used, in MW, although the range of physical dimensions provided on Figure 2-5 seems to correspond to 12-18 MW units with 220-280 m rotor diameters<sup>4</sup>. Without knowing turbine capacities, it is impossible to know how many positions would be realistically occupied (more specific than the PDE of 147 positions), how much cabling will be required, and how much habitat loss and conversion would be associated with the project, as currently procured or up to the 2,400 MW capacity. If a project smaller than 2,400 MW is developed, we are unsure which turbine locations would be prioritized, and how those locations would be determined. The DEIS suggests that the information needed to make these determinations is not currently available (e.g., full geotechnical data has only been analyzed for about two thirds of the potential locations; page 2-30).

Alternative E indicates that “one or more foundation types” could be utilized (page 2-21). We recommend clarifying whether all four types could be combined, or if one type would be used for turbines, and another for substations, or if foundations might vary with depth. It is difficult to estimate impacts at the scale of the project without this information, since there are tradeoffs associated with each foundation type. BOEM’s response to our question during the March 22 public meeting indicated that up to two types could be combined, but this is not clear in the DEIS. Appendix G states that only monopiles and piled jackets can be used in the “enhanced mitigation area” to minimize benthic impacts. This mitigation area and its relationship to Alternative E should be explained in the body of the FEIS. This choice of foundation type is in conflict with Alternative D, which would remove turbines in that same part of the lease, in part to reduce impacts on species including the North Atlantic Right Whale. Acoustic impacts are a major concern for this species, and suction-bucket or gravity foundations would be much quieter to install; however, these foundation types have larger footprints than piled foundations, which would increase the impacts for other species and habitats. In addition, the impacts of each foundation type will vary individually with turbine size. For example, hammer size required for pile driving a 12 MW monopile foundation will be different to an 18 MW monopile foundation. To determine project impacts, both the project and turbine capacities must be clearly defined.

The FEIS should be clearer about potential substation locations, including converter location(s), and the interarray cable layout that would result. Figure 1-1 does not discriminate between turbine or offshore substation platform positions. Indicative cable layouts are provided in Figures 3-21 and 3-22 of the COP, Volume 1, but the substation locations on these figures do not match the potential converter station locations shown on Figure B-2 of DEIS Appendix B. Changes to the interarray layout will influence the amount of cabling required, and alternative connection configurations between turbines could reduce or increase impacts, depending on seabed conditions at different parts of the project area.

Alternative F uses HVDC cables instead of HVAC cables for the Falmouth offtake. Section 3.4.2 notes that SouthCoast Wind developed a National Pollutant Discharge Elimination System (NPDES) permit application for one offshore HVDC conversion station. Would more than one converter station be needed if additional export cables are HVDC, under Alternative F?

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<sup>4</sup> GE’s Haliade-X 12 MW has a 220 m rotor diameter, and the Chinese turbine MySE 16 MW has a 242 m rotor diameter.

## **Recommendations for Preferred Alternatives**

We are uncertain about which alternatives to recommend as least impactful to fisheries, fish species, and habitats, but generally support Alternatives C, D, and F. We do not have a recommendation for Alternative C-1 vs. C-2 and would defer to NOAA Fisheries recommendation on which sub-alternative best reduces impacts to fish habitats. Overall, the DEIS doesn't provide enough information for us to make more specific recommendations on the choice of foundation types, foundation locations, and other specific parameters. The size and number of turbines associated with the proposed action will influence the spatial extent of the project overall, and therefore will affect the magnitude of impacts. We recommend working with NOAA Fisheries habitat staff to optimize the final number, type, and locations of turbines, cables, and offshore substations to minimize impacts to habitat and fisheries.

## **Affected Environment and Impacts Analysis**

Overall, the evidence and information provided should be consistent with impact determinations. For every analysis in the FEIS, we recommend including detailed information on the methods, caveats, and assumptions for stakeholders to understand and evaluate potential impacts and resulting avoidance, minimization, mitigation, and compensation measures. These comments apply to fisheries impacts as well as other impact analyses in the FEIS.

### *Finfish, invertebrates and EFH impacts (Section 3.5.5)*

The discussion of impacts of an HVDC converter station under Alternative B seems to hedge as to whether HVDC would be used (vs. HVAC) for export cabling. The proposed action clearly indicates that HVDC would be used for the Brayton Point offtake, so this language in the fish, invertebrates, and EFH impacts analysis (page 3.5.5-40) should be more definitive. As noted in our comments on the alternatives, the number of cables and cable capacity appears to exceed what is needed to offtake 1,200 MW at each location. Alternative F compares the effects of up to 3, 525 kV HVDC cables to five 345 kV AC cables; however, it is unclear why five HVAC cables would be required. The analysis for both Alternatives B and F includes very little discussion of the converter station locations, and how different locations might reduce impacts due to entrainment and impingement, beyond stating that these stations will be sited outside "an area of high productivity and foraging value for several marine species" (page 3.5.5-40). Also, discussion related to avoidance of open loop cooling systems as a mitigation measure under Alternative F is confusing; our understanding is that at present, there is not an economically or technologically feasible closed loop cooling system. The mitigation measure would more accurately be framed as no conversion stations can be located within the enhanced mitigation area near Nantucket Shoals.

The fish, invertebrates, and EFH impacts analysis for Alternative E would benefit from a table comparing the acreage of installed structures, habitat conversion, and scour protection for each foundation type. Since our understanding is that up to two foundation types could be used together, such a table could include calculations assuming two foundation types in equal proportions, in addition to estimates for all of one foundation type. This same table could be used to show further reductions in acreage associated with Alternative D, which removes foundations near Nantucket Shoals. These calculations must account for the range of turbine sizes being considered under the project design envelope.

The fish, invertebrates, and EFH impacts analysis for Alternative F is extremely limited. The DEIS describes potential differences in EMF effects for HVAC and HVDC cables (page 3.5.5-25) but the analysis of Alternative F does not discuss the implications of switching from HVAC to HVDC cables on electrosensitive or larval fish. This analysis should provide more details on cable routes relative to habitat type in Muskeget Channel (text and maps) and describe specifically how changes to the export cable configuration will avoid impacts to certain habitat types. The discussion of the NEFMC Habitat Area of Particular Concern (HAPC) is outdated and should be updated in the FEIS to reflect the NEFMC's selection of a preferred alternative during its June 2022 meeting. The DEIS states that "An HAPC designation has been proposed for complex habitat and Atlantic cod spawning, which would expand existing Atlantic cod HAPC and could potentially overlap with the Project Area" (page 3.5.5-19). The FEIS should also clarify that this new HAPC is not an extension of an existing HAPC for cod spawning, rather a new designation, and would directly overlap SouthCoast Wind's project area. Per the [Southern New England HAPC Framework](#) document, the HAPC is defined as the presence of cod spawning and complex habitat within areas where offshore wind development is being planned and/or constructed. The spatial extent of this habitat area is limited to offshore wind lease areas, given that impacts associated with offshore wind development are of significant concern to the NEFMC. We anticipate the HAPC may be approved in June or July 2023 by NOAA Fisheries, and as a non-regulatory area, the designation would take immediate effect.

We are concerned that construction in this project area could impact spawning activity for Southern New England Atlantic cod. It is possible that cod will not aggregate due to construction activities, and their vocalizations may therefore be reduced. Research by the Massachusetts Department of Marine Fisheries found that relatively minor disturbances from gillnet fishing interrupted the development of cod spawning aggregations (Dean et al. 2012)<sup>5</sup>; it is reasonable to expect construction activities may do so as well. A recently published BOEM-funded study indicates that cod spawning in Southern New England is concentrated during November and December (Van Hoeck et al 2023<sup>6</sup>). While the analyses in this publication focused on areas on and around Cox Ledge, our understanding is that more recent acoustic sampling for this ongoing project has included areas further east. The absence of published evidence for cod spawning activity within the SouthCoast lease does not preclude the possibility that cod spawn in the project area. In addition, cod could be moving through the lease area as they approach spawning grounds on and around Cox Ledge or Nantucket Shoals. The FEIS should evaluate the potential impacts of this area on cod spawning activity, using 2022-2023 data from this study, if available. The DEIS describes acoustic impacts to fish of the proposed action in general but does not discuss cod spawning specifically.

We appreciate that proposed mitigation measures are analyzed separately from the alternatives (e.g., section 3.5.5.10).

### *Fisheries impacts (Section 3.6.1)*

We have the following concerns regarding impacts to commercial and recreational fisheries:

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<sup>5</sup> Dean, M., W. Hoffman and M. Armstrong (2012). "Disruption of an Atlantic Cod Spawning Aggregation Resulting from the Opening of a Directed Gillnet Fishery." *North American Journal of Fisheries Management* 32: 124-134.

<sup>6</sup> Van Hoeck, R.V., Rowell, T.J., Dean, M.J., Rice, A.N. and Van Parijs, S.M. (2023), Comparing Atlantic Cod Temporal Spawning Dynamics across a Biogeographic Boundary: Insights from Passive Acoustic Monitoring. *Mar Coast Fish*, 15: e10226. <https://doi.org/10.1002/mcf2.10226>



- The Offshore Project Area and the Regional Fisheries Area are referenced throughout the Affected Environment and impacts sections; however, only text descriptions are provided versus also providing a figure like what is provided for the Geographic Analysis Area (Figure 3.6.1-1).
- The Regional Fisheries Area is defined as GARFO statistical areas 537-539 and 611-612 (page 3.6.1-8). It is unclear why these specific statistical areas were selected, and why area 613 was excluded.
- Table 3.6.1-5 through Table 3.6.1-10 include average commercial fishing landings and revenue data over many years. While this is helpful to gain a broad understanding of the level of revenue exposure in the lease area and cable routes, including data by year is most helpful, similar to what is provided in [NOAA’s Socioeconomic Impacts tool](#). Fisheries revenues can fluctuate for a variety of reasons (changing fish distributions, change in fishing regulations, market factors, etc.); therefore, an average value may not always accurately describe the economic value of the fishery. This is particularly true for Atlantic herring where the DEIS states that herring is the top species within the Regional Fisheries Area, accounting for 27% of landings over 2008 – 2019 (page 3.6.1-9). Atlantic herring is now considered overfished with a rebuilding plan in place effective July 2022.
- We recommend better characterizing which commercial and recreational fisheries and fish species would be affected by various stages of wind development and why. Unless necessary to protect confidential data, grouping data across and within FMPs is not particularly helpful given the impact determinations could differ by fishery and species.
- Table 3.6.1-19 includes the number of revenue outliers in the lease area by year; however, the table description and corresponding text do not include a description on what is meant by ‘outliers.’ This is a term that is typically used for observations that lie an abnormal distance from other values in a sample. Text on page 3.6.1-21 indicates that the outliers in Figure 3.6.1-2 are vessels that derived a high proportion of its revenue from the lease area. No analysis is presented that shows this determination used standard statistical techniques, for example, the third quartile plus 1.5 times the interquartile range is a standard approach to estimating ‘mild’ outliers<sup>7</sup>. The FEIS should describe specifically how these revenue outliers were determined. In some years, up to 29% of the vessels are characterized in this way, which is a large percentage, suggesting the underlying data generally cover a narrow range of values, but with a substantial number of vessels falling outside the range. In addition to documenting the methods, we suggest calling these vessels “highly dependent”, including more detailed table captions and column headers for tables, and including cross references to tables in the corresponding text.
- Page 3.6.1-32 includes a discussion on the most affected fishery management plans that occur in and near the lease area and also along the export cable corridors, however, the text references VMS data from 2015-2016, does not reference the previously provided data tables that have more recent data and information, and states “exceptionally high landings of Atlantic herring in 2013 put Atlantic herring as the most affected species by landings”, which does not reflect current conditions. For example, longfin squid are one of the top ten species by revenue within the SouthCoast lease area (according to NOAA’s Socioeconomic Impacts tool). Longfin squid landings and ex-vessel revenues have fluctuated drastically over time, especially from 2015 – 2021 ([MAFMC Longfin Squid Fishery Information Document 2022](#)). The FEIS should clearly state how most affected and impacted species, fisheries, etc. are determined, using the most

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<sup>7</sup> <https://www.itl.nist.gov/div898/handbook/prc/section1/prc16.htm>

recent data available along with a longer time series to capture the periodicity of fisheries biology and management.

- We appreciate that the DEIS mentions impacts to NMFS scientific surveys by precluding sampling from occurring and by impacting the random-stratified statistical design, and so on. (page 3.6.7-11).
- For-hire recreational fishing is included within the Socioeconomic Conditions and Cultural Resources section which also includes commercial fisheries; however, no data tables or figures are provided nor is information provided about recreational highly migratory species trips. The DEIS references the COP Volume 2, which includes commonly caught recreational fish species in MA and RI in 2019 (COP Vol. II page 11-41). Additional years of data should be provided, including the most recent fishing year available, along with the number of trips, landings, and revenue by species in the fisheries affected environment and impact section.
- Pages 3.6.1-41-42 reference the potential for commercial and for-hire recreational vessel operators to switch gear types and to target less-valuable species. These may not be feasible given the high cost, potentially lower prices, and different permits that would be required. Such adaptation would only occur over the longer term and may require fishery management changes. It should not be assumed that fisheries management will adapt in any particular way as fisheries management must achieve a number of varied objectives and offshore wind energy development is just one consideration.
- The fisheries revenue exposure compares FMP revenue exposure within the lease area to the total annual FMP revenue in the Mid-Atlantic and New England regions. This comparison minimizes the potential impact of lease development on fisheries. We recommend also comparing revenue exposure to a more geographically specific area or port.

The DEIS describes commercial and recreational fisheries within the lease area and the export cable corridor. Some fisheries will be impacted by activities within both the lease area and the export cable corridor, while other fisheries will be primarily impacted by one or the other. It is important to consider the differences in impacts due to the different activities which will occur in the lease area and the cable corridor and the different fisheries that operate in those areas. Different mitigation measures may also be relevant for the two areas. For these reasons, we support the approach of analyzing the lease area and export cable corridor separately in terms of their impacts on fisheries, as well as considering their combined impacts. This approach should be carried forward in future analyses of other wind projects.

The DEIS suggests that hydrodynamic effects and disturbances on benthic resources will result from the project, mainly from wind wakes but also from the presence of structures in the water (page 3.4.2-13); however, we are concerned that their extent may be underestimated. For example, the presence of structures could impact the Mid-Atlantic Cold Pool, causing changes in temperature, mixing, larval transport of important commercial and recreational fish species (e.g., sea scallops<sup>8</sup>), and temperature corridors used for migration for multiple important fishery species. This is an area of ongoing

research<sup>9</sup>. The FEIS should clearly document what is known about potential impacts to the Cold Pool and resulting potential impacts to marine species and fisheries. The FEIS should acknowledge data gaps and ongoing research and should fully consider potential impacts resulting from this project, as well as cumulative impacts from all planned wind energy projects throughout the region.

The Councils are concerned about the impacts of boulder removals required for cable installation, especially when done via plow (grapnel or boulder clearance plows), which is the proposed method for larger boulders that cannot be avoided by rerouting, in combination with orange peel grabber (page 3.6.1-48). We recommend using grabs to relocate boulders given plowing will have a much larger impact on benthic habitats than grabs. The FEIS should specify plow width and the size of the area that will be impacted. The nature of this impact is very different from dredging used to harvest seafood, and the scientific literature on fishing gear impacts is unlikely to provide a reasonable proxy for the impacts of boulder clearance plows. For example, fishermen attempt to avoid boulders to reduce the risk of costly damage to fishing gear, and the penetration depth of fishing gear is much less than a boulder clearance plow.

The FEIS, and all future NEPA documents for other wind projects, should specify if an impact is adverse or beneficial. The DEIS indicates that impacts are adverse unless specified as beneficial. However, some impact producing factors (e.g., presence of structures) are expected to have both adverse and beneficial impacts (e.g., adverse for soft bottom species and beneficial for structure-oriented species). The clarity of these descriptions would be improved if “adverse” or “beneficial” were specified for each impact, or, at a minimum, at the beginning of each section. This should be done consistently throughout all sections of the document.

Cumulative effects across projects are essential to evaluate when determining the impacts of placing cables in Muskeget Channel. The impacts of Vineyard Wind 1, which is already under construction, and New England Wind, which is undergoing permitting review, will influence the overall impacts to benthic habitats in the channel.

### **Mitigation, Terms and Conditions**

Mitigation measures are necessary to reduce the potential negative environmental and socioeconomic impacts of the SouthCoast Wind project. The recommendations outlined in our offshore wind energy policies, referenced above, should be reflected as terms and conditions for approval of the project. We provided a separate comment letter on the draft Guidelines for Mitigating Impacts to Commercial and Recreational Fisheries.<sup>10</sup> These comments supported many of the mitigation measures recommended in BOEM’s draft guidance. We recommend that all final mitigation guidelines be reflected in terms and conditions for BOEM’s approval of this project. This is especially important given the DEIS only states that “the lessee shall implement a gear loss and damage compensation program” and “a compensation program for lost income for commercial and recreational fishermen and other eligible fishing interests for construction and operations consistent with BOEM’s draft guidance...” (page G-51).

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<sup>9</sup> For example, two reports on potential impacts of offshore wind energy development on the Cold Pool are available at the following links: <https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf>; [https://rucool.marine.rutgers.edu/wp-content/uploads/2020/10/PartnersWorkshop\\_WhitePaper\\_Final.pdf](https://rucool.marine.rutgers.edu/wp-content/uploads/2020/10/PartnersWorkshop_WhitePaper_Final.pdf)

<sup>10</sup> Available at <https://www.mafmc.org/correspondence>.

Appendix G includes the analyzed potential mitigation and monitoring measures; however, it is unclear which of these measures are likely to be required by BOEM as opposed to optional. The FEIS should clearly indicate which mitigation measures will be required and how they affect the impacts determinations. The Councils are supportive of time of year restrictions to reduce potential impacts to sensitive life stages of fishery species, to reduce impacts to fisheries, and to avoid impacts to submerged aquatic vegetation and other structured habitats throughout the project area and cable route. The DEIS suggests that some time of year restrictions may be required (e.g., pile driving would only be allowed in the “enhanced mitigation area” during June 1 – October 31, which could reduce impacts on cod spawning and could also benefit other species; pages 3.5.5-60 and 3.5.5.61). Further detail should be provided in the FEIS on specific time of year restrictions, what exactly these measures would achieve, and any monitoring measures that would be in place. We recommend working with NOAA Fisheries on impact determinations and identification of sensitive habitats and fishing periods to avoid as ways to mitigate impact.

The DEIS states that “burial of the proposed export cables would typically target a depth of 3.2 to 13.1 ft” (page C-3) and would also include “long term monitoring of cable burial depth and condition” (page G-31). The Councils have not endorsed a specific burial depth, but rather have recommended depths that are adequate “to reduce conflicts with other ocean uses, including fishing operations and fishery surveys, and to minimize effects of heat and electromagnetic field emissions” (from the BOEM Draft Fisheries Mitigation Guidance). Assuming a depth of 6 feet is sufficient to address these objectives, we recommend the FEIS include this target burial depth as the minimum end of the range. We also recommend explaining more details on the type and frequency of monitoring for burial depth.

Impacts of electromagnetic fields (EMF) on fishery species are a concern to the fishing community. For example, studies have suggested that EMF can result in changes in behavior, movement, and migration for some demersal and pelagic fish and shellfish species<sup>11</sup>. The DEIS states that the project will “use cable shielding materials to minimize effects of EMFs” (page G-14) and “consider use of cable shielding materials to minimize potential but unlikely effects of EMF” (page G-30). The extent to which EMF may or may not impact marine species, including the differences between alternatives that use different types and amounts of cables (Alternative F with HVDC cables routed to Falmouth vs. the proposed action, Alternative B using HVAC cables) must be thoroughly described in the FEIS.

The DEIS states that the developer “would implement measures that correct for radar impacts, including [SouthCoast] Wind sharing real-time telemetry of surface currents, waves, and other oceanographic data with the Surface Currents Program into the public domain...” (page G-59). The fishing industry has proven to be adaptable in the face of change; however, more deliberate mitigation measures that support vessel radar upgrades could minimize impacts to fishermen and others navigating through and around the project area. An adaptation fund is included within the mitigation measures identified in the Empire Wind DEIS. We recommend a similar fund for SouthCoast Wind to support vessel radar upgrades and training to help minimize impacts to fisheries and others navigating through and around the project area.

Appendix G of the DEIS states that cable protection measures “should reflect the pre-existing conditions at the site” and if “necessary in non-trawlable habitat...then should consider using materials that mirror the benthic environment” (page G-59). However, Volume 1 of the DEIS states that “Cable

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<sup>11</sup> [https://greenfinstudio.com/wp-content/uploads/2017/10/GreenFinStudio\\_EMF\\_MarineFishes.pdf](https://greenfinstudio.com/wp-content/uploads/2017/10/GreenFinStudio_EMF_MarineFishes.pdf)

protection methods such as the creation of a rock berm, concrete mattress placement, rock placement, and fronded mattresses may be used” (page 2-14). It is unclear which measures will be used for cable protection and the Councils are concerned with rock placement, mattress protection, etc. measures. Per the [Councils' offshore wind energy policy](#), we recommend that if scour protection or cable armoring is needed, the materials should be selected based on value to commercial and recreational fish species. Natural materials, or materials that mimic natural habitats, should be used whenever possible. These materials should not be obtained from existing marine habitats and must not be toxic.<sup>12</sup>

Unexploded ordnances (UXOs) can be uncovered during site preparation activities. The DEIS states that “several alternative strategies will be considered prior to detonating the UXO in place” including avoidance, lifting and shifting the UXO, low-order detonation, and deflagration (Volume 2, page 136). Exposed UXO presents a significant risk to mariners, especially those towing mobile gear that could bring UXO to the surface. Offshore wind project construction activities can uncover UXOs. We recommend that the terms and conditions specify that developers are responsible for the safe disposal of UXO exposed due to construction activities. Our understanding is that some UXOs might be detected via surveys but are not exposed; in such cases, only mariner notification may be sufficient given disposal may present greater risks. Clear, timely, and repeated communication about UXO locations and any changes in the location or status of UXOs is essential and should not rely only on email notifications.

Appendix G includes several compensation-related mitigation measures including \$35 million for ports and infrastructure, \$10 million for local innovation and entrepreneurship, \$5 million for applied research, \$5 million for workforce development, \$10 million for marine science, \$7.5 million for operations and maintenance port upgrades, and \$5 million for low-income strategic electrification (page G-25). We support these types of compensation measures but emphasize that fishermen from multiple states fish in the project area and compensation for these individuals may also be needed. The DEIS is not clear if these compensation measures are only applicable for Massachusetts or to a broader region.

The 1 nm spacing between offshore structures and the Fisheries Communication Plan are listed as mitigation measures within the Recreation and Tourism resource area (page G-27). These should be characterized as part of commercial and recreational fishing mitigation measures.

Appendix C notes that an estimated “boulder field clearance 10 percent of route” is expected for the Falmouth and Brayton Point offshore export cable routes (page C-11), though it is not clear how much of the lease area will need to be cleared of boulders. We recommend developing a clear strategy for boulder relocation that is protective of habitats in the area, potentially relocating them to soft bottom directly adjacent to existing hard bottom areas. We also recommend this type of seabed clearance be done during times of year that minimizes direct impacts to spawning seasons of vulnerable finfish species, the impact of which is noted in Volume 1 (page 3.5.5-28). Mobile gear fishing activity should

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<sup>12</sup> For examples, see: Glarou, M., M. Zrust and J. C. Svendsen (2020). "Using Artificial-Reef Knowledge to Enhance the Ecological Function of Offshore Wind Turbine Foundations: Implications for Fish Abundance and Diversity." *Journal of Marine Science and Engineering* 8(5). Hermans, A., O. G. Bos and I. Prusina (2020). *Nature-Inclusive Design: a catalogue for offshore wind infrastructure*. Den Haag, The Netherlands, Wageningen Marine Research: 121p. Lengkeek, W., K. Didden, M. Teunis, F. Driessen, J. W. P. Coolen, O. G. Bos, S. A. Vergouwen, T. C. Raaijmakers, M. B. de Vries and M. van Koningsveld (2017). "Eco-friendly design of scour protection: potential enhancement of ecological functioning in offshore wind farms. Towards an implementation guide and experimental set-up." (17-001): 87p

also be considered when planning specific placement options. Relocation areas with similar habitat impacts might have higher or lower potential for conflict with trawling and dredging activities. Recreational fishermen often fish on boulder habitats. We recommend that maps of boulder relocation sites be made available to recreational and commercial fishing communities and others.

## **Conclusion**

We appreciate the opportunity to provide comments to ensure that issues of social and ecological importance are considered in the final EIS for SouthCoast Wind. We look forward to working with BOEM to ensure that wind development in our region minimizes impacts on the marine environment and can be developed in a manner that ensures coexistence with our fisheries. Please contact us if you have any questions.

Sincerely,



Thomas A. Nies  
Executive Director, New England Fishery Management Council



Dr. Christopher M. Moore  
Executive Director, Mid-Atlantic Fishery Management Council

cc: J. Beaty, M. Luisi, W. Townsend