



MAINE

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Against

LD 1895 An Act Regarding the Procurement of Energy from Offshore Wind Resources

May 18, 2023

Senator Lawrence, Representative Zeigler, and members of the Energy, Utilities and Technology Committee. My name is Kristan Porter and I am a commercial lobsterman from Cutler and President of the Maine Lobstermen's Association (MLA). The MLA opposes LD 1895 to procure energy from offshore wind resources.

LD 1895 seeks to expedite the industrialization of the Gulf of Maine by securing contracts for 1,000 MW of commercial floating offshore wind by 2030 and 2,800 MW by 2035. This translates to 55 turbines by 2030 and 155 turbines by 2035 if 18 MW turbines are installed.

The MLA clearly understands the states' aggressive renewable energy goals and remains strongly opposed to offshore wind development in the Gulf of Maine to meet these objectives. With 20,000 individuals employed aboard Maine's fishing vessels or directly in the seafood supply chain, the productive and fragile waters of the Gulf of Maine should not be used as testing ground for new offshore wind technology or to site large industrial wind farms.

The MLA has been highly engaged in Maine's offshore wind planning process to learn as much as possible about offshore wind, particularly floating technology, while educating other stakeholders about the importance of the Gulf of Maine to the fishing industry and its concerns with this renewable energy source. The MLA engaged with the Governor's Energy Office (GEO) and Maine Department of Marine Resources (DMR) over the state's plan to establish an offshore wind research array, served on the Governor's Offshore Wind Advisory Committee to inform the state's Offshore Wind Roadmap, served on the Fisheries Working Group as part of that process, and currently serves on Maine's Offshore Wind Research Consortium. The MLA is also closely following the federal offshore leasing process through the Bureau of Ocean Energy Management (BOEM).

The fishing industry's concerns have been misunderstood by many. Lobstermen's concerns run far deeper than simply not wanting to share the ocean with new users or being opposed to change. The fishing industry's opposition is deeply rooted in concern over industrializing a

fragile and productive Gulf of Maine ecosystem, putting at risk its wildlife, habitat, commercial and recreational fisheries, and a way of life that has sustained thousands of Maine families for more than a century.¹

Unfortunately, both the state and federal governments wish to charge forward in developing large industrial wind farms in this precious marine ecosystem. Both readily acknowledge that the impacts of this scale of development are largely unknown, particularly with emerging floating technologies. Regardless, the federal leasing process and state procurement plans are moving forward at a rapid pace.

The fishing industry is being asked to make a leap of faith and trust that the government, in the face of the unknown, will seek to minimize harm when it occurs. This is a risk the fishing industry is not willing to take. The industry's aversion to risking the health of the Gulf of Maine rests in part on the fishing industry's deep understanding of the fragility of this ecosystem, but it also stems from a lack of trust in both the government and offshore wind developers.

As an example, Maine's fishing community has watched as one branch of the federal government (BOEM) approved a large offshore wind farm off Nantucket, Massachusetts in a known habitat frequented by hundreds of endangered North Atlantic right whales. Meanwhile, another federal agency (NMFS) closed these same waters to commercial fishing to protect these whales. To make matters worse, this wind development will end decades long marine surveys which serve as the basis for our fisheries management plans because research vessels cannot survey among the turbines and aerial surveys are not possible due to the height of the turbines.

Similarly, the Maine lobster industry is on the verge of being dismantled by one branch of the federal government (NMFS) as a result of its mandate that the fishery reduce its estimated risk to endangered right whales by 98% while another branch of the federal government (BOEM) plans to lease these waters to deploy floating industrial wind farms. Any harm to right whales because of wind farms will inevitably result in more stringent regulation of the Maine lobster fishery.

The MLA would like to thank Senator Lawrence for putting forward an amendment to LD 1895 that includes a recommendation from Maine's Fisheries Working Group (FWG), which was part of the state's Offshore Wind Roadmap process. The tenets of offshore wind development are first to avoid conflict, second to minimize conflict, and finally to mitigate any conflict that occurs. The MLA, along with a diverse group of Maine's fishing industry stakeholders, developed a recommendation to site offshore wind outside of Lobster Management Area 1 (LMA 1) to avoid

¹ See Maine Offshore Wind Roadmap, Fisheries Working Group Recommendations at <https://www.maineoffshorewind.org/wp-content/uploads/2023/02/Fisheries-Working-Group-Final-Recommendations.pdf> and Environmental and Wildlife Working Group Recommendations at <https://www.maineoffshorewind.org/wp-content/uploads/2023/02/The-Environment-and-Wildlife-Working-Group-Final-Recommendations.pdf>

overlap with Maine's lobster fishery which represents the vast majority of Maine-based commercial fishing activity.

Currently we do not have adequate data to understand where and when lobstermen fish in LMA 1. The state of Maine has been collecting lobstering data from both dealers and harvesters for many years to accurately account for lobster landings. However, the program collected data from a sampling of harvesters and did not collect fine scale spatial and temporal data. Beginning in 2024, Maine's fleet will have every lobsterman reporting at a much finer spatial scale, and all lobstermen fishing in federal waters will have trackers to record where and when each lobster trap is hauled. These data, which will not be available until 2025 and beyond, are needed to understand how potential offshore wind development will impact the lobster fishery.

There are several benefits to siting offshore wind development outside LMA 1. This would avoid conflict with the majority of Maine's fishing industry, protect an integral part of Maine's fishing heritage, and preserve the majority of income from Maine's commercial fisheries which forms the economic base that sustains our coastal communities. It would avoid conflict with recreational fishermen and other commercial and recreational marine users. Siting outside of LMA 1 would also benefit developers by locating wind farms where wind speeds are strongest. Further by avoiding overlap with the majority of the fishing gear, developers will have many more months to conduct surveys and construction if they don't have to work around fishing seasons. Impacting fewer fishermen will translate into less conflict, controversy, and project delays. Two developers have already indicated interest in siting offshore wind almost exclusively outside of LMA 1 through BOEM's initial Request for Interest. The MLA remains strongly opposed to LD 1895, but if it is to move forward, the MLA strongly urges this Committee to support the language in Senator Lawrence's amendment.

The Gulf of Maine is one of the most productive ecosystems in the world. Its health is essential to supporting Maine's lobster fishery which is an essential part of Maine's identity, heritage and economy. LD 1895 would expedite the establishment of floating offshore wind in the Gulf of Maine absent adequate research to inform how floating wind will impact this fragile ecosystem and the fishermen and communities that depend on it.

The MLA strongly urges you to vote ought not to pass. Thank you for your consideration.

Fisheries Working Group Recommendations

**Submitted to Maine Offshore Wind Roadmap
Advisory Committee**

July 11, 2022

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Executive Summary and Acknowledgements

Since July 2021, the Fisheries Working Group (FWG) has worked to develop the following recommendations in support of the overall framework of the Offshore Wind Roadmap for the State of Maine (State). Participants in the FWG brought considerable expertise and knowledge of their fisheries, as well as, in many cases, direct experience with particular aspects of offshore wind development, to the working group's discussions. These recommendations are driven by the direct experience of working group members and the experience of scientists, policy-makers, and fishermen with regard to offshore wind projects in southern New England and informed by approaches taken in other regions and countries.

The Fisheries Working Group's final draft recommendations cover various life stages of offshore wind project development, including pre-construction survey work, construction, and post-construction and decommissioning. The recommendations cover a broad range of topics, including communications, baseline monitoring, siting, transmission, and navigation and safety. The final draft recommendations reflect ongoing conversations and analysis occurring in the State and signal the general content and focus of the group's work to date, as well as its general consensus with advancing the recommendations in their current form; to be clear, they should not be interpreted as endorsed by any individual participant in the process.

In addition, there has been extensive work done by scientists and stakeholders across the region to ensure that data from individual wind projects can be compared across projects and incorporated into existing data sets to inform impact assessment. Given the scale of fishing activity in the Gulf of Maine and specifically from Maine fishermen, it is critically important that Maine learns from and improves upon lessons from elsewhere. The FWG, similar to the Environment and Wildlife Working Group, emphasizes the need for the State to encourage the Bureau of Ocean Energy Management (BOEM) to utilize the best available strategies to avoid and minimize impacts, relying on the future state of the best science through the next decade and beyond, and adapting policy responses as necessary to important habitat and fisheries, as well as existing uses, for the benefit of future generations.

The FWG met 11 times via Zoom and once in person from July 2021 through June 2022. The group was comprised of individual fishermen who participate in various fisheries throughout State and federal waters, fishing industry association leaders, wholesale dealers and processors, non-governmental organizations that support the fishing community, and a municipal official from a fishing-dependent community. As co-chairs, we are grateful to the members of the FWG for their thoughtful engagement and willingness to participate in this process despite substantial ongoing concern about the implications of offshore wind development in the Gulf of Maine, and opposition to such development by the fishing industry (including members of this group). Maine's involvement in offshore wind development will be more informed because of the efforts of this group.

Terry Alexander, F/V Jocka
Meredith Mendelson, Maine Department of Marine Resources
Co-Chairs, Fisheries Working Group

Introduction

The Fisheries Working Group (FWG) has developed recommendations in support of the overall framework of the Offshore Wind (OSW) Roadmap for the State of Maine.

1.1. Maine Offshore Wind Roadmap

The overall goal of the Governor's Energy Office (GEO) for the Roadmap is to foster a renewable OSW industry that helps Maine become a leader in floating technology while meeting the following four goals of the Maine OSW Initiative:

1. Fight Climate Change
2. Harness Renewable Energy
3. Create Jobs and Economic Growth
4. Sustain Maine's Maritime Heritage, Wildlife and Fisheries, and the Gulf of Maine Environment

Climate driven changes to the Gulf of Maine (GOM) have already altered marine productivity and the abundance and distribution of marine species. These changes are expected to continue, resulting in ecological shifts in the GOM. The FWG recommendations have been developed to inform the goals of the Offshore Wind Roadmap for the State.

1.2. Impacts on Maine People

The Gulf of Maine's natural resources are essential to the health and vitality of many of Maine's coastal rural economies. The backbone of Maine's coastal economy is built on the men and women who ply state and federal waters, but it is more than just the fishermen and their crew and families who are dependent on the fishery. Boatbuilders, bait and gear suppliers, trap builders, wholesale dealers and processors, truckers and more depend on the fishing industry and its continued vitality to ensure the success of their own businesses. Many visitors come to Maine to eat lobster and enjoy the views of our working harbors as they travel the coast. Commercial and recreational fishing, aquaculture, and the seafood supply chain, as well as tourism-based hospitality businesses, depend on the continued success of Maine's marine economy.

This is why it is so critical to preserve the Gulf of Maine's natural resources while allowing for the growth of a new industry; offshore wind development must represent additive value, not replacement or substitution for the jobs and supply chains that already exist. The FWG grappled with additional questions around equity and access that are not reflected in its recommendations on this topic, including the potential disproportionately impacts of shoreside development on coastal communities, particularly rural communities with a high reliance on a healthy and productive Gulf of Maine ecosystem. These questions, as well as those about the

potential impact on cultural and community institutions from new offshore development and significant change bear further consideration and exploration in the future.

1.3. Coordination with the Environment and Wildlife Working Group

The FWG has, throughout its work, kept abreast of the issues also under consideration in the Environment and Wildlife Working Group, as many of these issues overlap with issues of concern to the FWG. In some cases, the data and mapping needs for both Working Groups overlap which further emphasizes the critical data gaps that need to be addressed. Where they do not overlap, recommendations specific to each Working Group will need to be considered in the context of the environmental, economic, and social-cultural significance of the GOM as a whole.

1.4. The Role of Climate Change in the Offshore Wind Discussion

The fishing industry is on the front lines of the impacts of climate change – both current and predicted – on the GOM. However, the need to develop renewable energy must be balanced with the need to preserve the intrinsically valuable natural resources of the GOM and the existing industries and uses that depend on them for the economic and cultural resilience of Maine’s coastal communities. Climate change does have potential ramifications for fisheries, but it most immediately represents an additional variable, creating even more uncertainty for the fishing industry as offshore wind development is considered, as siting turbines may exclude fishermen from areas that have not previously been important grounds but which may become so, due to changing ocean conditions, in the future. The fishing industry is, like many communities, concerned that it will bear an undue burden in responding to climate change and asking that impacts unique to its existing use of ocean space be appropriately considered as renewable energy sources are being analyzed and developed.

It is important to recognize the unique opportunity Maine has to lead the development and operation of floating offshore wind with the least impact to the marine environment and existing uses. This is only possible if the State pursues gathering the critical data needed to better inform the decision-making process. Data collection should begin as soon as possible to advise environmentally sound siting, and to create a baseline for evaluating effects of offshore wind through time, which will ultimately put Maine in the best position to lead the nation in low-impact floating offshore wind development.

1.5. Effects of Floating Offshore Wind on Fishing Activity

In addition to the impacts on how commercially important species and protected resources may be affected by the presence of offshore wind turbines, as described under the Environment and Wildlife Working Group recommendations, there are anticipated effects on

how offshore wind development projects will impact fishing activity. These impacts can begin prior to construction, as survey work may require temporary displacement of fishing effort. It continues through construction when displacement and other impacts may be most acute, and continues into the operations phase.

Currently, there are no commercial scale floating offshore wind projects in the world that can provide insight into how fishing activity might be impacted, but generally speaking, offshore wind can cause significant displacement of fishing effort from historic and current grounds, as fishermen may be excluded from an area through various channels, including liability insurance, or for safety reasons, or because their gear type simply isn't compatible with the installation of the turbines (e.g. towing a net through a floating array with inter-array cables suspended in the water column would not be possible). Wind farms and transmission cables can create safety and navigation hazards, through radar interference, or potential risk of getting towed fishing gear caught on a buried cable that fails to stay sufficiently buried. Offshore wind farms may obstruct traditional transit routes, requiring fishermen to steam further to their grounds and increasing the costs on an already narrow margin business. In many fisheries, the areas where fishermen can operate are restricted by time or space or through their permitted access to the fishery. Displacement from offshore wind development can exacerbate these restrictions, and displaced fishermen impact others as they shift in response to their own displacement.

Recommendations Pertinent to Pre-Construction Monitoring, Construction and Post-Construction Activity

- 1. RECOMMENDATION: The State will work with BOEM and other federal agencies to strongly encourage or require offshore wind developers follow procedures that encourage full engagement with the fishing industry from ME, NH and MA during survey operations, specifically:**
 - a. Survey vessel captains shall engage with local fishermen prior to activities to understand local dynamics, conditions, and practices to avoid or minimize conflict.
 - b. OSW developers should always have a contact available when an OSW developer survey vessel is operating who may be contacted via radio or cell phone, which should include a land-based contact as well given challenges of communication at sea at times.
 - c. A fisherman with extensive knowledge of the area being surveyed should be onboard each survey vessel and compensated appropriately.
 - d. Survey vessels and developers should be held accountable for deviating from published survey routes, buffer zones and/or other areas identified for vessel operations.

- e. OSW developers should have a gear loss compensation program in place prior to initiation of surveys.
 - f. Survey vessels should run their AIS at all times, regardless of distance from shore, to be identifiable and in order to provide a record of location for gear or other conflict claims.
- 2. RECOMMENDATION: The State will advocate for geophysical and geotechnical data gathered by OSW developers to be made available in accessible and usable formats to the public on a regular and timely basis (e.g. concurrent with submission of the COP or in advance of the public comment period on the EIS) and that such data should be incorporated into all charting software at the developers' expense.**
- 3. RECOMMENDATION: The State will work with BOEM and other New England states to pursue establishment of the following monitoring requirements for offshore wind lease holders:**
- a. Baseline biological (marine resource and marine mammal presence) and physical oceanographic monitoring (currents, temperatures, sediment) in proposed areas for offshore wind development, at the developer's expense, should be conducted quarterly for a minimum of:
 - 1) three years prior to construction.
 - 2) throughout construction.
 - 3) five consecutive years post-construction, then at two-year intervals until decommissioning.
 - b. Results from surveys should be used to determine future intensity, frequency, and need beyond the 5 years as well be considered in identifying emerging trends and be used across projects for considering cumulative impact.
 - c. Appropriate surveys to monitor marine resources and benthic habitat, such as those recommended by NMFS, should also be conducted in lease areas and along proposed export cable corridors.
 - d. Survey and monitoring plans shall be independently reviewed by a panel of independent experts not affiliated with or funded by the developer.
 - e. Trawl surveys or other survey work conducted using fishing gear should utilize a commercial vessel platform operated by industry members with significant familiarity and experience operating within the survey area.
 - f. Trawl survey work should be conducted using the Virginia Institute of Marine Science (VIMS) Northeast Area Monitoring and Assessment Program (NEAMAP) protocols so it can be incorporated into broader data set for comparative purposes.

- g. To account for post construction concerns on constraints to trawl survey method, also include a multi-mesh gillnet survey, as well as ventless trap survey, and other methods as needed to ensure a comprehensive approach. To calibrate these two surveys, they should be run concurrently with the pre-construction baseline monitoring trawl survey (inside & outside the proposed WEA). Post construction monitoring would then be trawl outside and fixed gear inside.
- h. To account for pelagic species, conduct transect acoustic survey across the area. This will help inform changes in aggregations/distributions.
- i. Other survey methods should be considered and implemented such as gill net, tagging, acoustics, aerial surveys, thermal imaging, and other methods, especially accounting for survey methods that are implementable within deep water array once constructed.
- j. Survey work should be done in accordance with the Responsible Offshore Science Alliance's (ROSA) Offshore Wind Project Monitoring Framework and Guidelines (<https://www.rosascience.org/resources>).
- k. Raw data collected, metadata, and its synthesis through all survey work should be made available to fishing industry and the public in an open-source format that is readily accessed.
- l. At the developer's expense, an independent third party should analyze the survey data and present the results of those data to the appropriate fishery management body and NOAA Fisheries.
- m. Ensure that monitoring programs are being adhered to. If it is determined that a project may be having negative impacts on the fish stocks, ecosystem, or environment, then further study should be required and remedial avoidance, minimization or mitigation measures taken. If subsequent research shows continued negative impact, then further remedial action should be undertaken at the developer's expense.

4. RECOMMENDATION: The State will provide and actively seek out other funds to sustain necessary fisheries and ecosystem research and monitoring during the OSW development and implementation process.

- a. The State of Maine should continue to prioritize provision of General Fund support for at least the current amount of \$2 million for monitoring and research in the Gulf of Maine in anticipation of offshore wind development for the foreseeable future of which a meaningful portion should continue to be allocated to fisheries issues. Research may include fisheries science, socio-economics, community dynamics, and other fisheries related topics.

- b. The State should pursue additional funding, both independently and in partnership with states whose fishing vessels use the Gulf of Maine to increase the available pool of funding for fisheries and ecosystem monitoring and research.
- c. The State should aggressively pursue funding from federal agencies such as BOEM and NOAA to ensure that the designation of wind energy areas and the subsequent EIS processes have sufficient fisheries and ecosystem data to make sound siting decisions that avoid or minimize impacts to commercial fishing.
- d. Continuing with common practice in DMR-led work, a cooperative approach with direct engagement from the fishing industry should be pursued as often as possible.

5. RECOMMENDATION: The State should encourage developers to engage meaningfully with the fishing industry in development of lease areas to minimize impact of grid orientation, layout and micrositing on existing uses.

Recommendations pertinent to the BOEM Siting of Wind Energy and Lease Areas

6. RECOMMENDATION: In the near term and ongoing, the State should engage with fishermen, scientists and other stakeholders with expertise in fisheries, wildlife and the environment to compile and map the areas of known concentration of priority species and habitat and fishing activity in order to appropriately site wind energy lease areas in the Gulf of Maine.

Areas of high use by the fishing industry should be identified through the following process:

- i. First, using VMS and AIS data from the most current ten-year period available, identify all areas where commercial fishing has or is occurring.
- ii. Second, identify additional fishing areas by reviewing VTR and or available data sources, for those fisheries where VMS or AIS data is insufficient or lacking. Areas of historic fishing in the last twenty (20) years should be included, such as the cold-water shrimp fishery
- iii. Third, where such data in #2 is not available, utilize use surveys with tested methodologies (such as that done for the Research Array), or other innovative methods to identify current, recent, and historic areas of fishing. Any areas where there is medium to high fishing effort by one or more fisheries, or areas that would have a significant and unique impact on a particular port or region should be avoided for leasing to the greatest extent possible.

- iv. Recognizing fisheries are highly dynamic and may be affected by other influences, general stock assessments and surveys of potential exploitable resources should be taken into account even if those stocks are not currently being fished. If predictive models or forecasting tools are available, these should be used to supplement historic and current data.
 - v. From this data, identify areas of high, medium, and low suitability from a fishing perspective for OSW development.
 - vi. Identify habitats known to have higher levels of productivity including ledges, rotational areas, essential fish habitat, closed areas, spawning grounds, and other areas.
- 7. RECOMMENDATION: As wind energy areas are being identified, Maine should request that the U.S. Coast Guard conduct a port access study to determine necessary formal and informal transit to fishing grounds and how such potential wind energy areas may adversely affect transit. If such impediments are identified, the State should work closely with BOEM to ensure wind energy areas are appropriately based and if needed, “no build” informal transit lanes are identified within the final wind energy areas.**
- 8. RECOMMENDATION: As wind energy areas are identified, Maine should request a port impact assessment by the appropriate state or federal agenc(ies) to determine if the vessels fishing in those proposed areas would be concentrated in certain ports, any implications for the port’s local economy and shoreside businesses (including jobs gains/losses where possible, and considering relative impact of those gains/losses in the area) and consider cumulative impact on fishing communities of multiple projects. This assessment may require collection of new information and/or use of local ecological knowledge to supplement available data. Cost of completed the assessment should be at the developer’s expense.**

The Fisheries Working Group makes the following recommendation to the Advisory Committee, noting that the industry remains substantially opposed to the development of offshore wind in the Gulf of Maine, and that this represents a compromise position:

- 9. RECOMMENDATION: Offshore wind development should not be sited inshore of an area bound by the US/Canada border, following the LMA 1/3 line southwest to the 69 30’ line, and then due south to the 42 20’ line; and**
- Beyond this boundary, the siting of OSW development should avoid:**
- a. **Groundfish and habitat closures established in approved Fisheries Management Plans, inclusive of a 5-mile buffer around these areas; and**

- b. Areas of high or very high fishing activity as identified on VMS-derived heat maps unless there is targeted engagement with affected fishing industry members.**

Rationale:

- To avoid the area which represents the majority of effort by the lobster industry and significant effort from the groundfish, monkfish, scallop, tuna and herring fisheries;
 - Scale of fishing effort inside this boundary, largely due to lobster fishery, is significantly greater than what is seen elsewhere on eastern seaboard. Maine has approximately 1260 federal lobster permit holders operating inside this line, who make approximately 260,000 trips annually.
 - All other federal permits combined (including vessels from Maine to North Carolina) operating in Gulf of Maine (inside and outside of this line) total 929 permits making 42,000 trips annually.
- To protect areas including significant habitat closures, right whale protection areas and complex/hard bottom which provide critical juvenile and spawning habitat for numerous protected (i.e. endangered, such as right whales or Atlantic salmon) and commercially-important species (i.e. Atlantic cod, American lobster).
- To minimize overlap between areas of past or current high use by commercial fisheries and areas where offshore wind may be sited.
- The 42 20' line is an existing boundary for the Northern Gulf of Maine scallop fishery. This line encompasses areas that are important to Maine fishermen, but also seeks to strike a balance between protecting those areas and unduly impacting waters that might be of interest to the states of MA and NH for OSW development.

10. RECOMMENDATION: The State will encourage and assist BOEM in providing active and direct engagement with Maine's fishing industry in the development of wind energy areas through workshops, meetings, dockside conversations, and other engagement, working closely with Maine DMR and fishing industry and community organizations to do so in a robust and meaningful way.

11. RECOMMENDATION: The Fisheries Working Group recommends that the State assess existing State statutory and regulatory authorities related to the permitting for offshore wind turbines and transmission and take action to implement corrective actions identified in the assessment as appropriate. This assessment should evaluate the following issues:

- a. Efficacy of existing State authorities in addressing fisheries impacts anticipated from offshore wind.
- b. Ability and cost of fishing industry members and communities to participate effectively in the regulatory processes that evaluate impact on fishing activity and the marine environment.
- c. Mechanisms available to provide support or capacity for improved participation (consider models such as funded intervenor status in public utility proceedings).
- d. Ways to improve fishing industry access, equity, and capacity in State permitting.

Recommendations pertinent to cabling and transmission

12. RECOMMENDATION: Laying of cable should avoid the greatest disruption to fisheries and other wildlife.

- a. Nearshore cable laying should follow normal Time of Year (TOY) restrictions to protect species and habitats.
- b. Offshore cable laying should take into consideration spawning/juvenile habitat protections, migration, or other impacts to marine and wildlife.

13. RECOMMENDATION: To the extent feasible, transmission lines from multiple projects should be co-located in the same corridors where widening those corridors would not significantly increase adverse impact to high value marine or wildlife habitat.

14. RECOMMENDATION: When planning for cable installation and methods, developers should consider the following:

- a. Siting considerations:
 - i. Complex habitats and habitats protected through fisheries management should be avoided;
 - ii. Cables should be buried whenever possible, at a minimum of 6 feet;
 - iii. If not buried, then consult with area fishermen closely to identify best matting or cover to minimize gear conflict and adverse habitat impacts.
- b. Fishing impact avoidance:
 - i. Avoid installation when fishing activity is highest, or fisheries-management restricted seasons are open in area of impact;
 - ii. Designation of areas off limit to fishing, including mobile bottom-tending gear, due to the presence of an exposed cable should be avoided to the maximum extent practicable;

- iii. Cable laying and installation should avoid siltation impacts to shellfish aquaculture operations and trap/pot fishing.

15. RECOMMENDATION: During installation and operation of the cable, developers should:

- a. Ensure oversight during installation and burial operations to ensure the cable is laid and buried in accordance with documented plans.
- b. Establish an operations and maintenance plan to ensure the cable burial depth is monitored and any issues can be remedied before becoming problematic.
- c. Ensure that remediation of burial depth occurs expediently and with notice and communication to mariners.
- d. Recommend that Maine explore opportunities for development of transmission “backbones”, corridors or other co-location strategies that would allow for interconnection of multiple projects with fewer cable routes to shore to reduce or minimize adverse impacts to benthic habitat and fishing activity.
- e. Recommend that cables be removed upon turbine decommissioning, unless assessment of impact indicates that removal would cause greater adverse impact to benthic habitat and marine resources.

Recommendations pertinent to navigation and safety

16. RECOMMENDATION: Implement mitigation strategies to reduce wind turbine generator impacts on marine vessel radar:

- a. Deploy reference buoys adjacent to wind farms to provide mariners a reference target to appropriately adjust marine vessel radar gain and other control settings to assist in the detection of smaller targets operating in the vicinity of wind farms.
- b. Promote radar designs with increased immunity to wind turbine generator interference (e.g. new Doppler-based, solid state radars)
- c. Fund upgrades of fishermen’s radar to provide that technology that minimizes or eliminates radar impacts.

17. RECOMMENDATION: That future wind farms should be marked through multiple means, including but not limited to AIS (whether that be at corners, along perimeters, or throughout the array at appropriate distances), visual markings, sound, charts, and other means.

18. RECOMMENDATION: Marking and lighting for floating technology must be considered in detail given that there will be unique surface and subsurface features of floating that are not typical for fixed technology. Subsurface platforms, cabling, anchoring and other features must be appropriated and clearly marked.

19. RECOMMENDATION: That existing and future wind farms include a unique identifier along with a gridded numbering and lettering system such that each 1 x 1 nm square could be uniquely referenced.

- a. Additionally, consistency between multiple developers would be key
- b. Numbering system should advance seaward

20. RECOMMENDATION: That transit lanes through wind farms have specific marking and lighting characteristics.

21. RECOMMENDATION: That cellular coverage be provided in wind farm zones.

Recommendations pertinent to the full duration of an offshore wind development project

22. RECOMMENDATION: The State will work with BOEM and other federal agencies to strongly encourage or require offshore wind developers to develop and implement clear communications plans and notification procedures.

- a. *Communications* – Outline clear protocols for communication by offshore wind developers with the fishing industry that include the following elements including but not limited to BOEM guidance on these matters:
 - 1) OSW developers shall establish Fishing Liaison Officers (FLOs) and Fishing Industry Representatives (FIRs) prior to beginning survey, G&G, or other activity on the ocean. The fishing industry should have a meaningful role in selecting the FLO and FIR to ensure they represent and can be legitimate intermediaries with the Maine fishing industry.
 - 2) OSW developers shall establish a clear communications plan for outreach to fishermen during the life of the project and such plan shall be reviewed by BOEM in consultation with the appropriate states and fishermen advisors. The plan should be updated periodically through the life of the project, including adjustments made to account for lessons learned. Such plans should have clear metrics that measure understanding, engagement, and joint problem solving rather than being limited to quantifying outreach conducted (i.e., # of meetings, # of fact sheets, etc.).

- b. *Notification* – Establish notification requirements for offshore wind developers with the following criteria:
- 1) Stakeholders (fishermen, recreational ocean users, aquaculture businesses, and abutters to shoreline) shall be given adequate and effective notice (at least 90 days) on season, distance from shore, and nature of fishing activity in the area) of any survey work conducted by developers or their contractors (geophysical, geotechnical, biological, oceanographic, or other) for general awareness and to move fishing gear.
 - 2) Aquaculturists shall be given adequate and effective notice (at least 45 days) of any survey work conducted by developers or their contractors (geophysical, geotechnical, biological, oceanographic, or other) for general awareness.
 - 3) Developer survey and vessel activities shall be shared in multiple formats on a real-time basis through such tools as a mariners’ notice, web-based application, texts, and other means.
 - 4) The survey route provided should include not only track lines but also anticipated buffers for vessel operations and maneuvering outside of survey route, as well as an area for vessel anchoring, jogging or other holding patterns. Communications plans should clearly identify these work area designations (e.g. where gear will be in water) and estimated timelines for disruption that are comprehensive and finite.
 - 5) Multiple projects and developers should develop common and standard communication protocols and tools across projects for consistency and clarity.
- c. *Accountability* -- To ensure guidelines are adhered to and issues addressed, develop a verifiable grievance or complaints mechanism that includes a timeline for, and documentation of complaints and response taken; regular public reporting of this information; and alternative dispute resolution mechanisms.
- 1) Repercussions to the developer and/or contractor should work activity persist outside of established area and timeline.
 - 2) Establish a compensation procedure for gear loss that is transparent, accessible, timely and fair.
 - i. Forms should be made available through several avenues (online webform, downloadable pdf, print forms at town halls/industry groups).
 - ii. Data collected in forms should include variety of details (gear loss to include rope, buoys, poly balls, traps and other materials) with estimate of value, number of harvest days missed due to lost gear, travel related

to replacing lost gear, location of lost gear (also attributable to aquaculture losses).

- iii. Forms and processes should be standardized across project.
- iv. Evaluation, processing, and payment of claims should be timely.
- v. Costs should be determined as replacement costs at time of payment, not at filing of request for payment because of potential changes in pricing over that time.
- vi. Develop a transparent process for determination of value of lost gear, product and opportunity that reflects true costs of the loss.
- vii. If gear loss claim is denied, a written justification should accompany the claim denial.

23. RECOMMENDATION: The State should support OSW siting that first seeks to minimize or prevent fishing conflicts. Within lease areas, wind array layouts be designed to ensure fishermen are able to safely operate within and around active wind turbines once projects are constructed, with appropriate standards and protections to mitigate risk and liability.

24. RECOMMENDATION: The State should advance the Research Array to gather data and experience before commercial leasing occurs in the Gulf of Maine so that potential impacts can be better understood prior to commercial OSW development.

25. RECOMMENDATION: If impacts to fisheries cannot be avoided, minimized or mitigated, the State should work with the fishing industry to develop a plan to assess and quantify these impacts utilizing the best available fisheries, ecological and socio-economic data, including the value of loss to the unique qualities of Maine fisheries, heritage and communities. The plan should consider broad impacts to the industry and its communities before, during and after construction and operation of OSW farms, and impacts on fishermen, associated businesses and communities.

Appendices

Appendix 1: Stakeholder Input - Summary of Feedback Received on Fisheries Working Group Initial Draft Recommendations

Maine Offshore Wind Roadmap - Fisheries Working Group Summary of Feedback on Initial Draft Recommendations March – April, 2022

Overview

Maine's Offshore Wind Roadmap initiative undertook proactive engagement with a range of interested groups in March and April to raise awareness about the process and gather input on draft initial recommendations.

Outreach

Outreach and feedback occurred in three main pathways:

- **Webinars and panel discussions:** More than 550 participants joined eight events hosted by diverse partner organizations:
 - Friends of Casco Bay
 - Maine Center for Coastal Fisheries
 - Maine Conservation Voters
 - Maine Audubon
 - Gulf of Maine Seabird Working Group
 - Maine Municipal Association
 - NECEC - Northeast Clean Energy Council
- **Small Group Meetings:** In addition, discussions occurred in smaller groups, including with:
 - SEAMaine – Executive Committee
 - Island Institute – Fishermen's Climate Roundtable
 - Tribal historic preservation officers
 - Tribal environmental and natural resource officers
 - Climate youth advocates
 - Maine AARP staff

- **Inputs via the website and email:**

- *Website:* Since March 1st, there have been 1,900 new visitors to the website, a significant jump from prior months. On average, people are spending just under 2 minutes on the site, which, for web traffic, signals they are engaged in the content. The Working group draft recommendations page has been the most viewed. Despite this traffic, people only completed 44 feedback forms (29 Environment and Wildlife WG, 6 Fisheries WG, 5 Energy WG, 4 Supply Chain + WG). Overall, there were 284 downloads of the full working group recommendations.
- *Other inputs:* Groups and individuals also submitted comments via email, including Mainers for Offshore Wind, The Nature Conservancy, Maine Audubon, NOAA/NMFS, New England Fishery Management Council, Maine Renewable Energy Association & RENEW Northeast, and two individuals. The Mainers for Offshore Wind comments were signed by the following organizations:
 - Acadia Center
 - BlueGreen Alliance
 - Conservation Law Foundation
 - GrowSmart Maine
 - International Brotherhood of Electrical Workers, Local 1253
 - International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers, Local 7
 - Maine Audubon
 - Maine Climate Action NOW!
 - Maine Composites Alliance
 - Maine Conservation Voters
 - Maine State Building & Construction Trades Council
 - Maine Youth for Climate Justice
 - Natural Resources Council of Maine
 - North Atlantic States Regional Council of Carpenters, Locals 349 and 352
 - Maine Physicians for Social Responsibility
 - Southern Maine Conservation Collaborative
 - Sierra Club Maine
 - RESTORE: The North Woods
 - Union of Concerned Scientists

Summary:

The proactive engagement sought to raise awareness and gather feedback. It did not attempt to provide a quantitative analysis of Mainer’s views towards offshore wind or the Roadmap’s draft initial recommendations.

Broadly speaking, themes emerged in the conversations, such as

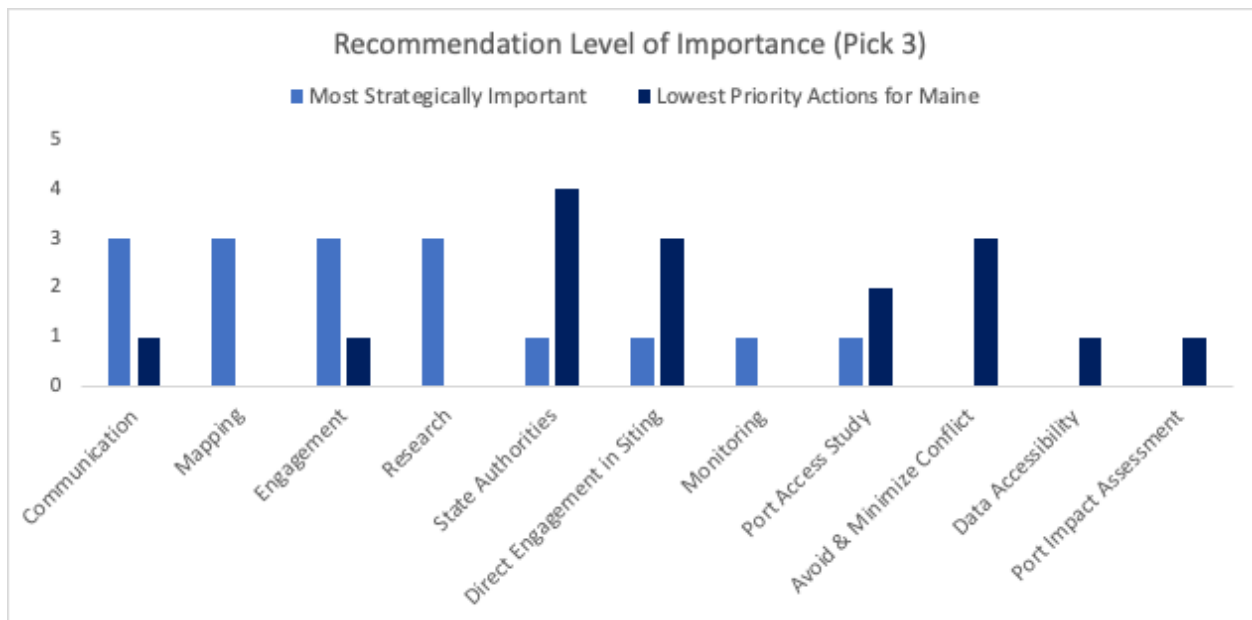
- Interest in exploring offshore wind to bring new jobs to the state and help transform Maine’s energy mix to renewable sources.
 - There were questions about how offshore wind fits in to this future energy supply and how much is really needed
 - Some shared a sense of urgency to “speed up the timeline” while others expressed caution to changes. Others did not support the idea of offshore wind in the Gulf of Maine.

- Concerns about potential impacts to the Gulf of Maine and existing ocean users, and a sense of deep appreciation and reverence for the Gulf of Maine ecosystem and the fisheries and other wildlife that depend on it.
- Tribal representatives and youth voices expressed concern about their representation in the process.

Detailed Feedback for Fisheries Working Group

Feedback via website

There were only 6 responses to the online survey so it is difficult to draw any clear conclusions. There is however a slight trend with at least 3 responses aligning on which recommendation have the highest and lowest importance for Maine. A variety of additional feedback in the open ended questions was provided and those are included below. The Responsible Offshore Science Alliance (ROSA) provided several comments.



Written feedback submitted

Additional comments were submitted directly via email covering a variety of issues and suggestions for Maine’s OSW Roadmap. Written comments specific to the Fisheries Working Group (FWG) are included below. These came from one individual, The Nature Conservancy, the New England Fishery Management Council and informal feedback from NOAA Fisheries.

Questions Raised at Public Outreach Events

There were also public events held on-line in which the FWG recommendations were presented. These included Friends of Casco Bay, Maine Center for Coastal Fisheries, and Maine Conservation Voters. The questions relevant to fisheries issues are included below. A variety of other questions about Maine's renewable energy needs, energy costs and offshore wind technology were also raised at the events and are included in a separate summary document.

Comments on Specific Recommendations:

Recommendation #1: Communication

- Standard communication protocols should be used by all developers so stakeholders know who to contact and where to find information easily across multiple projects. Communication procedures should be reevaluated with input from the fishing industry to mediate any potential conflicts in communication systems.

Recommendation #3: Data Accessibility

- One person questioned if OSW developers might want to claim that data they gather is proprietary, at least until leases are granted.

Recommendation #4: Monitoring

- It was suggested that this recommendation should be under Environment and Wildlife because the data gathered by such monitoring will inform the environmental assessment process.
- 4a. Biological baseline should characterize inter and intra annual variation. Emphasis should be placed on understanding current conditions at local, regional, and ecosystem scales before construction begins.
- 4j and k. Raw data should be accessible.
- When available, include NOAA Fisheries' ongoing work on habitat monitoring recommendations for offshore wind projects. The purpose of these recommendations is to provide a framework for habitat monitoring studies that will improve our understanding of projects impacts. This work is still in development, but a draft document may be available as soon as summer 2022.
- NEFMC suggests clarifying recommendations #4c and #4k (*independent review and analysis of survey and monitoring plans and data*) to include a list of suggestions for who or which group would conduct this review.

Recommendation #6: Mapping

- Consider also collecting information from experts on predicted future trends of priority species and fishing activity (e.g., expected climate shifts) based on the information collected for mapping current and historic fishing activity.
- Port impacts are beneficial to include as part of the mapping effort (See "communities- at -sea" work by Kevin St. Martin, Rutgers University which links fishing activity offshore to port uses.
- *Compiling and mapping areas of known concentration of priority species, habitat, and fishing activity to appropriately site wind lease areas* is an important early step and the results of this analysis should be useful for developing recommendations 9 and 11. It will be important to clarify whether the focus here is on Maine-based fishing operations, or if it includes vessels based in any state that fish off the coast of Maine. We recommend taking a regional view of fishing activity, identifying home ports and landing ports where needed.
- NEFMC suggests providing rationale and criteria for determining why historic fishing (namely the cold-water shrimp fishery) in the last 20 years should be identified and included as part of Fisheries Working Group Recommendation #6b. It is unclear if, and to what extent, historical fisheries from decades prior will return as future fisheries.

Recommendation #7: Port Access Study

- NEFMC noted that since these recommendations were published, the United States Coast Guard has initiated a Port Access Route Study for Maine/New Hampshire/Massachusetts. NEFMC hopes that Maine will participate in this effort. The scenarios in the PARS are not well defined, and the study could benefit from information such as which ports might serve as staging areas.

Recommendation #8: Port Impact Assessment

- Both current use and historical use of ports from within wind areas should be identified.
- The findings of Recommendation 6 could influence patterns in port use and would allow greater understanding of potential impacts in the future (e.g., have vessels from certain areas in the Gulf shifted to different ports over time? If so, what are the reasons why? How will offshore wind influence the traditional use of ports? Has port infrastructure consolidated over time?)
- Identifying the state of port infrastructure, potential of conflicting port space use with fisheries infrastructure needs, and possible improvements to aging fisheries infrastructure should be considered.

Recommendation #9: Avoid & Minimize Conflict

- The siting criteria indicates that the windmills should be prohibited from "within XX nautical miles or less from the Maine coast". While we appreciate that some may not want to see these structures or others don't want them on their fishing grounds, keep in mind that moving them to someone else's area is not appropriate either.
- One comment strongly disagreed with creating a zone of no OSW development arbitrarily. There must be compelling evidence to show that the conflicts are expected to be insurmountable.

Recommendation #10: Direct Engagement in Siting

- Encourage a report out of engagement opportunities, that includes feedback provided during engagement and how industry feedback was (or wasn't) considered in decisions. Doing so would increase trust by having a transparent process of including input and valuing industry's time and knowledge to avoid perceptions of a "box ticking" exercise.

Recommendation #11: Assessing State Authorities with an Equity Lens

- Consider assessing methods to improve the efficacy of engagement processes (identify methods/strategies to coordinate engagement regionally when appropriate and limit the burden on industry members as much as possible).
 - NEMFC agrees that the issues raised under Recommendation #11 are important to consider and we understand from our own experience in offshore wind that it can be challenging to provide effective input on these very complex issues. Recommendation #9 focuses on avoidance of development inshore, which could impact/benefit some members of the fishing industry over others. The Working Group should discuss whether these recommendations conflict and should clearly explain the rationale for recommending inshore exclusion zones.
- TNC believes that while all of the FWG recommendations are important, recommendations 2 [engagement], 3 [data accessibility], and 6 [mapping] are especially important. Identifying a potential area in the Gulf of Maine for offshore wind development and creating multiple opportunities for commercial harvesters to evaluate it and suggest changes to it or identify surveying and monitoring needs before wind energy area identification is a key step in minimizing conflict with existing users. We would also encourage the FWG to prioritize these recommendations to reflect industry needs.

General Comments:

Inclusive Engagement Process across Region

There were several comments from a cross-section of organizations related to engagement, including engagement with neighboring fishermen and a suggestion that the FWG discuss specifically best practices for engaging in the BOEM process of selecting WEAs.

- A representative of a New Hampshire based fishing group, **recommended including outside (non-Maine based) perspectives** in this process if offshore wind development is to be sited in federal waters. These projects will affect fishermen from other states besides Maine. where more than just Maine fishermen are active.
- ROSA encourages and supports **the involvement of commercial and recreational fishermen** in all components of offshore wind development.
- It may be beneficial for FWG to actively discuss the type of **stakeholder process desired in selecting a Wind Energy Area**.
- Many stakeholders have limited capacity to engage in the multiple hearings and actions related to the development of offshore wind. Regional collaboration allows for greater efficiency and effectiveness by harnessing the wisdom of stakeholders from the entire region.
- The recommendations of the FWG provide many substantive and valuable ideas and actions. The FWG also provides an outstanding example of **constructive engagement of fishermen** from multiple sectors.
- Don't rely on emails...call the fisherman, get to the wharfs, and ask the questions...any liaison will likely be considered a traitor...consider this when selecting one...and ask why they wish to be it. Call the Fisherman...ask them...get a VHF...listen to them at 3AM-3PM, and really find out what resistance you're facing.

Regional Collaboration and Impacts

A series of comments focused on encouraged endorsement and engagement with regional science organizations by states and by developers.

- ROSA supports the multiple recommendations that call for **regional collaboration** on offshore wind activities and encourages more explicit recommendations for engagement in regional organizations such as ROSA and the Regional Wildlife Science Collaborative.
- We encourage **explicit inclusion of regional science organizations** along with BOEM and other federal agencies in communicating and collaborating with developers. ROSA offers a nexus of all sectors of offshore wind development, and is a good forum for establishing procedures in communication, engagement, data sharing, data standardization, and other topics relevant to the Fisheries Working Group.

- We encourage the group to consider recommending that ***developers in the Gulf of Maine join regional science organizations*** such as ROSA and the RWSC, as has been done by states in the Mid-Atlantic Region.
- Add participation in, and ***information exchange through, regional science organizations*** like ROSA and the RWSC

Additional Topics and Information

There were several topics suggested that aren't currently in the recommendations, including cumulative effects, intersection with the Maine Research Array, priority impacts to include in the state's federal consistency, process for mitigation, anchoring systems, and potential impacts of OSW development to the GOM NMFS surveys.

- There is no discussion of ***cumulative effects or using an integrated ecosystem assessment*** approach.
- We do not see any specific information about ***how the Maine Research Array will inform*** performance of other projects advanced through the Env/Wildlife or Fisheries recommendations.
- TNC thinks it would be useful for the FWG to recommend ***priority concerns that should be covered in the State's enforceable policies*** to address potential impacts related to offshore wind activities as part of the state's federal consistency review.
- ***Developing a state process for mitigation***, as part of a strategy to proactively minimize siting conflicts with existing ocean users and to seize co-benefit opportunities.
- Include ***effects of anchoring systems, cable laying, and power transmission*** through cable on sea bottom and various species.
- Get European (Nordic/Western Europe) countries ***experience/data not just US***. to incorporate longer, established use ***consequences/lessons learned***.
- There is no mention of the ***potential impacts to regional GOM NMFS surveys*** that would be disrupted by development of offshore wind energy in the Gulf of Maine. The loss of these valuable time series would have profound management implications on Gulf of Maine resources, stakeholders, interests, and the public. We suggest some language that recognizes the importance of NOAA Fisheries surveys, the scientific advice that is supported, and the risks of impacts to fisheries and wildlife of not instituting the required mitigation measures. As such, NMFS recommends that full implementation of a federal survey mitigation program for Science Center surveys precede the development of offshore wind in the GOM.

Other Concerns Raised

Additionally, a series of concerns were raised about OSW development; both generally and about specific potential impacts.

- **Cable burial** has been in issue in RI and there is concern about the unknown **impacts of EMF**
- With all the **unknowns** on how this impacts the ocean ecosystem, this feels like a very big gamble
- I feel the ocean is just **as an important place not to spoil as is Katahdin or Acadia** and that siting these huge turbines in wind ranches throughout the GOM is a huge mistake, given the environmental risks, the elimination of food-producing bottom, and the future costs of the electricity produced.
- The future of energy independence may not in huge centrally located sources of generation, but in making each residence/business its own producer of the energy it needs.
- There are **too many changes for fisherman right now**, and this is a Straw that can break a camel's back...is it worth it? Fisherman feel used, tired, and over-pressured to perform for others...consider if this is too much on them.
- Tell the truth about the law...where's the cable going? Why is it taking so long? Why would we believe this is so good if every other change has always been bad for us? Disassociate this from the election. Few trust the idea, group, or who is in charge...consider revamping the political energies...maybe ally with fishermen on whales and consider this project later.

Questions Raised at Public Forums Specific to Fisheries:

The majority of questions at the public webinars relevant to the FWG fell into either questions about transmission or siting.

Transmission

- What impact will that cable have on the underwater environment and fishing regulations?
- What is the impact on the shoreside areas where the cables make landfall? What facilities need to be created?
- To what extent will this research look at the economic impact on ports, harbors and industries based in ports, specifically the fishing industry?
- Transmission cables will be in state waters. How will these be situated to avoid trawling interaction - snag and damage?

Siting

- Isn't there a trade-off here? Couldn't these be built on ocean islands? We may lose a little energy but gain protections for our fishing grounds.
- When we are talking about "Offshore wind" exactly how far offshore are we talking about?
- Will there be multiple sites? How many turbines per square mile? How far offshore?

Appendix 2: List of Speakers for the Fisheries Working Group

- Rodman Sykes, F/V Virginia Marise, Point Judith, RI; Block Island Wind Farm trawl survey collaborator
- Jenny Couture, Fishery Specialist (Habitat), New England Fishery Management Council
- Doug Christel, Fishery Policy Analyst, Habitat and Ecosystem Services Division, Ecosystem Management Branch, Offshore Wind, Greater Atlantic Regional Office, National Marine Fisheries Service, National Oceanic and Atmospheric Administration
- Andy Lipsky, Fisheries and Offshore Wind Lead, Directorate, Northeast Fisheries Science Center, National Marine Fisheries Service, National Oceanic and Atmospheric Administration
- Morgan Brunbauer, Offshore Wind Marine Fisheries Project Manager, New York State Energy, Research and Development Authority
- Bonny Brady, Executive Director, Long Island Commercial Fishing Association
- Jake Ward, Vice President of Innovation and Economic Development, University of Maine
- Lane Johnston, Programs Manager, Responsible Offshore Development Alliance
- Michele DesAutels, Chris Sparkman, Maureen Kallgren, LTJG Tom Davis, United States Coast Guard

Appendix 3: Technical Studies

- NEFMC Habitat Policies for Offshore Energy, and Submarine Cables
<https://www.nefmc.org/library/nefmc-habitat-policies-for-offshore-energy-aquaculture-submarine-cables>
- NYSERDA Offshore Wind Submarine Cabling Overview: <https://www.nyftwg.com/wp-content/uploads/2021/05/Offshore-Wind-Submarine-Cable-Report.pdf>
- Fishing Liaison with Offshore Wind and Wet Renewables Group (FLOWW) Best Practice Guidance for Offshore Renewables Developments:
- Recommendations for Fisheries Liaison: <https://www.sff.co.uk/wp-content/uploads/2016/01/FLOWW-Best-Practice-Guidance-for-Offshore-Renewables-Developments-Jan-2014.pdf>
- Omnibus Habitat Amendment 2; Volume 3 – Spatial management alternatives including preferred alternatives and considered but rejected alternatives
<https://www.nefmc.org/library/omnibus-habitat-amendment-2>
- National Academies of Sciences, Engineering, and Medicine 2022. Wind Turbine Generator Impacts to Marine Vessel Radar. Washington, DC: The National Academies Press. <https://doi.org/10.17226/2643>
- RODA/Joint Industry Task Force Recommendations for Aids to Navigation (July 2020)
<https://rodafisheries.org/wp-content/uploads/2020/07/200723-FINAL-JITF-Navigational-Aids-recommendations.pdf>