



New England
Fishery Management
Council



MID-ATLANTIC
FISHERY MANAGEMENT COUNCIL

November 1, 2021

Michelle Morin
Bureau of Ocean Energy Management
Office of Renewable Energy Programs
45600 Woodland Road (VAM-OREP)
Sterling, Virginia 20166

Re: Notice of Intent to Prepare an EIS for the Atlantic Shores Wind project

Dear Ms. Morin,

Please accept these comments from the Mid-Atlantic Fishery Management Council (Mid-Atlantic Council) and the New England Fishery Management Council (New England Council) regarding the Notice of Intent to prepare an Environmental Impact Statement (EIS) for the Construction and Operations Plan (COP) for Atlantic Shores Projects 1 and 2 off New Jersey. Combined across the two projects, the COP proposes to install up to 200 turbines, up to 10 offshore substations, and up to one permanent meteorological tower. Alternating current cables would connect the turbines and offshore service platforms, and either alternating or direct current export cables would connect the projects with onshore connection point(s) in Atlantic City and/or Sea Girt, New Jersey. Project 1 (southwestern area of the lease) and Project 2 (southeastern area of the lease) are electrically independent projects that may interconnect with the grid at two separate locations, each with its own offshore substations and export cable.

The New England Council has primary management jurisdiction over 28 marine fishery species in federal waters and is composed of members from Maine to Connecticut. The Mid-Atlantic Council manages more than 65 marine species¹ 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 habitats (EFH), protect deep sea corals, and sustainably manage forage fisheries. 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 the marine fisheries throughout New England and the Mid-Atlantic, including within the Atlantic Shores project area and in surrounding areas, are profoundly important to the social and economic well-being of communities in the Northeast U.S. and provide numerous benefits to the nation, including domestic food security.

General comments

The pace and number of offshore wind projects in development in our region pose challenges for thorough analysis of potential impacts, informed public input, and adopting lessons learned from

¹ 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.

each project. Fifteen leased areas are in the COP development and review phase, 3 lease areas are in the site assessment phase, and multiple additional areas in the New York Bight are planned to be leased soon. Eight projects, including this one, entered the EIS development phase through issuance of NOIs since March 2021, and the NOI for Mayflower Wind publishes today. In October, BOEM announced plans to hold up to seven additional new offshore lease sales by 2025, including in the Central Atlantic (2023) and Gulf of Maine (2024). Consulting and coordinating on these projects are already taxing available resources in the fishing, fishery management, and fishery science communities, and we expect at BOEM as well. Consistency in approaches, while adopting lessons learned from one project to the next will benefit stakeholders who engage in the review process for these complex projects.

In addition to the challenges posed by multiple projects, Atlantic Shores raises unique questions because it is two separate projects. The EIS should describe how BOEM's process for this project may differ from the standard process given two electrically distinct projects are proposed through one COP. The COP indicates a desire for Project 2 to be constructed immediately after Project 1. Permit issuance, terms and conditions, and mitigation measures identified via the federal consistency process should be adaptive such that lessons learned during Project 1 can be adopted and applied to Project 2, especially in terms of minimizing negative impacts to marine habitats and existing uses such as commercial and recreational fisheries.

The PDF "posters" in the online virtual page² are very valuable for providing a summary of the project at a glance in a more easily accessible format than searching for the relevant sections of the over 900-page COP (not including appendices). We appreciate that posters on commercial fishing were included. Posters on recreational fishing should have also been provided as these project areas overlap with important recreational fishing areas, as described in the COP. We recommend consistency in the information provided in these posters across projects and we recommend that posters on both commercial and recreational fishing be provided moving forward.

As the impacts analysis is developed, clear terminology will be important for readers to understand the complexity of the alternatives considered and the large number of impact-producing factors and environmental resources evaluated. In addition, both magnitude and direction of impacts should be specified when characterizing impacts and the EIS should define short and long term in the context of impacts.

We understand that BOEM regulations allow offshore wind project developers to revise their COPs throughout the environmental review process. Volume 2 of the Atlantic Shores COP states that a revised Volume 2 and all associated appendices, including the Affected Environment, providing additional details on the differentiation between Projects 1 and 2, will be provided to BOEM in December 2021. It is unclear when this revised document will be available to the public. This poses significant challenges for stakeholders and partner agencies to understand and provide input on the likely impacts of the project.

We understand that the final project design must fall within the analyzed project design envelope. The project design envelope approach is logical given the time needed to complete environmental review and continuous advances in technology. However, as described in more

²<https://www.boem.gov/renewable-energy/state-activities/atlantic-shores-scoping-virtual-meetings>

detail in later sections of this letter, we are concerned that allowing flexibility in final project design has resulted in too wide of a design envelope for this COP and uncertainty in the actual impacts of the project. To address these concerns, we request that BOEM publicly announce whenever a COP has been revised and include a list of the specific changes. We also recommend that the EIS consider a narrower design envelope than that described in the COP based on developments that will likely occur between the drafting of the COP and the EIS (e.g., phasing out of smaller turbine sizes and decisions regarding cable corridor locations, foundation types, and the number and size of offshore substations).

Cumulative impacts

The EIS must include a meaningful cumulative impacts assessment. We supported the criteria used in the Vineyard Wind 1 EIS for defining the scope of reasonably foreseeable future wind development; however, that scope should be expanded to include the anticipated New York Bight lease areas. The cumulative effects of the adjacent wind projects should be thoroughly evaluated. In addition, it will be important to consider that many lease areas, including this one, are not proposed to be developed through a single project, but rather will be developed in stages through multiple projects. The EIS should also acknowledge the recent Department of Interior announcement of plans to hold up to seven new lease sales by 2025, even if these leases are not included in the analyzed scope of reasonably foreseeable future wind development.

The cumulative effects analysis should also consider the impacts of cables from many planned projects. As we have commented in the past, there are multiple benefits to coordinated transmission planning across multiple projects. For example, shared cable corridors could decrease the amount of disturbed habitat. Impacts to sensitive species could also be slightly reduced if multiple cable installations are coordinated to avoid especially sensitive times of year. To help stakeholders better understand the potential cumulative impacts of the offshore export cables planned for all projects, we recommend the creation of information products to show the planned locations of all export cables (e.g., through the Northeast and Mid-Atlantic Ocean Data Portals). We recognize that the final precise cable routes have not been determined for most projects and this should be noted in the information products. Earlier dissemination of draft proposals via these platforms would promote better understanding of these projects in relation to each other and to other activities.

Cumulative impacts and risks must be evaluated for species that are widely distributed on the coast. Species such as bluefish, flounders, and others that migrate along the coast could be affected by multiple offshore wind projects, as well as other types of coastal development, at both the individual and population level. Climate change will also be an essential consideration in the cumulative effects analysis as the distributions and abundance of many species are changing (some increasing, some decreasing) due to climate change and other factors. The EIS should acknowledge that impacts from the construction of wind farms will occur in this context.

We continue to have significant concerns about the cumulative impacts of offshore wind development on fishery independent surveys. Major negative impacts to these surveys would translate into greater uncertainty in stock assessments, the potential for more conservative fisheries management measures, and resulting impacts on fishery participants and communities. We are encouraged by BOEM's commitment to working with NOAA on long term solutions to

this challenge through the regional, programmatic, Federal Survey Mitigation Program, described in the Record of Decision for the Vineyard Wind 1 project.

Alternatives to consider in the EIS

Atlantic Shores Project 1 has a maximum capacity of 1,510 MW, which has been procured by New Jersey. The maximum capacity of Project 2 is not specified as this project will seek contracts in Q3 2022. A maximum of 200 turbines will be installed for the two projects combined (105 - 136 turbines for Project 1 and 64 - 95 turbines for Project 2). Each project will have either 5 small, 3 medium, or 2 large offshore substations. Piled (monopile or jacket), suction bucket (mono or jacket), and gravity-based foundations are all under consideration for the turbines and offshore substations. Two offshore export cable corridors are under consideration: the Monmouth Export Cable Corridor, which is 341.8 miles in length and the Atlantic Export Cable Corridor, which is 99.4 miles in length. Up to eight export cables will be installed in these corridors to connect the projects to shore.

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

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

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

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

A mix of bottom types exist at the project site including along the potential cable corridors. The EIS should include a habitat minimization alternative which would include micro-siting of inter-array and export cables and exclude potential turbine or substation locations with the goal of minimizing impacts to sensitive habitats including submerged aquatic vegetation,³ hard bottom, and complex topography including sand waves and troughs. Details should be provided on how determinations will be made and what flexibilities exist to site turbines, substations, and cables (including inter-array and export cables) to minimize impacts to marine habitats.

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

The COP also notes that alternating current (AC) or direct current cables (DC) may be used for the export cables. No mention is given to an AC to DC conversion station or cooling system. If a conversion station with a cooling system may be needed, then the lack of this information is a serious flaw in the COP. We have significant concerns about the environmental impacts of cooling systems at conversion stations, as outlined in our recent letter to BOEM on the Notice of Intent to prepare an EIS for the Sunrise Wind project.⁴

Provision of high-resolution benthic habitat maps early in the process is important. These data are needed for NMFS to conduct essential fish habitat consultations. This consultation process is designed to avoid impacts wherever possible and determine mitigation measures where impacts

³ It should be noted that all areas with submerged aquatic vegetation were designated habitat areas of particular concern for summer flounder through Amendment 12 to the Mid-Atlantic Council’s Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (<https://www.mafmc.org/sf-s-bsb>). This is not acknowledged in the Atlantic Shores COP, though other habitat areas of particular concern are acknowledged.

⁴ https://www.mafmc.org/s/211004_NEFMC-MAFMC-to-BOEM-re-NOI-to-Prepare-EIS-for-Sunrise-Wind.pdf

cannot be avoided. It is very concerning to us that these data have not been included in this COP. Without these data, we are unable to provide specific suggestions for locations to avoid.

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

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

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

For all alternatives, the EIS should be clear on which measures to avoid, minimize, or mitigate negative impacts will be required as opposed to discretionary. Only required measures should influence the impacts conclusions in the EIS. Monitoring studies should not be considered environmental protection measures as monitoring is not equivalent to avoidance, minimization, or mitigation. Avoidance, minimization, mitigation, and compensation for negative impacts should all be considered, with compensation thoroughly planned for, but used only as a last resort if avoidance or mitigation are not possible or are not achieved. Avoidance should be the first priority.

⁵ See Appendix A at <https://www.nefmc.org/library/clam-dredge-framework> .

⁶ <https://www.fisheries.noaa.gov/resource/map/new-jersey-special-management-zone-areas>
<https://www.mafmc.org/actions/2016/nj-special-management-zones>

Fisheries and habitat considerations

BOEM should coordinate early and often with NOAA Fisheries on the most appropriate data for analysis of potential impacts to fisheries, including fishing and transiting locations, as well as socioeconomic impacts. Summary information on Council-managed fisheries is also available on the Council websites, www.mafmc.org, and www.nefmc.org, at fishery management plan-specific links, typically via annual fishery information reports (MAFMC) or recent plan amendment or framework documents (both councils).

The EIS should clearly and repeatedly acknowledge the limitations of each data set, should include recent data, and analyze multiple years of data (e.g., 10 years) to capture variations in fisheries and environmental conditions. Important data limitations, including but not limited to the location of private recreational fishing effort, should be supplemented with stakeholder input.

Important caveats regarding fisheries data for 2020 should be taken into consideration given most commercial and recreational fisheries were severely impacted by the COVID-19 pandemic (e.g., severely reduced market demand, lower prices, social distancing restrictions, and reduced fishing effort for many species). Important data collection programs were also negatively impacted (commercial fishery discard surveys, shore-side recreational catch sampling, and for-hire sampling).

Commercial, for-hire recreational, and private recreational fishing will all be impacted by this project in different ways. Therefore, they should be considered separately, but in the same or adjacent sections of the document. As we have stated in comment letters on other wind projects, the grouping of private recreational fishing with recreation and tourism (as is done in this COP), rather than with commercial and for-hire fisheries, is not intuitive and makes it challenging for readers to understand the full picture of potential impacts on all fishery sectors. These projects will affect both for-hire and private recreational fishing. Describing both types of recreational fishing in the same section of the document would make linkages between biological and fishery conditions easier to explain and understand.

The EIS should describe how all impacts may vary by target species, gear type, fishing location (e.g., from shore, mid-water, on different bottom types, near structures such as shipwrecks, other artificial reefs, or boulders) and commercial or recreational fishing (including recreational fishing from shore, private vessels, party/charter vessels, and tournaments).

Turbine and substation foundations, as well as materials used for scour protection and external cable armoring will create substrates for fouling organisms and create artificial reefs. These artificial reefs are expected to attract certain fishery species (e.g., black sea bass). However, the addition of new structured habitat in this area will replace existing habitat types and could displace other species which prefer soft sediments (e.g., flatfish, bivalves). The EIS should acknowledge that although the artificial reef effect will be beneficial for some species, it will not be universally beneficial for all species. The impacts of such changes should be analyzed. In addition, the EIS should evaluate the extent to which impacts may vary based on the characteristics of the materials used. These materials should mimic natural, nearby habitats where possible.

In addition, secondary cascading effects should be evaluated as community composition could change within and beyond the project area. For example, this project area includes habitat for surfclams and scallops. The addition of structured habitat may attract bivalve predators such as sea stars and moon snails, which could have negative impacts on species such as surfclams and could result in cascading ecological impacts.

The EIS should describe the amount of scour protection that may be needed for the turbine and offshore substation foundations, as well as the amount of external cable armoring that may be required if sufficient cable burial depth cannot be achieved. Consideration should also be given to materials that reduce the potential for interference with existing fisheries in the area. It should be noted that there are different considerations for different fisheries. For example, the commercial fishing industry is concerned about the use of concrete mattresses due to the potential for hanging/snagging mobile gears. Some recreational fishery stakeholders have noted improved fishing opportunities around the scour protection materials used for the CVOW pilot project off Virginia. In addition, the turbine and substation foundations may create a wake effect. This could increase the amount of suspended sediment in the immediate area which could negatively impact filter feeding organisms, including commercially important species such as surfclams and scallops. It could also have impacts on the dispersal of pelagic larvae in the area. These impacts must be thoroughly considered in the EIS.

Commercial and recreational fishermen may not be able to take full advantage of any increased availability of target species due to concerns about safely maneuvering, drifting, or anchoring near turbines and offshore substations. The proposed 1 by 0.6 nautical mile grid layout of the projects will not eliminate all safety concerns. Safety considerations will vary based on weather, gear type, vessel size, and specific fishing practices which can vary by target species. Although some fishermen may have experience fishing near the five turbines off Block Island or the two CVOW pilot project turbines off Virginia, this may not prepare them for fishing safely within the Atlantic Shores Wind Projects 1 and 2, which could include up to 200 turbines. The EIS should evaluate these safety considerations and their potential variations across different fisheries. In addition, if fishermen shift their effort outside the project area during construction or long-term operations, this will potentially put them in areas of higher vessel traffic and gear conflict.

Fishermen choose where to fish based on many factors including the location of target species and species they wish to avoid, where regulations allow, where they can fish the most efficiently, and where they plan to land their catch based on market and regulatory factors. For these reasons, fishermen cannot easily relocate to different areas to avoid a windfarm without socioeconomic impacts. Fishermen who choose to fish outside of this project area for safety, economic, or other reasons may not be able to recoup the loss of landings and revenue by shifting effort elsewhere.

Relocation of boulders and removal of sand bedforms, as described in the COP, will cause disruptions in fishing activity, including private and for-hire recreational fishing, as well as some types of commercial fishing (e.g., pot/trap fishing for black sea bass). Some boulders and sand bedforms are targeted by fishermen and it could take several trips to find their new locations. In addition, a loss of attached fauna is expected when boulders are moved. Recovery may take multiple years and the initial re-colonizing organisms may differ from those displaced during

movement from the original location.⁷ While the relocated boulders may eventually continue to attract fishery species, relocation is not a negligible impact on the fleet. If boulders are aggregated in new locations, this could result in potential hangs for commercial mobile bottom-tending gears. Detailed reporting on where boulders are moved to should be required as a mitigation strategy.

The likely extent of impacts to all types of fishing will be important to understand in the context of developing mitigation agreements for affected fishing industry members. Fishing effort can change based on management actions such as a change in access areas, or updated state-by-state quota allocations for a target species (e.g., black sea bass, summer flounder, bluefish). It is important to account for the dynamic nature of fishing effort over time when evaluating impacts to fisheries and fishing communities. This is an area of the EIS where cumulative considerations are especially critical and this project cannot be considered in a vacuum; many other wind farms are proposed throughout this region, and fishing will be affected over a large area if all these projects are installed.

BOEM should work with NOAA Fisheries to ensure that the most appropriate data (e.g., vessel trip reports for commercial and for-hire recreational fisheries) are used to identify catch that occurred in the vicinity of the project area and to describe the most impacted ports and communities based on where that catch was landed. Landings and revenues are both important metrics to consider.

Data on the precise locations of private recreational fishing effort are generally lacking; however, given the location of this specific project, it may be sufficient to rely on Marine Recreational Information Program (MRIP) data for private and for-hire recreational harvest in New Jersey. It is unlikely that a notable amount of fishing effort from private recreational fishing vessels based out of states other than New Jersey occurred in this project area. This may not be the case for for-hire fishing effort; however, vessel trip report data can be analyzed for for-hire vessels. MRIP data cannot provide information on recreational fishing effort within these project areas specifically; however, it can provide information on private and for-hire recreational fishing trips that occurred primarily in federal waters and returned to New Jersey docks.

Models exist to estimate the amount of fisheries revenue generated from within the project area; however, it is important to acknowledge that changes in transit patterns will also have economic impacts which will be challenging to accurately quantify.

We found no reference in the COP or the Fisheries Communication Plan (Appendix II-R) to availability of mitigation funds if impacts such as fishing gear loss occur. Mitigation funds must be available to all affected vessels and ocean users who rely on this project area for revenue. The availability of such funds and their influence on impacts determinations should be explained in detail in the EIS.

Commercial and recreational fisheries provide a wide range of benefits to coastal communities; not all are captured by looking only at financial metrics. The EIS should not overly rely on ex-

⁷ For example, see Guarinello, M. L., & Carey, D. A. 2020. Multi-modal Approach for Benthic Impact Assessments in Moraine Habitats: a Case Study at the Block Island Wind Farm. *Estuaries and Coasts*. doi:10.1007/s12237-020-00818-w.

vessel value when assessing and weighting impacts across various fisheries. Focusing on ex-vessel value can mask other important considerations such as the number of impacted fishery participants, the use of a lower value species as bait for a higher value species, or a seasonally important fishery. In addition, the EIS must acknowledge that ex-vessel value does not account for impacts to fish processors and other fishery support businesses, nor does it address other sectors of the economy, consumer benefits, or the economic impacts of recreational fisheries.

As much of the cables as possible should be buried to avoid the concerns listed above regarding external cable armoring materials where they are unburied. The COP suggests a target burial depth of 5 to 6.6 feet for all cables (e.g., pages 4-38 and 4-41). We are concerned about potential for the cables to become unburied given the dynamic seafloor and the amount of dredge activity in the area. Burying the cables as deep as possible will help to minimize these risks. It should also be considered that natural snags are already well known to fishermen, and in many cases are charted, but that it will take time for fishermen to learn the locations of the cable protection materials. The EIS should provide maps of benthic features so that readers can use these maps to evaluate conclusions reached regarding both habitat and fisheries effects of development.

Installation of cables and foundations for turbines and offshore substations will generate both noise and sediment plumes, which may affect biological processes for marine species. For example, longfin squid may be negatively impacted by the construction sounds and their demersal egg mops could be materially impacted by sediment deposition. The EIS should acknowledge that both demersal and pelagic species may also be impacted by the noise and vibrations generated from construction activities and may change their behavior and/or feeding patterns to avoid the impacted area, which is not a negligible impact. It will be important for the impacts analysis, including the EFH assessment, to consider how installation during different seasons will affect particular species and life stages during spawning, juvenile settlement, etc. The nature of these repeated effects over time should be accounted for in the analysis of impacts to habitats and fishes. As described above, we also have concerns about sedimentation which could occur at the turbine and substation foundations due to the wake effect.

In the context of both cable and turbine installation, any place where the bottom sediments will be disturbed must be evaluated for sediment contamination to understand the potential for environmental effects associated with contaminant release. Two obvious sources of contamination are dredged spoils from inshore, nearshore, or harbor maintenance and disposal of onshore materials (including waste). For many years, such disposal was not evaluated carefully and not regulated as it is today. As a result, sediments and other material with unacceptable levels of heavy metals and persistent organic pollutants (POPS) were disposed in ocean waters and may remain in locations where they could be disturbed. These sources of contamination need to be assessed and managed as part of the offshore wind development process.

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 species⁸. The extent to which EMF may or may not impact marine species should be thoroughly described in the EIS. The EIS should acknowledge the limitations of the current scientific knowledge in this area and

⁸ https://greenfinstudio.com/wp-content/uploads/2017/10/GreenFinStudio_EMF_MarineFishes.pdf

should provide justification, including supporting scientific studies, for all conclusions regarding EMF.

Through modeling work, the physical presence of turbines has been estimated to alter the near-surface and near-bottom temperatures, and thus, habitat conditions for marine species, as well as juvenile transport of commercially important species like sea scallop.⁹ The EIS should acknowledge both the individual's project potential to materially affect oceanographic and hydrodynamic conditions based on ongoing research efforts and the project's contribution to cumulative effects from development of several wind farms on a regional scale. The EIS should also utilize the findings from ongoing research funded by BOEM in its impact assessment to understand how wind energy facilities will likely affect local and regional physical oceanographic processes.

Potential impacts to the Mid-Atlantic Cold Pool and resulting impacts on fishery species are of concern to the Councils and other fishery stakeholders. This is also an area of ongoing research.¹⁰ The EIS should clearly document what is known about potential impacts to the Cold Pool and resulting potential impacts to marine species and fisheries. The EIS should acknowledge data gaps and ongoing research and should consider potential impacts resulting from this project, as well as cumulative impacts from all planned wind energy projects in the Mid-Atlantic. We appreciate that the COP acknowledged this as an issue of concern and an area of ongoing research.

Section 6.2 of the COP describes decommissioning and states that some components of the project will be fully removed, while other components may remain in place after decommissioning (e.g., piled foundations may be cut below the mudline, with only the portions above the mudline removed and some sections of offshore cables may be "retired in place"). These decisions will be made based on future environmental assessments and future consultations with various agencies. All project components should be removed from the offshore environment to the extent possible. It is essential that cables be removed during decommissioning. Abandoned, unmonitored cables could pose a significant safety risk for fisheries that use bottom-tending gear and the long-term risks to marine habitats are unknown.

Conclusion

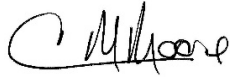
We appreciate the opportunity to provide comments to ensure that issues of social and ecological importance are considered in the forthcoming EIS for the Atlantic Shores COP. We look forward to working with BOEM to ensure that any wind development in our region minimizes impacts on the marine environment and can be developed in a manner that ensures coexistence with our fisheries.

Please contact us if you have any questions.

⁹ https://s3.amazonaws.com/nefmc.org/Doc.14.a-UMASSD_WHOI_short_report_05_6_12_2021_revison.pdf

¹⁰ For example, two recent reports on potential impacts of offshore wind energy development on the Cold Pool which do not appear to be referenced in the draft EA are available at the following links: <https://scemfis.org/wp-content/uploads/2021/01/ColdPoolReview.pdf>; https://rucool.marine.rutgers.edu/wp-content/uploads/2020/10/PartnersWorkshop_WhitePaper_Final.pdf

Sincerely,

A handwritten signature in black ink, appearing to read "C. Moore". The signature is fluid and cursive, with a large initial "C" and a long, sweeping underline.

Dr. Christopher M. Moore

Executive Director, Mid-Atlantic Fishery Management Council

A handwritten signature in black ink, appearing to read "Thomas A. Nies". The signature is written in a cursive style with a distinct, slightly slanted initial "T".

Thomas A. Nies

Executive Director, New England Fishery Management Council

cc: J. Beaty, M. Luisi, W. Townsend, J. Bennett, A. Lefton