Responsible Offshore Development Alliance

July 27th, 2020

Dr. Walter Cruickshank, Acting Director
Bureau of Ocean Energy Management
45600 Woodland Road
Sterling, Virginia 20166

Re: Supplement to the Draft Environmental Impact Statement for Vineyard Wind LLC's Proposed Wind Energy Facility Offshore Massachusetts; Docket No. BOEM-2020-0005

Dear Dr. Cruickshank:

The Responsible Offshore Development Alliance (RODA) submits the following comments regarding the Supplement to the Draft Environmental Impact Statement (SEIS) for the Vineyard Wind offshore wind energy (OSW) project in federal waters off of New England.[1] RODA is a national membership-based coalition of fishing industry associations and fishing companies committed to improving the compatibility of new offshore development with their businesses.

First and foremost, we applaud the Bureau of Ocean Energy Management (BOEM), Department of Interior, and cooperating agencies for the decision to prepare the SEIS to analyze the cumulative impacts of the New England proposed OSW projects. For years, and since they were first aware of the possibility of large fields of turbines being built on fishing grounds, commercial fishermen have stated that impacts to both marine resources and their livelihoods will occur far beyond a state- or project-specific level due to the regional nature of fishing and the interconnectedness of marine ecosystems. Until the preparation of the SEIS, no effort had ever been made to understand impacts on the appropriate scale.

Unfortunately, while the SEIS represents a vast improvement over past practices, its analysis highlights the severity of impacts to fishing resources, businesses, and communities. United States OSW development from the very beginning has never been approached as a process to balance the needs of multiple ocean users and thoughtfully consider important environmental goals: maintaining sustainable seafood production and reducing carbon emissions. Rather, the statutory authority lacks specificity on how to effectively plan for OSW development, and BOEM's regulatory process is driven by a propensity to "unleash markets" by getting a project—any project—to the other end of a perceived minefield of adversity, rather than a thoughtful and deliberate approach to maximize our ocean's conservation and natural resource potential. This flawed approach, in which other interests have been deconflicted through site avoidance up front, with commercial fishing relegated to consideration only at the end-stages of project permitting, could have been avoided had previous requests from fishermen been heeded. Instead, this festering problem has now become somewhat of a hamartia for smooth OSW implementation.

To that end, the SEIS makes clear these major fundamental flaws in the OSW planning process, long raised by fishermen, that have led to the failure to adequately mitigate impacts. Its numerous analytical

[1] 85 Fed. Reg. 35952 (June 12, 2020).

deficiencies also plainly evidence an unacceptable level of uncertainty and risk at this late phase in the planning for this large-scale new ocean use.

These comments reference many documents previously submitted to the regulatory record with BOEM or cooperating agencies. For the sake of brevity, the key issues from them are summarized and those full documents are incorporated by reference. It also incorporates two new expert peer reviews, attached herein as Appendices VI and X, which constitute a scientific and economic analysis, respectively.

Each section explains procedural and analytical errors and provides minimum additional work or mitigation required to correct flaws should this project move forward. Note that these minimum suggestions are not overall acceptable solutions to many or even most fishermen and would not be enough to de-risk the full buildout of 1400 square miles of ocean. Rather, they constitute "band-aids" to the problems of OSW and fisheries conflicts writ large in the event that OSW construction begins before appropriate fisheries consideration occurs. Significantly more work and foundational change needs to occur in order to provide lasting assurance that OSW will not lay waste to America's first industry throughout its emergence.

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I. Planning

We repeat here that the procedure for developing this new ocean-based industry of unprecedented scale is fundamentally flawed. Indeed, from the vantage point of fishermen, fisheries scientists, or managers, it is nothing short of chaotic. While the SEIS partially evaluates impacts to fishing, its range of alternatives is already constricted by the most important decisions that have already been made at state- and project-specific levels. There has never been a dedicated, equitable, comprehensive advance planning process that included fishermen or fisheries experts and such a process is urgently needed.

a. A Fractured Process

Decentralization of key project decisions among various state and federal processes, each with limited coordination with the others, leads to a permitting process in which there is no meaningful ability to plan OSW in a way that minimizes fisheries conflicts.

Federal Review

Balancing fisheries interests with OSW interests cannot be adequately addressed through the NEPA process alone as it is currently implemented. BOEM has only conducted this SEIS at the penultimate stage of project permitting, and decision points in the SEIS are limited to those with a federal nexus. In reality, most project decisions have already occurred at the state level—most without any meaningful opportunity for consideration of fisheries or even public comment opportunities.

This process stands in stark contrast to how other conflicting ocean uses are addressed in the "Smart from the Start" regulations and in practice. The Outer Continental Shelf Lands Act, as amended by the Energy Policy Act of 2005,[2] provides a list of items to be "considered" in planning for OSW, but little guidance as to how to do so. BOEM has been consistent in its interpretation that essentially all potential OSW conflicts are considered and addressed through the Call Area and Area Identification processes. For example, BOEM's proposed Path Forward included "Proposed Factors for Identification of Offshore Wind Forecast Areas" which exclude areas for leasing based on National Sanctuary or Monument status, Department of Defense activities, and traffic routing schemes, and promote leasing in areas that are greater than 10 km from shore (to minimize viewshed conflicts), those with economic incentives (i.e., state subsidies), and those in which the wind industry has expressed interest.[3] High-value fisheries areas—either by economic value or ecological importance—were not included.[4]

In contrast to its early recognition of other interests, BOEM has consistently stated that the entire planning and surveying process, from area identification to lease issuance to survey and assessment activities, has negligible impacts to fishing, and only once a Construction and Operations Plan (COP) is reviewed do fisheries impacts merit analysis. Their argument is that *no* binding or irreversible project decisions have been made to that point, and that fisheries interactions can be effectively de-conflicted through preparation of the Environmental Impact Statement immediately preceding final project approval. Some examples of these statements include:

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[2] *See* 43 U.S.C. §§ 1337(p).

[3] 83 Fed. Reg. 14881 (Apr. 6, 2018).

[4] Although BOEM announced finalization of "The Path Forward" on June 11, 2019, no information is publicly available as to what is included except for a commitment to use the regional ocean data portals to "identify important user groups." *See* https://www.boem.gov/renewable-energy/renewable-energy-path-forward-atlantic.

- "After lease issuance but prior to COP approval, BOEM retains the authority to prevent the environmental impacts of a commercial wind power facility from occurring."[5]
- A developer's investment in a lease is "made with full awareness that its proposals for a wind energy facility may be rejected and that it may never construct or operate such a facility."[6]
- BOEM does not consider the impacts resulting from the development of a commercial wind power facility within the WEA, to be reasonably foreseeable at [the time of lease issuance]. Based on "the experiences of the offshore wind industry in northern Europe, the project design and the resulting environmental impacts are often geographically and design specific, and it would therefore be premature to analyze environmental impacts related to potential approval of any future COP at this time."[7]

Despite these clear statements that project-controlling design decisions cannot be made before project finalization, BOEM, states, and developers have already made project-controlling decisions regarding design parameters that have now severely restricted the range of alternatives in the SEIS. This was clearly seen in the Draft Environmental Impact Statement for the Vineyard Wind project, which failed to thoroughly analyze any alternative in which turbines had more than 1-mile spacing and primarily analyzed only a "diamond-shape" turbine spacing (aligned NW-SE), based on the developer's statement that alternate layouts would be economically unfeasible and therefore equivalent to the "no action" alternative.[8,9] As we know, this proposed layout has been changed in the SEIS—but only after Secretarial intervention. This situation highlights the absurdity of leaving fisheries-related analysis to the final project phases.

States' Roles

A prime cause of the lack of fisheries considerations in the OSW process is the decentralization of decision making between federal and state governments. While the "One Federal Decision" policy clearly delineates roles and responsibilities for large infrastructure projects amongst federal agencies, there is no similar authority that describes such relationships with states. As a result, federal and state regulators each appear to be reacting to the others' actions in the following feedback loop that prevents any meaningful or deliberate consideration of seafood production:

- BOEM's state (now moving toward regional) Task Forces convene, review studies, consider lease siting; Task Forces do not allow public participation and include next to no fisheries experts (at most one National Marine Fisheries Service representative and one from each relevant state fisheries management agency).

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[5] Bureau of Ocean Energy Management, *Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New York: Environmental Assessment*, OCS EIS/EA BOEM 2016-042 (June 2016), at 1-7.

[6] *Fisheries Survival Fund v. Jewell*, 2018 WL 4705795 (D.D.C. Sept. 30, 2018).

[7] Bureau of Ocean Energy Management, *Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New York: Environmental Assessment*, OCS EIS/EA BOEM 2016-042 (June 2016), at 4-132.

[8] Vineyard Wind DEIS at 2-16; *see also* Letter from Erich Stephens, Chief Development Officer, Vineyard Wind to Grover Fugate, Executive Director, Rhode Island Coastal Resources Management Council (Nov. 19, 2018) at 18 ("it is not possible to reorient the entire project in an east west direction").

[9] *See* Appendix V for RODA's full comments on the Vineyard Wind DEIS.

- BOEM identifies lease areas, stating it will consider fisheries impacts at EIS review after COP submission.
- State sets production goals based on leased areas and interstate competition and fast-tracks procurement.
- Developers, in an attempt to keep up with procurement timelines, have rush to survey area for turbines and cable and develop proposal.
- State awards power purchase agreement to developer at lowest cost, locking in project design parameters.
- Developer, under contractual deadline, drafts layout and cable route in order to meet contract terms, submits Construction and Operations Plan.
- BOEM performs full project environmental review on COP.

At the point BOEM conducts its review (i.e. now), there is almost no flexibility within the project price or design to accommodate project changes. To the extent that certain states have attempted to include policies on the front or back end of this process—that is, through procurement requirements or federal consistency review under the Coastal Zone Management Act—they are only concerned with fishermen living in their state. Furthermore, intense interstate competition surrounding the power purchase agreements limits the ability of states to require projects to include fisheries protections if doing so will increase the project cost, unless the state directly passes those costs along to rate payers. Due to the high relative cost of OSW energy, this is not a viable option.

What happens throughout this process is that, at each of these phases, fishermen ask states, OSW developers, and BOEM to consider their input and modify the projects to minimize fishing impacts. In response, states argue that such modifications are within BOEM's purview as the lead action agency on environmental review. BOEM indicates (as evidenced in the DEIS and SEIS) that the states' power goals and contracts set the range of alternatives for consideration. And OSW developers interpret this infuriating cycle as fishermen simply trying to unfairly delay their projects. So tell us, who is responsible for ensuring "coexistence?"

Need for Interstate Coordination

A possible solution that RODA has attempted to foster is increased interstate coordination. If states could set aside the atmosphere of competition surrounding power contracts, it would greatly improve outcomes for regional fisheries, which do not occur along state lines. To date, our requests to this end have been largely ignored.

As stated elsewhere in this letter and in previous comments, federally permitted fishermen are authorized to fish in federal waters and often operate across large areas adjacent to multiple states. Their prime fishing grounds, or landing facilities, are often located far from their "home" port due to regulatory, resource, and market conditions. These fishermen simply cannot be effectively engaged in multiple OSW-related state processes at once, and there have been ceaseless examples of state-led efforts, from the BOEM State Task Forces to individual state working groups and beyond, completely overlooking fishing sectors that will be greatly affected by actions until after decisions are made.

This issue has been raised time and again. In but one example, earlier this year RODA and more than 50 member, and non-member, signatories from fishing businesses in the Gulf of Maine states requested support

for a regional fisheries working group, in order to begin organizing fisheries data and communication efforts at the earliest stages of planning.[10] There has been no progress on this common-sense request.

Instead, most states rely on their authorities under the Coastal Zone Management Act to perform project review and even impose requirements on projects not contemplated through the BOEM leasing process. As discussed more in Section II below, this has led to unequitable outcomes and a fragmented ability of fishermen (and even their government relations experts) to understand, inform, or predict what will happen next. The application of federal consistency, and the specific policies within each state, seem to be in constant flux and this is exacerbated by an ongoing rulemaking at the National Ocean Service directly relevant to this issue that is entirely opaque.[11]

One positive example of a state adopting a regional approach to addressing fisheries and OSW conflicts are the efforts made by the New York State Energy Research and Development Authority (NYSERDA). Following efforts established during the development of the New York State OSW Master Plan, NYSERDA has convened its Fisheries Technical Working Group with the appropriate spatial scale for NY Bight fisheries and has endeavored to reduce duplication of effort with other states with regard to research and discussion topics. This has led to several successful initiatives including a timely workshop to examine fishing vessel transit needs in the NY Bight, open communication with fishermen regarding opportunities and barriers to OSW workforce coordination, and more. However, even with the best intentions and a strong understanding of how to work toward improved outcomes, a regional approach such as NYSERDA's is necessarily limited by the extent to which other states commit to joint work, or reasonable division of work, rather than repeat the same discussions in multiple fora with little forward progress.

We recommend that BOEM take a leading role in fostering interstate coordination, and actively support others' efforts to do so. This would be expected to increase the likelihood of successful integration of offshore energy development into current activities such as fishing.

b. Consistent Calls for Reform

As noted above, we won't repeat the overwhelming concerns and faults in the planning process, but do note that fisheries professionals have repeatedly called for its wholesale reform. We are aware of significant coverage in OSW-centric media publications attempting to paint the fishing industry's request to simply be considered as eleventh-hour "delay tactics" or "NIMBYism," but in fact this input has all occurred well within BOEM's permitting timeline during the appropriate comment periods and as soon as the information to inform them was publicly available. While not an exhaustive list, some examples of these communications are described below.

MAFAC

The Marine Fisheries Advisory Committee (MAFAC), a federally-chartered panel representing a diverse set of perspectives from commercial, recreational, aquaculture, environmental, academic, state, tribal, and seafood and consumer fisheries interest groups, is tasked with advising the Secretary of Commerce on an ongoing basis as an expert source for consultation during the development of marine resource policy. Just days ago, MAFAC transmitted recommendations articulating concern about the rapid pace of OSW development and the fisheries- and seafood production-related challenges it imposes. Specifically, the MAFAC report addresses:

[10] *See* Appendix IX.

[11] 84 Fed. Reg. 8628 (Mar. 11, 2019).

1. Unfunded mandates for NMFS and impacts on annual surveys and other science enterprise activities;
2. Lack of understanding about potential cumulative impacts to the marine environment;
3. Lack of a national, strategic approach to engage multiple stakeholders; and
4. Funding needs and potential sources to address unfunded mandates on NMFS as well as to potentially mitigate losses to displaced commercial and recreational fishing businesses.

We urge BOEM to work with the Department of Commerce to fully address each of these recommendations, attached as Appendix XI.

BOEM Requests for Feedback

As far back as September 2015, BOEM issued a Request for Feedback on the State of the Renewable Energy Industry"[12] and received multiple comments representing fishing interests including the Fishermen Involved in Natural Energy, Pacific Seafood Processors Association, Pacific Whiting Conservation Cooperative, Southern Oregon Ocean Resource Coalition, United Catcher Boats, Phoenix Processor Limited Partnership, Long Island Commercial Fishing Association, Fisheries Survival Fund, Massachusetts Lobstermen's Association, and Seafreeze Ltd. These detailed comments universally stated opposition to BOEM's leasing process due to a lack of a clear, transparent structure for working with fishermen and raised many of the other issues addressed in this letter. In particular, several raised concern that BOEM only conducts a full EIS at the late stages of project permitting and that the fragmentation of key decisions between local, state, and federal government prevents effective fisheries consideration. What's remarkable is the high degree of uniformity in these comments—despite these groups being located all across the country and most having no communication with the others. Despite the consistency in concerns, these issues have never been addressed as there has been no change to BOEM's approach or regulations.

In 2018, when it prepared the "Path Forward" policy, BOEM again requested feedback regarding its proposed approach.[13] Again, comments from diverse entities reflected the continuing failures to consider fisheries impacts mitigation in a timely manner and warned of significant downstream conflict if unaddressed. Some of the comments included:

- New Bedford Port Authority: *"In other words, avoiding conflict and potentially significant economic loss requires extensive due diligence up front. That has not happened here."*
- New England Fishery Management Council: "*At present, the impacts of windfarm construction and operations, including the possible cumulative effects of multiple projects, are not evaluated at all during the leasing stage… In particular, fisheries are routinely assessed on a landscape scale and we strongly disagree with their exclusion from this planning process."*
- Atlantic Capes Fisheries: "*Reading our comments [to BOEM] from 2012, I can only note with regret that BOEM adopted none of the policies we recommended... Unfortunately the disconnect between federal leasing policies and the state policies for the commitment of creditworthy buyers of offshore wind electricity (e.g. state electric purchasing policies) has resulted in the frustration of good development and the increase of conflict with the commercial fishing industry that I predicted in my comments to BOEM in 2011."*

[12] 80 Fed. Reg. 58786 (Sept. 30, 2015).

[13] 83 Fed. Reg. 14881.

- The Ocean Conservancy: *"Partnership with states and stakeholders to continue to improve governance and collaboration is of the utmost importance."*
- American Waterways Operators: *"AWO continues to be concerned that navigation conflicts are considered too late in the WEA siting process. The navigation safety needs of the towing industry, indeed of all vessel operators, should be considered before areas have been initially identified... The current BOEM process does not treat the process holistically, potentially harming the economic and environmental future of the nation."*
- USCG: *"However, it is critical to resolve issues of [navigational] concern prior to Area identification to ensure transparency with all entities."*

We are unfortunately now seeing the fruition of these predictions, through no fault of the fishing industry. To repeat, none of these concerns have been addressed in the regulatory process.

In addition to raising these comments to the Secretary of Commerce and BOEM, those with a deep understanding of fisheries operations and management have repeatedly called for a holistic planning process through the Regional Planning Bodies,[14] project specific environmental reviews (including earlier comment periods for the Vineyard Wind project), and even through a lawsuit focused on the New York Bight lease area.[15]

c. Fishing engagement

We briefly, but emphatically, note the concern often raised by fishermen and long-understood by fisheries managers; most people working in the fishing and seafood industries are not comfortable engaging in standard written public comment processes nor in public hearings (much less when such hearings are conducted via webinar). Instead, they select representatives such as RODA and other associations to speak on their behalf. This streamlining of comments is not evidence of a lack of interest or affectedness on their part; indeed, the 3052 signatures on the petition submitted to this docket show the extent of this community and their concerns. In contrast, OSW developers and their trade associations have coordinated large-scale letter-writing and media campaigns that find far more willing targets in urban citizens with far greater fluency in writing and computer work, most of whom are not personally affected by OSW development in any manner. We urge BOEM not to interpret disparities in the number of comments received as indicative of apathy.

d. Joint Work with Developers

As stated in the preceding sections, the current process in which offshore wind development is unfolding in the U.S. is flawed. And yet, RODA has consistently tried to promote novel ways to better engage both the fishing and OSW industry to minimize conflicts to the extent possible. In the spirit of cooperation, RODA continues to partner with developers in a number of ways including at a regional level, through the Joint Industry Task Force, at a project level, with individual developers and fishermen, and by supporting unbiased science and research on interactions between OSW and fisheries.

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[14] *See, e.g.,* Letter from Fisheries Survival Fund to Northeast Regional Planning Body (June 2, 2015), *available at* http://www.fishermensvoice.com/images/LetterFromFSFToNERPB.pdf ("Often the public, including affected stakeholders, is unaware of proposals and developments until far too late in the process to make meaningful engagement or planning efforts, if it is even possible at all. For example, under the "Smart from the Start" initiative for offshore wind farm permitting, BOEM only issues a Call for Information from the public after energy companies spend substantial time and money resources developing specific bids for a Wind Energy Area").

[15] *Fisheries Survival Fund v. Jewell*, 2018 WL 4705795 (D.D.C. Sept. 30, 2018).

Joint Industry Task Force

In January 2019, the Joint Industry Task Force was formed from RODA members and commercial offshore renewable energy developers with the mutual interest in promoting coexistence amongst OSW energy and commercial fishing practices. The guiding principles of the Joint Industry Task Force emphasize identifying areas of conflict and cooperative solutions, minimizing impacts to fisheries and protecting coastal communities, and providing a forum for direct communication among industries.

The Joint Industry Task Force has had reasonable success in its nascent tenure. Members have crowdsourced recommendations for navigational aids and prepared a guiding document with input from the fishing industry writ large and renewable energy developers. With the Special Initiative for Offshore Wind, we have hosted multiple educational forums for information exchange between the industries that help frame the current state of play and limitations on both industries. But most importantly, the Joint Industry Task Force provides a forum for fishing and OSW representatives to come to the table, build relationships, learn about the other's industry, and think of creative solutions to some of the foreseeable problems of building out these infrastructure projects.

Unfortunately, for both the OSW and fishing industries, the planning process was being determined as the initial stages of projects were unfolding, leading to an inadequate process for OSW development that prioritized some stakeholders over others. While the Joint Industry Task Force has had some successes, it is still limited by the existing framework and planning processes set forth by the regulating federal and state agencies. We hope these regulatory concerns can be addressed to foster continued growth and success of the Task Force.

Project-Specific

In addition to the Joint Industry Task Force which works between a wide array of fishermen and all the lease-holding developers, RODA has also had some success facilitating project-specific meetings and webinars to address unique and location-specific concerns while protecting the proprietary information of OSW companies and fishermen. Specifically, we have been successful in the Mid-Atlantic region working with project leads from the Empire Wind (Equinor) and Ocean Wind (Ørsted) lease areas. Because these areas are not as far down the planning process path, these companies have indicated the willingness and ability to work directly with fishermen outside of a formal federal or state process to better incorporate their concerns in layout planning and design to minimize conflicts. Unfortunately, projects in Southern New England are at a disadvantage in this regard.

As referenced later in this document, we reference a productive meeting between Vineyard Wind staff and RODA members to better understand the Massachusetts fisheries mitigation plan. RODA members found this direct industry to industry sharing of information beneficial and future negotiations with all involved parties would be more productive if held regularly and prior to the signing contracts.

Science Efforts

We strive to the extent possible to work with OSW developers and others to improve common understanding of issues concerning fisheries and offshore wind. We fully appreciate these joint efforts are the cornerstone to building toward a future of collaboration. For example, in the two years since RODA's formation we have spoken at several OSW conferences and served on the Advisory Panel for a Consortium for Ocean Leadership Industry Forum on the Development of U.S. Offshore Wind, often at the invitation of OSW developers.

Across the board, there is a recognition of the need for a full comprehensive understanding of how widespread OSW development will impact ocean resources and the communities that rely on the coast. RODA has worked extensively with many developers to support and bolster regional science and monitoring of the interaction between these industries. RODA was a founding member of the *Responsible Offshore Science Alliance* (ROSA) and has put in countless hours and resources to supporting the organization. Working with developers, RODA has helped with the visioning process of ROSA to ensure transparent regional research with sustained and active participation of the fishing industry. Direct input from the fishing industry and supported communities is fundamental and thus far has not been fully captured by existing efforts.

Under the guidance of the Memorandum of Understanding with BOEM, NOAA/NMFS and RODA, RODA has received funding from NOAA for a State of the Science Workshop: Fisheries and Offshore Wind, which will result in the development a white paper and hosting of a workshop summarizing the existing literature and help develop a research agenda with and for ROSA. This workshop will be held in October 2020 and the white paper will incorporate recommendations from subject matter experts and workshop participants. We will continue working with agencies, developers and the fishing industry to further support a strong science agenda through this project.

RODA has three additional ongoing projects poised to better inform the siting, planning and mitigation processes of offshore wind development in the hopes of better informing all relevant parties.

i. Fisheries Knowledge Trust: Regulatory efforts have struggled to describe fishing practices with the detail required to evaluate potential tradeoffs and mitigate competing ecosystem uses related offshore energy development. By using individual data queries and spatial datasets, our Fisheries Knowledge Trust project can test fishermen's hypotheses and enable them to produce maps and reports documenting the knowledge they collect on the water (funded by NYSERDA).
ii. Improving the Ocean Data Portals: The Northeast Regional Ocean Council and Mid-Atlantic Regional Council on the Ocean have partnered with RODA to engage commercial fishermen in the development of updated maps and data for the Northeast and Mid-Atlantic Ocean Data Portals. The goals of this project include increased collaboration with the fishing industry on the development of products that represent their interests and improved fishing industry trust in regional data products and the data that are being used to inform decisions. This will be achieved by partnering with fishing industry representatives and organizations to determine the need and potential uses for fisheries data products, to design and review draft products, and to develop documentation and communications about the appropriate application and use of final data products that are available on the ocean data portals (funded by NROC/MARCO).
iii. Strategies and Tools to Address Commercial Fishing Access: RODA is working with National Renewable Energy Laboratory to develop and analyze a realistic set of OSW project scenarios to better understand how to minimize access constriction to fishermen and reduce risk to vessels and gear. The scenario development will provide a better understanding of the technical characteristics and constraints for a wind project located within specified wind energy areas or draft wind energy areas in the NY Bight (funded by NYSERDA).

Additionally, we recognize that some developers have also made efforts to improve fisheries research and monitoring plans. Ørsted has made recent improvements to its direct work with the fishing industry, including several webinars with federal, state, and industry experts to gain feedback on its draft fisheries monitoring plans. It has also hired a full-time Ph.D. fisheries scientist to further its work in this area. RODA supports this proactive approach that Ørsted has taken to incorporate strong fisheries science at upfront.

RODA will continue to work on collaborative efforts with developers, federal, and state agencies to ensure fishermen's input is better incorporated into offshore wind development.

II. Mitigation

Compensatory mitigation, in its current form, is insufficient and must be revised with direct and comprehensive consultation with the fishing industry. RODA repeats, and cannot emphasize enough, the comments it submitted to the DEIS docket regarding mitigation:

> RODA strongly disagrees with the approach Vineyard Wind has taken to addressing the mitigation of impacts to fishing activities and resources, which . . . has primarily been approached through concurrent state-based methods that have been poorly integrated into the federal approval process. As we have expressed in the past, we believe that the development of a common framework for such "mitigation" must be done in a transparent, holistic, and well-structured manner that includes impacts from the wide variety of affected fishing businesses. Moreover, an appropriate mitigation plan must follow the principles of first avoiding conflicts, then minimizing those that are unavoidable, mitigating the impacts from new development through appropriate use of communications and technology, and finally—only once those have been adhered to—considering compensation for any residual losses.

The single most important question underlying the responsible development of OSW—and whether it can be completed in a way that does not pose intolerable risk to fishing and marine ecosystems—is whether adequate mitigation has been incorporated into project design. Mitigation can take the form of avoiding, minimizing, or compensating for effects caused by a proposed action or its alternatives.[16] The most important mitigation measures are the first two, as fishermen's shared goal is to preserve healthy ecosystems and continue fishing, rather than be paid for damages.

Unfortunately, avoiding and minimizing impacts are not prioritized in the OSW process. The SEIS references the Vineyard Wind COP at Volume III, Table 4.2-1 and 4.2-2 for a list of mitigation measures that are considered in its analysis. For fisheries, these include: (1) the lease area being sited to avoid locations of high fisheries value,[17] (2) ensuring project activities are communicated to fishermen; (3) development of a fisheries monitoring program (discussed in Section IV (c) below); (4) commitment to display required lighting; (5) provision of electronic charts to fishermen; (6) marking turbines for visibility; (7) leaving a large portion of the WDA undisturbed;[18] and (7) a reiteration that ongoing activities will be communicated to fishermen. These commitments—although they do follow BOEM's Best Management Practices, further highlighting structural flaws in the process—have nothing to do with minimizing and avoiding impacts to fishing and are purely informative in nature.

Further, the SEIS indicates on p. 3-101 that "Vineyard Wind has committed to voluntarily establish gear loss and revenue compensation funds for fishing interests in Rhode Island and Massachusetts, which is intended to compensate for gear and/or revenue losses over the life of the Project... Future mitigation measures may reduce some of the economic impacts on the commercial and for-hire fleet." Due to the significant procedural shortcomings in OSW to date failing to minimize conflicts through siting and design, this compensatory mitigation has become a central focus of fishermen with regard to the project review.

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[16] *See* 85 Fed. Reg. 43304, 43350 (July 16, 2020).

[17] We question the effectiveness of this process, particularly the data and outreach involved in development the MA/RI WEAs, and reference previous comments from fisheries experts on the record regarding that process. Moreover, at no point during the development of the WEAs did BOEM ever analyze the fundamental question of whether there is a maximum size of contiguous wind projects that is desirable from an ecological perspective, including whether such areas should include migration corridors for protected species or other resources.

[18] It is unclear if this refers to the space between turbines or the Phase II project area, which is now committed to a Connecticut procurement under the Park City project.

Disturbingly, these state-required (or requested, depending on who you ask) "agreements" actually occurred before BOEM or any state fully considered how to mitigate impacts through avoidance or minimization.

In its comments on the Vineyard Wind DEIS[19], RODA urged BOEM to coordinate, or at least require development of, an appropriate, regional-scale fisheries compensatory mitigation plan. It did not. We now face the bizarre outcome that two states were, in practice, deputized to devise payment plans from the project developer through their Coastal Zone Management Act review authority. Despite compensatory mitigation requirements *not being an enforceable policy* under the Act, a series of political twists and turns has led to BOEM considering—as the primary fisheries mitigation tool for a federal waters project—payments made to one state. These decisions were negotiated with no public comment process (or private comment process, for that matter, as no fishing experts were consulted including Vineyard Wind's own Fisheries Representatives) with payments made to an as-yet defined Trust in a second state that were "negotiated" through a public process but universally loathed, and absolutely no payments at all in others.

This process for direct negotiation with states made sense when originally envisioned in the Rhode Island Ocean Special Area Management Plan, which was developed through extensive public input and review to facilitate the Block Island Wind Farm in RI state waters. However, leaving compensatory mitigation to individual states to design (or not design) through their widely varying Coastal Zone Management Plans for projects that span multiple states in both geography and impacts makes no logical—or legal—sense.

As we, and others, have pointed out previously, the Comity Clause of the U.S. Constitution prohibits discrimination based on state residency. It is unclear how BOEM's enforcement of state-led policies that result in different outcomes for federally permitted fisheries participants based on their state of residence could be constitutionally defensible, unless BOEM does not consider them in its decision whatsoever. In addition to these disparate outcomes, these payment schemes grossly undervalue likely fisheries losses from the project as they are not calculated on a cumulative scale in the state agreements. The SEIS also failed to consider cumulative impacts of these mitigation plans, without any prediction or assurance of how compensatory mitigation for other projects will be decided. The plans also did not include analysis of indirect impacts or multiplier impacts to shoreside businesses, and were not subject to peer review or public input.

We could comment at length about the procedural and relational deficiencies with the development of each state plan, but defer to communications from the Rhode Island Fishermen Advisory Board that closely detail the flaws in that process, the letter from Massachusetts Fishermen's Partnership does the same.[20]

Since the announcement of the Massachusetts mitigation plan, Vineyard Wind staff and our members had a productive meeting for fishermen to better understand the context under which the plans were developed. This led to greater clarity about the states' processes with regard to compensatory mitigation (although it would have been beneficial to have this information available from BOEM or the states prior to contracts being signed). What is clear is that OSW developers can follow states' requirements regarding fisheries mitigation to a tee, and this will not create an equitable outcome.

III. Transit Lanes and Maritime Safety

We are immensely grateful that the SEIS includes Alternative F with transit lanes based on the input from RODA and fishing constituents of the region. From the numerous conversations with fishermen, we reiterate that for the majority of fisheries and gear types found in the area, 1x1 nautical mile spacing between turbines is too narrowly spaced for most fishing operations. Thus, if spacing remains prohibitive, access to

[19] *See* Appendix V.

[20] *See* Appendix VII.

viable and safe transit options becomes the single most important mitigating factor to the project design. RODA strongly urges BOEM to adopt Alternative F presented in the SEIS.

a. Reliance on MARIPARS analysis

During public hearings, comments were made in support of OSW development and included claims that removal of wind turbines to accommodate transit lanes will make the project financially unsound. Many of these claims also cited that transit lanes would be unnecessary based on the findings of the MARIPARS. We are concerned by these comments because the MARIPARS has several shortcomings, as stated in our "Request for Correction" submitted to USCG on June 29, 2020.[21]

Based on the fact that the SEIS relies on the MARIPARS analysis, the MARIPARS should be considered "highly influential" and therefore should be subject to peer review and IQA review. The final study fails to address several issues brought forth during public comment on the draft MARIPARS by Dr. Thomas Sproul[22] and RODA.[23] These issues are briefly outlined below.

Reliance on inappropriate data sources

Prior to initiation of the MARIPARS study, and throughout its development, multiple fisheries groups including RODA informed the USCG that the majority of fishing vessels in the MA/RI WEAs are not using Automatic Identification System (AIS) technology, and therefore it should not be used as a primary data source for evaluating vessel behavior.[24] These comments were echoed in workshops by the National Marine Fisheries Service[25] and in formal comments by BOEM.[26] The USCG has also stated that in June of 2018 over 50 percent of towing vessels operating in U.S. waters transmitted incorrect AIS data[27]. Incorrectly transmitted AIS data contributed to a collision between two towing vessels in May 2020 on the Mississippi River[28]. The typical range of class A AIS is approximately 15-20 nautical miles. Unless fishing vessels are over 65 feet long, they are only required to have a class B AIS device, which has a shorter transmission range of about 8-10 miles. The technical limitations of AIS transmission implies that activity of fishing vessels offshore is likely to not be representative of actual fishing activity, especially when vessels are on

[21] *See* Appendix III.

[22] *See* Appendix IV.

[23] *See* Appendix II.

[24] *See* Appendix I.

[25] *See* RODA, "December 3, 2018 Workshop Documents," https://rodafisheries.org/portfolio/december-32018-workshop-documents/.

[26] *See* Letter from James Bennett, Program Manager, Office of Renewable Energy Programs (BOEM) to Edward LeBlanc, Chief, Waterways Division Coast Guard Sector Southeastern New England (June 4, 2019), available at: https://www.regulations.gov/document?D=USCG-2019-0131-0044 ("As AIS is only required in fishing vessels 65 feet or greater in length, supplementing with VMS data can further characterize area vessel use").

[27] *See* Coast Guard Maritime Commons, https://mariners.coastguard.dodlive.mil/2018/07/03/7-3-2018-is-your-automated-identification-system-ready-for-subchapter-m/

[28] USCG Marine Safety Alert 04-20. May 13, 2020. Available at https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/INV/Alerts/USCGSA_0420.pdf?ver=2020-05-13-090105-050

distant fishing grounds such as Georges Bank. Despite this clearly communicated information, the MARIPARS nevertheless analyzed and cited only AIS data to represent fisheries activity in the WEA.

Unique nature of fishing vessels

The MARIPARS purports to characterize appropriate turbine layouts to maintain fishing activity within the WEA but there is no information whatsoever as to vessels' spatial requirements or other important factors when engaging in fishing (i.e. when gear is deployed and hauled). Similar to the request to use spatial data sets that best capture transit in the area, fisheries participants and others expressly requested the inclusion of this information in the MARIPARS analysis and noted that spatial needs while utilizing mobile gear are different than while transiting.[29] The MARIPARS boldly asserts that "the recommended standard and uniform grid pattern provide sufficient space for certain vessels that fish in the WEA to continue fishing after the wind farms are constructed" with absolutely no supportive evidence, and then goes even further by concluding that should larger transit corridors be adopted, "the reduced turbine spacing would largely preclude fishing in the WEA." Such statements would indicate that the USCG has analyzed fishing footprints and risks specific to the gear types used in the area and determined minimum viable spacing for various operations, perhaps even in differing sea states. However, this information is perplexingly absent from the report.

Analytical omissions and deficiencies

As stated in the comment letter submitted by RODA in March 2020 on the draft study[30], there are calculation errors that are not addressed in the final MARIPARS. For example, based on a peer review conducted by Dr. Thomas Sproul, the justification of 1x1 gridded turbine placement is incorrect in at least 2 ways. One, the analysis fails to use the USCG's own guidance for Closest Point of Approach for a fixed hazard and instead relies on methodology from a Netherlands study cited in British guidelines.[31] Second, in using this alternative methodology to calculate adequate spacing between fixed hazards, the calculations fail to include an UNCLOS Safety Zone (of 500m) on each side of the "transit lane." There are other errors clearly outlined in RODA's, Dr. Sproul's, and others' comments submitted on the draft MARIPARS, and yet the final version fails to address any of those errors or provide an explanation as to why no corrections were made in the responses to comments section.

Concerns associated with radar

As previously stated in RODA's comment letter on the draft MARIPARS analysis, the study arbitrarily ignores available information on concerns associated with radar interference. The Department of Defense has repeatedly raised concerns that "radar clutter (i.e. false targets) from the wind turbine blades would seriously impair the agency's ability to detect, monitor, and safely conduct air operations."[32] Similar

[29] BOEM even repeated this request in its comments to the Draft MARIPARS on March 24th , 2020 ("BOEM again requests that the USCG consider objective vessel needs, such as typical fishing vessel maneuverability … each vessel type requires specific sea space to safely maneuver").

[30] *See* Appendix II.

[31] U.K Maritime and Coastguard Agency, Marine Guidance Note 543, Safety of Navigation: Offshore Renewable Energy Installations (OREIs) - Guidance on UK Navigational Practice, Safety and Emergency Response (Feb. 2016).

[32] A brief history of the federal government's awareness of this issue is included in U.S. Department of Energy, Federal Interagency Wind Turbine Radar Interference Mitigation Strategy (Jan. 2016), at 2 (available at

concerns have been expressed by the National Security Council,[33] and in several European countries with existing wind arrays.[34] Furthermore, an entire interagency Memorandum of Understanding has created the Wind Turbine Radar Interference Working Group (WTRIM) that is dedicated to identifying mitigation strategies for radar interference.[35] The USCG has also compiled, studied, and documented a significant amount of information demonstrating marine radar degradation from offshore wind turbines in its review of the Cape Wind project as far back as over a decade ago. RODA documented all of these sources in its comments[36] and the USCG provided no response as to why these studies were not included in the final MARIPARS. As numerous agencies and private sector groups from multiple industries have expressed real concern with radar interference from wind turbines, it is irresponsible for the MARIPARS analysis to dismiss this potential conflict without conducting a comprehensive investigation and clearly documenting what information is known and unknown.

Until the identified concerns are addressed, it is irresponsible to solely rely on the highly influential MARIPARS study to draw the conclusion that transit lanes are unnecessary in the MA/RI lease block. The SEIS does not correct the deficiencies in the MARIPARS, therefore there is not an adequate basis for the 1x1 nautical mile spacing for the WEAs. In the interim, we request BOEM use the best available information in regards to practical fishing operations and transit, which has been provided by fishermen and fishing groups in numerous comment letters and during public workshops[37,38]. Based on the outcomes of the workshops and engagement with the fishing industry, RODA reiterates our request to a) address the concerns presented in regard to the original MARIPARS study, which will support b) adoption of Alternative F.

USCG personnel have indicated since the MARIPARS publication that this study is not intended to replace meticulous review of project-specific proposals for wind energy facilities in federal waters off of New England. We request that BOEM base forthcoming regulatory actions on a full, Information Quality Act-compliant review of the record rather than the flawed MARIPARS. Additionally, in the event that subsequent MA/RI WEA project proposals diverge from a standard and uniform grid pattern approved in

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https://www.energy.gov/sites/prod/files/2016/06/f32/Federal-Interagency-Wind-Turbine-RadarInterference-Mitigation-Strategy-02092016rev.pdf).

[33] Sandia National Laboratories, IFT&E Industry Report: Wind Turbine-Radar Interference Test Summary, SAND2014-19003 (Sept. 2014) (available at: https://www.energy.gov/sites/prod/files/2014/10/f18/IFTE%20Industry%20Report_FINAL.pdf).

[34] United States Department of Defense, Report to the Congressional Defense Committees: The Effect of Windmill Farms on Military Readiness (2006) (available at: http://www.defense.gov/pubs/pdfs/windfarmreport.pdf).

[35] U.S. Department of Energy, Federal Interagency Wind Turbine Radar Interference Mitigation Strategy (Jan. 2016), at 2 (available at https://www.energy.gov/sites/prod/files/2016/06/f32/Federal-InteragencyWindTurbine-Radar-Interference-Mitigation-Strategy-02092016rev.pdf).

[36] *See* Appendix II.

[37] New England Wind Lease Area Transit Corridor Workshop Summary (Oct 2018) (available at: https://rodafisheries.org/wp-content/uploads/2019/08/NETransitWkshopMtgSummary10312018-Final.pdf

[38] New England Wind Lease Area Transit Corridor Workshop Summary (Dec. 2018) (available at: https://rodafisheries.org/wp-content/uploads/2019/08/CBINEWEATransitWkshopSummary12-3-19draftCBI6AM12-10.pdf

previous projects, the USCG will revisit the need for informal and formal measures to preserve safe, efficient navigation and SAR operations.

b. Transit directionality

Evidence of fishing vessel transit directionality conflicts with Alternative D-2 orientation

While we do not agree with the premise that 1 nautical mile wide "transit" lanes provide adequate spacing between turbines for safe and efficient navigation, we would like to draw attention to the false concession that this orientation and spacing will benefit transiting mariners. The 1 nm spacing proposed is along the N-S and E-W lines of orientation but along the diagonal the spacing is reduced to 0.7 nm. Yet based on the polar histograms in the SEIS (Figure 3.11-3 & 3.11-5), there are clear transit patterns for vessels in the NW-SE orientation.

This demonstrates that fishermen and mariners were obviously insufficiently engaged in the final "transit" discussions. It seems unfair that the people who utilize the space the most, have the highest risk, and most to lose, were circumvented in the final discussions and the input they consistently provided (through workshops cited above, public comment, and conversations with developers) was ignored.

c. Study site for radar interference

Finally, if the Vineyard Wind 1 project is approved, RODA stresses that it is absolutely necessary to use this as a study site to understand and mitigate interference with marine radar. Conclusions thus far from the WTRIM, MARIPARS, and developers indicate not enough is known about impacts to radar on fishing vessels. Limited information can be learned from European WEAs and the Block Island Wind Farm, but the full extent of possible radar interference should be studied if this project is approved. The proposed larger turbines, gridded array layout, and specific radar units used on U.S. vessels are not fully understood.

In particular, it should be stressed that any study should utilize active fishing vessels, outfitted with radar technology used by the industry. By better understanding marine radar interference fully, mitigation measures should then be implemented to improve the navigational safety for all mariners. No additional OSW projects should be approved unless navigational risk is mitigated through layout design and/or technology, based on the findings from a robust analysis of radar interference.

IV. Environmental Impacts

The use of offshore wind as a source of renewable energy is effectively a large-scale experiment to determine the impacts of an unprecedented amount of physical structure in our outer continental shelf ecosystem. There are major flaws in this experiment: (1) we have insufficient baseline data against which to measure induced effects; and (2) the rapid timing of construction across multiple projects does not afford the opportunity to evaluate impacts from the first, or others incrementally afterward. The latter makes it difficult to fully mitigate the impacts of these turbines because we simply do not know what all the impacts will be and have left no room for adaptive management. We can make some inferences based on the limited research on offshore wind coming from Europe and from fisheries research on our own fish stocks (spawning behavior, feeding, life history) but we are rapidly approaching this experiment with limited planning and expectations.

a. SCeMFIS Review

The Science Center for Marine Fisheries (SCeMFiS) prepared an expert peer-review of the SEIS, included in this docket and attached as Appendix VI.[39] SCeMFiS is a National Science Foundation Industry/University Cooperative Research Center that "utilizes academic, recreational and commercial fishery resources to address presently urgent and emerging scientific problems that could limit sustainable fisheries." The following overview highlights some of the report's key findings.

The SCeMFiS report reveals that research referenced in the SEIS is inadequate to analyze impacts; fully characterizing them requires region-specific research. The authors state appreciation that a large amount of work has been done by BOEM since the publication of the DEIS but they find the SEIS wrongly concludes that "the overall cumulative impacts on finfish, invertebrates, and EFH would likely qualify as moderate because a notable and measurable impact is anticipated, but the resource would likely recover completely when the impacting agent was gone and remedial or mitigation action was taken."

RODA's comment letter on the DEIS described some of the many gaps in the biological and habitat impacts analyses that included the need for species-specific research, the lack of underwater noise research, no consideration of changes in water flow or larval dispersion, the need to research impacts of wind energy removal to physical oceanographic processes and dependent biological processes, the assumption that a "reef effect" will occur and be positive, localized temperature changes, interactions with electromagnetic fields, and consequences of scour and other benthic alterations. The SEIS does not improve our understanding of these issues, which is unsurprising given that no directly relevant research has been done on wind energy areas comparable in size to what is proposed in the Vineyard Wind project SEIS. The analysis, while incorporating a larger spatial scale, still insufficiently analyzes the cumulative impacts for the entire region and instead focuses mainly on the Vineyard Wind project.

We remain highly concerned that OSW development will occur along the coast in the absence of research that would provide a better understanding of the realized impacts. There is some research from Europe that can inform our inferences, however, some structures, e.g. the Mid-Atlantic cold pool, are unique to the U.S. because of their size and level of stratification. Research on the changes in stratification in the German Bight suggest that seasonal stratification could be impacted if enough of the stratified shelf was developed but that the current amount of development did not pose a risk. However, the German Bight is likely not analogous to the cold pool during the summer when it is highly stratified to an extent not seen in the German Bight; therefore, it is not possible to make any strong assumptions of impacts based on this study. Foraging, and other biological necessities, by marine mammals may be affected by changes in the cold pool. If the cold pool is disrupted and primary production is reduced, prey species would also be expected to decline, negatively affecting marine mammals' food sources.

Climate change has already begun; the SEIS analysis should acknowledge that the Northwest Atlantic Ocean has already experienced shifting populations of fish and invertebrates. As part of its ecosystem approach to fisheries management, the Mid-Atlantic Fishery Management Council (MAFMC) has already begun discussing the impacts of climate change on fishery science and management.[40] It is disingenuous for the SEIS to disregard in-progress changes by concluding that the ecosystem, to be further impacted by

[39] SCEMFiS Review of "Vineyard Wind 1 Offshore Wind Energy Project Supplement to the Draft Environmental Impact Statement" (*available at* https://scemfis.org/wp-content/uploads/2020/07/wind_report_final-1.pdf).

[40] Mid-Atlantic Fishery Management Council (MAFMC). "A White Paper to Inform the MAFMC on the Impact of Climate Change on Fishery Science and Management." (available at: https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/5c5c8fa9652dea319f3f8fe6/1549569962945/MAFMC-Climate-Change-and-Variability-White-Paper_Apr2015.pdf).

development, was stable and would recover after the impacting agent was removed or mitigation was undertaken. The water temperatures in this region are already changing; as they change, they will dictate where fish and their prey are distributed. An example provided in the SCEMFiS report highlights the need for such an analysis; mussels (*Mytilus edulis*) are expected to attach to structure, such as a turbine, and locally affect the level of primary production depending on the level of filtration they might achieve. The SEIS is silent on the preferred temperature range of *M. edulis*; if temperatures continue to rise it is unclear whether this species will be present in the wind energy area by the end of the lease period. This example highlights that research is needed on species found in our region in order to mitigate species-specific impacts. Available research is limited and while it may appear to inform analyses, it likely doesn't given the specific life history characteristics, behavior, and localized food web dynamics that are unique to any ecosystem. It is imperative that we study impacts on each component of the ecosystem including the benthic community and its recovery from construction.

The SEIS dismissed interactions between fish and exposure to EMF from exposed cables based on the assumption that exposure would be of short duration; it was not discussed as an impediment to migration. The SEIS does its best to describe the impacts on larval dispersion but nonetheless remains uninformative. The SEIS makes assumptions based on research not designed to answer the question being addressed. For example, to discuss the impacts on larval dispersal, the SEIS references a study (Chen et al., 2016), which explicitly states that it was not designed to evaluate larval dispersal impacts.

The SEIS also discusses the potential for the wind energy areas to serve as artificial reefs, which would be expected to have a positive impact on the density of structure loving fish. If this reef effect was realized this would result in the largest artificial reef program in U.S. waters, if all possible leases were built out. It is not known whether the lease areas will result in a larger reef complex with interaction effects. Looking at tropical reef systems indicates a limitation to the positive benefits of reefs because of the “halo effect” where the behavior of coral head reef residents results in rings of sea grass surrounded by a maintained, grazed white sand ring termed halos. Under high densities, these halos can merge and eliminate the sea grass altogether. The behavior of these fish affects the ecosystem function, particularly under high density scenarios.

The SCEMFiS report further highlights the importance of species-specific impact analysis. Species like surfclams that live for 30-35 years are vulnerable to the installation of turbines. These are not highly mobile species that can simply relocate to an area outside of the construction zone. We do not know what the long-term impacts on such long-lived, sessile species will actually be.

The SEIS is also deficient in its analysis relating to marine mammals. Such species are vulnerable to structure in the water because of the risk of collision or entanglement. This risk increases when marine mammals and structures or gear/lines from fishing activity (or floating turbines) interact. The SEIS does not sufficiently discuss changes in interactions between marine mammals and fishing gear; if both are either excluded from the wind energy areas then it restricts the amount of ocean available and would be expected to result in increased interactions. Alternatively, fishing or service vessels and marine mammals could interact within the wind energy area and have limited maneuverability because of the turbine layout. This may delay recovery of stocks, which is of particular concern for northern right whales (which in recent years have had significant presence in the New England project areas). A simulation study on a harbor porpoise population in Europe indicated the population was vulnerable to turbine and shipping noise and bycatch rates; these effects were additive. The extent of the proposed wind energy areas in U.S. waters could have substantial impacts on the fitness and population growth of marine mammals, including one of our most vulnerable species (northern right whale). It is unclear what mitigation plans would be feasible given the permanent structures being pile driven into the seabed.

The plans for mitigation of cumulative right whale impacts are too vague to properly comment on, and are not even available for projects other than Vineyard Wind. Nor do best management practices provide standard protocols or performance measures. We would hope that mitigation of any negative impacts on marine mammal populations would not affect the fishing industry by further excluding fishing from areas to compensate for the wind farm impacts.

If BOEM does approve the Vineyard Wind project in the absence of an adequate scientific understanding of environmental impacts, we urge that Vineyard Wind be used as a research platform, with further construction of other lease areas delayed until sufficient efforts are underway to address inadequacies in research. Research projects should be designed in conjunction with fishermen to ensure sampling design is adequate.

b. Surveys

Offshore wind development will prevent the Northeast Fisheries Science Center from completing its annual surveys. The SEIS itself concludes that the Vineyard Wind project will have major impacts on scientific research and surveys. This directly impacts fishermen by increasing uncertainty in stock assessments, which typically results in reduced quotas. For example, the clam stock assessment does not include areas that are not surveyed; the region east of Nantucket is not surveyed and therefore is not included in the assessment despite clams being caught there commercially in the past. The economic impact of lost fishing grounds is exacerbated by the uncertainty created in stock assessments resulting in reduced quotas. The National Standard 1 guidelines require the acceptable biological catch to account for any scientific uncertainty in the estimate of the overfishing limit.[41] Scientific uncertainty is directly related to information regarding the status of the stock, e.g. stock assessments, which may be based solely on federal surveys depending on the stock. This represents a major unknown for the fishing industry because the magnitude of impacts will vary by species. These concerns have been widely cited, including through comments from NMFS.

c. Monitoring

Fisheries monitoring will be insufficient for the Vineyard Wind project and other near-term offshore development. OSW developers are required to develop fisheries monitoring plans; this is essential, however, their utility will be limited. They are likely to have less than two years of baseline data making it difficult to understand true impacts to stocks with high interannual variability. It is imperative to be able to detect any changes in abundance and distribution of fish and invertebrate species resulting from OSW development. The fishery monitoring plan for the Vineyard Wind project was only originally submitted to the National Marine Fisheries Service for review on February 25, 2019. At the time, NMFS didn't consider it to be a viable monitoring plan, stating "the submitted plan lack[ed] sufficient detail and critical information to evaluate its efficacy." Though Vineyard Wind has since made revisions to its monitoring plans, the planning flaws referenced above and the absence of clear requirements for fisheries monitoring have led to the loss of critical knowledge. It is of utmost importance that all fisheries monitoring plans for any offshore wind development project are scientifically sound and help to answer critical questions regarding impacts to populations and their stock assessments.

We request funding be allocated to federal agencies and research institutions in order to be able to address these uncertainties. Priority for funding should be given to fisheries-related research, ideally through existing cooperative research programs, e.g. NMFS wind team, the regional fishery management councils and the Responsible Offshore Science Alliance (ROSA). Fishermen and developers have come together as part of ROSA to increase mutual understanding and this cooperative effort should be supported; research

[41] 50 C.F.R. § 600.310(f)(ii).

that directly involves fishermen would greatly benefit from fishermen's expertise and would also have a higher acceptance from the fishing industry as a whole.

V. Employment and Coastal Communities

a. Jobs & Economics

We maintain that the economic importance of fishing, and economic losses associated with loss of fishing grounds and indirect effects, have been systematically underrepresented, both through this federal environmental review and throughout the OSW development process. Furthermore, the SEIS analysis is at odds with information often put out by OSW advocates as the primary justification for rapid development: the creation of huge numbers of U.S. jobs.

The SEIS lacks key information regarding the cumulative economic projections of full build-out of the MA/RI lease areas, including how much economic growth is attributable to the projects when federal and state renewable subsidies and rate payers' increased costs are considered. It also fails to clarify significant uncertainty regarding how much of the promised economic and employment benefits from OSW will accrue to the United States, vs. how much will be directed abroad. Nor does it even attempt to predict how many fishing jobs will be lost or otherwise impacted due to this new ocean use, which may occur based on a number of reasons including resource impacts, induced management changes, insurance cost and availability, increased operational costs from factors such as transit time, market impacts, and so on. We also reference several items in our DEIS comments that were not considered at the time, such as calculations of shoreside impacts to fisheries, and these remain unaddressed.

With regard to job creation, the SEIS does little to build on the DEIS analysis, except for incorporating a recent report from the American Wind Energy Association absent any review of its methodology. Even absent an unbiased analysis, it concludes that future OSW activities will cumulatively have "overall minor beneficial impacts" to new employment and economic activity.

In order to provide more transparency in the job creation projections, we reference a study completed by Georgetown Economic Services (submitted under this docket and attached as Appendix X, referred to as GES report in this letter). This study found that the projected job creation for the Mid-Atlantic and New England region was inconsistent with the AWEA input/output model cited by the SEIS.

Utilizing the NREL Jobs and Economic Development Impacts model the GES report found for the Mid-Atlantic and New England region "2.06 - 3.17 local job-years per MW (as opposed to permanent jobs) could be created during the construction phase in the region, and 0.18 - 0.26 permanent jobs per MW could be created during the operations and maintenance phase."

> Specific to Vineyard Wind, [the report] estimate[s] 3.92 – 5.71 job-years per MW during construction, while the Vineyard Wind estimate is higher, at 4.30 – 6.16 job-years per MW. During operations and maintenance, [the report] estimate [s] between 0.42 – 0.53 permanent jobs per MW, while the Vineyard Wind estimate is 0.6 – 1.09 permanent jobs per MW. [The] results using an alternative "employment factor" model are lower still, with 2.32 job-years per MW during construction and 0.16 permanent jobs per MW during operations & maintenance.[42]

The inconsistencies in estimated jobs created using the same model is curious. One potential explanation is that the assumption of domestic versus foreign jobs is different between the two reports. In the GES report, the materials and services resulting from direct and induced jobs (estimated to about 60 percent of jobs in the offshore wind industry) during the construction phase are nearly 100% sourced locally as they are

[42] *See* Appendix X.

widely available in the U.S. As stated in the GES report, if the AWEA report input/output analysis assumed lower local sourcing assumptions, this may explain the difference in results between the two reports.

Lower estimates of job-years by AWEA is problematic if the OSW industry does not plan to maximize U.S. hiring, especially if domestic labor is possible in the states supporting OSW. If developers know that most jobs will be foreign, jobs and economic stimulus should not be a selling point for OSW.

Equally concerning is the differences in the estimated permanent jobs (or operations and maintenance jobs) between these two reports. The operations and maintenance phase of an OSW project is much less labor intensive, provides employment long term and lasts the lifetime of the project, therefore a correct and realistic estimation of these types of jobs should be paramount and the total sum of job-years driven by the higher number of construction jobs should not be conflated with permanent jobs.

Lastly, the analysis of the input/output models only account for gross employment impacts and does not include displacement of other industries. This needs to be looked at more holistically, accounting for the impacts of fishermen's employment including from displacement, impacts to the resource, management constriction, indirect costs such as insurance and fuel, transit time and other cost prohibiting results.

b. Social Justice

The SEIS analyses impacts to environmental justice communities in Massachusetts and concludes that the cumulative impacts to these communities from the proposed OSW projects would be overall minor, but potentially major depending on the specific impact factor and alternative chosen. While RODA agrees that these impacts will be major, the SEIS analysis is purely qualitative and contains several analytical flaws.

This section of the SEIS is too narrowly focused on Massachusetts and fails to describe or account for low-income and diverse communities in other states such as Rhode Island and New Jersey that are heavily dependent on seafood production in these WEAs. It also makes no attempt to characterize demographics in the fisheries sector nor what is expected in the OSW sector.

While we are not experts on the types of jobs that will support OSW construction, we do understand that the huge majority of them require highly specialized certifications and eligibility criteria. There is no indication whatsoever, in the SEIS or elsewhere to our knowledge, of how many of these jobs will be sourced from these communities, or on what timeline.

The fishing industry—for which there is documented workforce information—supplies significant employment, if not the majority of jobs, in environmental justice communities up and down the coast,[43] including tens of thousands of jobs that are highly specialized but do not require formal training. Seafood processing, in particular, is heavily dependent on labor from first generation immigrants.[44] There is, in fact, a shortage of available labor for many of these positions.[45]

The unique and historic cultures of these coastal communities, heavily dependent on fishing, provides a strong sense of community that spreads far and wide. These cultures introduce events for the entire community to enjoy including the blessing of the fleet. New Bedford, MA is rich in history and tourists

[43] *See* National Marine Fisheries Service, *New Bedford, MA: Community Profile,* https://www.nefsc.noaa.gov/read/socialsci/pdf/community-profiles/MA/new-bedford-ma.pdf

[44] New American Economy, Sea to Table: The Role of Foreign-Born Workers in the Seafood Processing Industry (2017), *available at:* https://research.newamericaneconomy.org/report/sea-to-table-the-role-of-foreign-born-workers-in-seafood-processing-industry/.

[45] *Id.*

learn about its fishing history at the whaling museum, current fishing practices at the annual Working Waterfront Festival, or the dangers of a life at sea when visiting the Historic Seamen's Bethel & Mariner's Home. New Bedford's fishing community brought Portuguese culture to the south shore of MA hundreds of years ago and its one-of-a-kind traditions remain; this is evidenced at the very popular (and highly recommended by RODA staff) Feast of the Blessed Sacrament. Cities like New Bedford, Gloucester, and the Islands have been built by the fishing industry and that is where they see their future.

* * * * *

In summary, successful American fisheries are founded on an extremely complex combination of operational needs, market conditions, cultural and historical traditions, effective management, and robust science, and more. Changes in one part of the system can have reverberating effects through the rest, so it is imperative to understand and minimize risk to the extent possible in order to maintain healthy, safe seafood production and communities.

Thank you for your consideration of these comments and your commitment to working with RODA and our members to improve the balancing of the goals and needs of fisheries and offshore wind energy. Please do not hesitate to reach out if we can provide additional information or clarification.

Sincerely,

Annie Hawkins, Executive Director

Fiona Hogan, Research Director

Lane Johnston, Programs Manager
Responsible Offshore Development Alliance