MA Fisheries Working Group on Offshore Wind

Virtual Meeting – February 9, 2024

MEETING SUMMARY

Updates from Massachusetts

Dan McKiernan, Massachusetts Department of Marine Fisheries (DMF), shared the following updates.

- Lisa Engler has left her position at Massachusetts Office of Coastal Zone Management (CZM) and will begin working at Massachusetts Clean Energy Center (MassCEC) as Deputy Managing Director for Offshore Wind.
- The proposed sale notice for the Bureau of Ocean Energy Management (BOEM) Wind Energy Areas (WEA) in the Gulf of Maine is expected in late April 2024. This will be followed by a 60-day comment period (during which the next Fisheries Working Group (FWG) will be held), the final sale notice, and auction period. Additional information is available here.
- The request for proposals (RFP) to design and develop the Regional Fund Administrator (RFA) effort is open through March 20. The RFA effort was initiated by 11 states jointly developing a single entity to promote uniform treatment of fisheries across offshore wind projects. Without an RFA, individual agreements between states and developers result in varied treatment of fishers in the Atlantic due to differences among states' federal consistency review authority (which gives states the ability to hold up a project) and differences in each state's negotiation abilities. The RFA will be especially important for mobile gear fishers that fish in multiple states. New York State Energy Research and Development Authority (NYSERDA) is issuing the RFP on behalf of all 11 states. More information on the process is here.

The following questions (Q) and comments (C) were shared by the working group:

- Q: When will BOEM release the final guidance on mitigation? *A: It is supposedly imminent, but the process has paused for Tribal input.*
- Q: Has BOEM determined where cables will connect landward (Gulf of Maine)? *A: Cabling efforts have not yet started; they usually occur after leasing.*
- Q: Does BOEM consider seafloor structure when bringing cables to shore? *A: BOEM does in-depth bottom surveys to understand the sub-bottom profile. They want the route of least resistance, i.e., a direct route if possible but also one that allows for burial at optimal efficiency and requires minimal boulder movement and armoring.*
- C: South Fork Wind moved over 4000 boulders using the Osbit PLP 240.
- Q: Are there any updates on the boulder relocation effort, e.g., providing coordinates to fishermen, relocating boulders to the same location? *A: CZM's guidance document on boulder relocation, developed with and at the request of the FWG, is shaping BOEM's lease terms and conditions. BOEM does not have regulations about boulder relocation yet. In terms of communication of boulder location, the Regional Wildlife Science Collaborative (RWSC) is developing a downloadable database of this information.*

- Q: Will all of the states be involved in the election of the RFA, or just New York? Are there requirements about where the RFA must be located? *A: The RFA can be based anywhere but they have to demonstrate fisheries knowledge. The RFP includes governance structure design, i.e., how decisions will be made. NYSERDA is the procurement agency, and they have a confidential scoring committee composed of fishermen, developers, and some (but not all) of the 11 states. The scoring committee will select the top two candidates and NYSERDA will make the final decision but rarely overrules the scoring committee. One key scoring component to select the RFA is the bidders' proposed fishery engagement process for designing the effort and reviewing claims. The RFA will have a design oversight committee (DOC) comprised of representatives from three states, six commercial fisheries, and three developers plus ex-officio members from National Marine Fisheries Service (NMFS), Atlantic State Marine Fisheries Commission/Atlantic Coastal Cooperative Statistics Program, and BOEM. Some key elements the DOC will advise the RFA on are eligibility, evidence of impacts, economic multipliers, data sources and verification, claims process, and compensable costs and losses.*

Vineyard Wind Massachusetts Innovation Fund

Justin Bopp, DMF, presented on Vineyard Wind (VW)'s Massachusetts Innovation Fund, which is part of VW's mitigation package separate from direct compensation. The VW fisheries innovation fund sets aside $1.75 million to support programs and projects that ensure safe and profitable fishing continue as VW and other offshore wind projects are developed in the Northern Atlantic (not just within VW's lease areas). The Innovation Fund is administered by a panel of fishers representing a diverse group of fishers appointed by the Massachusetts Department of Fish and Game Commissioner. DMF chairs this panel. Panelists serve three-year terms with the opportunity for reappointment.

Innovation Fund money can be used to either 1) conduct studies on the impact of offshore wind on fisheries resources and fill in gaps in existing monitoring programs, or 2) upgrade technology on fishing vessels for those actively fishing within a WEA.

Ideas for this funding shared by the fishing community include trainings, upgrades to safety equipment (e.g., personal flotation devices, safety rafts), alternative gear testing, and radar tasting. Next steps for the Innovation Fund include an advisory panel meeting to prioritize how to spend the money, and to discuss phased spending.

The following questions (Q) and comments (C) were shared by the working group:

- Q: One idea for funding is to include information collected by the fishing industry into stock assessments. Data collected by the industry (e.g., by the NMFS vessel Bigelow) is important for improving the accuracy of stock assessments conducted by the fisheries science center. *A: This idea can be considered by the panel.*
- C: A presentation at the January New England Fisheries Management Council and the draft proposed plan for industry-based surveys from the Northeast Trawl Advisory Panel have helpful information regarding industry-based surveys.

- C: 100 boats wanting radar updates [from the VW Innovation Fund] will go through this money quickly.
- Q: Are there eligibility restrictions for these funds? *A: The eligibility is quite broad (e.g. can include both for-hire and commercial vessels) but is ultimately the panel's decision.*
- Q: Is the $1.75 million supposed to last for the duration of the project? *A: Yes. If there are direct compensation funds leftover, they will be funneled to this innovation fund.*
- Q: Could this innovation fund incorporate funds from other offshore wind projects in the future? *A: It currently exists as a separate expendable trust, but Massachusetts is attempting to convert it into a legislative trust to allow for the incorporation of similar funds from other projects.*

Cod Spawning and Monitoring

Becca Van Hoeck, BOEM, presented on the Cox Ledge Atlantic Cod study (BOEM #M19PG00015), which was a topic of interest at the December FWG meeting. This study is from a few years ago and was conducted via the passive acoustics branch at NOAA. The study was focused on understanding where and when cod spawn, and if those locations intersect with wind energy areas in southern New England. The work presented today is the glider work portion of this study from 2019 to 2022. The full study is available here.

Study methods included leveraging 2013-2015 archived data, glider-based acoustic monitoring sampling, bottom-mounted passive acoustic monitoring, glider-based telemetry, and biological sampling. Some of the sampling was conducted by Steve Cadrin and Ali Frey at UMass Dartmouth School of Marine Science & Technology (SMAST). The sampling was conducted using an adaptive survey design that allowed the methodology to improve each year. Adjustments made include the glider flying back to the starting path rather than reversing course, and the inclusion of a wider geographic area.

Due to the quiet nature of cod grunts, the glider needs to be directly on top of the cod to make a detection. Some detections were made near the WEA, but most were closer to Block Island. The study revealed that multi-method surveys balance the trade-offs between sampling methods to maximize understanding of spawning behavior, timing, and spatial use.

Study conclusions include that there are potential habitat disturbances to spawning cod presence within and near the wind energy area, and potential acoustic disturbance due to the temporal overlap between peak spawning and offshore wind construction window. Study results have informed management decisions for NMFS and BOEM.

The following questions (Q) and comments (C) were shared by the working group:

- C: I would like to see water temperature and dates in this presentation. Severe temperature changes affect cod habitat, and knowing where the temperature changes are occurring would be helpful for fishers. *A: Sampling dates are published online. Of the 25 grunts detected, there was not much variation in water temperature; it was consistently around 10-11°C.*

- Q: How many telemetry-tagged cod from Steve Cadrin's lab were there? How were they tagged? *A: We released 100 tagged cod before construction over several years. Another 100 were released this week. They are tagged with surgical insertions in the abdomen.*
- Q: Of the 100 cod initially tagged, when were they caught? Were any caught by fishermen? How were the tagged cod originally caught in order to be tagged? *A: The cod were released over three spawning seasons from fall 2019 - winter 2022. All were released using rod and reel. When they were caught originally, they were brought up slowly, and received a surgical insertion followed by recovery time and release. In previous work on the Stellwagen Bank, we found tag retention of surgically-placed tags was higher than external attachment. All fish caught were dummy tagged, and some of those were caught. None of the acoustically tagged fish were re-captured.*

Cox Ledge Atlantic Cod Study Impact on Project Conditions

Brian Hooker, BOEM, shared how the Cox Ledge Atlantic Cod study informs BOEM's regulatory work. BOEM tries to use the best available information in its environmental assessments. Initial cod spawning and grunt data in the South Fork area prompted BOEM to work with Ørsted and Northeast Fisheries Science Center to understand if pre-construction surveys were potentially disturbing spawning activities. Ørsted developed a study approach – which was accepted by BOEM – to identify cod grunt detections prior to bottom-disturbing activities.

The methods have been modified on South Fork Wind to include a broader monitoring approach to establish a baseline before bottom disturbing activities. The following questions (Q) and comments (C) were shared by the working group:

Real-time Passive Acoustic Monitoring for Aggregations of Spawning Cod – South Fork Wind

Greg DeCelles, Ørsted, presented findings of the cod spawning study. Through a permit condition, BOEM required Ørsted to do a cod spawning study if bottom-disturbance work was to occur between November and March and, if cod spawning activity was present, reduce impact.

Ørsted considered two study approaches that would allow for real time monitoring. The first was active acoustic monitoring, which is a well-studied approach familiar to the fishing industry, but it would need to be paired with an extractive sampling method to confirm species identification. In addition, active acoustic monitoring does not allow for real time data processing and is easily disrupted by weather conditions. The other study method, passive acoustic monitoring, was selected. Passive acoustic monitoring does not require extractive sampling and benefits from an existing automated grunt detection algorithm for Atlantic Cod which made real time data processing possible.

The study used autonomous gliders and fixed station recorders. Gliders moved along cable routes and repeated the loop every three to four days. Rutgers processed the data and issued reports daily. Ørsted developed a decision tree for adaptive management should cod grunts be detected.

The study detected four candidate cod grunts though only one was verified as cod. As such, adaptive management was not needed. The glider also collected high resolution oceanographic data, which is available on Rutgers website. Results were consistent with prior cod research in the region.

The following questions (Q) and comments (C) were shared by the working group:

- Q: This approach places considerable weight of evidence for cod presence on grunts. Why not use a trawler or gill netter in addition to this method or instead of it? *A: South Fork Wind has limited trawlable area, and prior studies in the region reveal very low rod and reel catch. Multiple sampling activities would require multiple permits and Ørsted was concerned timeline delays. Lastly, Ørsted needed to sample for two or more weeks and continuous fishing could be potentially dangerous for cod or other species.*
    - *Steve Cadrin shared that most of the survey was conducted in a hard bottom area. Steve had been tagging with fishermen in this region but there were not active cod gill net fishermen to share when they started to see spawning. Instead, for-hire recreation fishermen released the cod. Ørsted's second survey uses a bottom trawl.*
    - *BOEM is looking closely at the use of extractive survey methodologies due to their potential for mortality on target species and others.*
- Q: How fast are the gliders? How far of an area do they cover? How far can cod grunts be detected? How frequently do cods grunt? *A: Gliders cover 20 kilometers a day at 0.5 miles/hour. The acoustic detection range of cod varies by depth from 10s to 100s of meters. Cod grunts have a frequency of about 50 hertz.*
- Q: Are any biological samples being considered as backup data to acoustic detections? *A: Ørsted's permit condition was about aggregation. If we identified an aggregation, the glider would have stayed in place to listen for longer. We did not conduct biological sampling as part of this effort, but we do other types of surveys that include biological sampling.*
- Q: Is there a possibility for eDNA *A: eDNA does not differentiate between life stages so it would not be possible to identify spawning adults. It would have to be paired with a traditional sampling technique.*
- Q: If a glider detects a grunt, can it stop and listen? *A: Gliders were piloted by scientists at Rutgers. They can go back and listen for an extended period of time. If grunting activity persists, the glider would stay put and listen until construction in that area ended. If two or more grunts were detected in a monitoring zone our adaptive management plan dictated that we would not work in that area. This situation never arose.*
- Q: I was surprised that there were only four returns. Was there any post-deployment review of the data to validate the AI? Perhaps the sensitivity knob could be changed and yield very different results. *A: Ørsted can follow up with Rutgers on this question.*

Fishing Industry Updates

Captain Bill Amaru shared concerns heard from the fishing industry. Many fishers are aware of the schedule for the direct compensation funds but concerned about accessing the money. Fish prices are incredibly low this time of year. A topic missing from the innovation fund

conversation was what lobster and fixed gear industry is facing regarding ropeless technology demands. A lot of experimentation and money will be needed to address this.

SouthCoast Wind Fisheries Economic Exposure Analysis

Sam Asci, SouthCoast Wind, introduced Hauke Kite-Powell, Marine Policy Center at Woods Hole Oceanographic Institution (WHOI), to present the economic exposure analysis for SouthCoast Wind. The analysis builds upon the baseline assessment which was shared at the September FWG meeting. The full analysis was sent out in advance of this meeting for comment.

WHOI was tasked with identifying the commercial fishing landed value and charter fishing revenue exposed to development of the SouthCoast wind project, and indirect and induced effects associated with these landings. This analysis estimates the economic impact to Massachusetts fishers and will be the basis for compensatory mitigation measures. This analysis assumes both portions of the project land at Brayton Point in Somerset, MA.

The analysis looks at two phases of development between 2027 and 2031. Pile driving will occur from 2028 to 2030, and export cable construction is expected from 2028 to 2030. Construction and decommissioning effects include: constrained access, noise from pile driving and seafloor disturbance, and operations impacts. Acoustic modeling suggests that there will be no fish present during construction, and that lobster and crab landings will be reduced 20%. It is expected that non-mobile shellfish will need a few years to repopulate and grow to harvestable size. It is assumed that there will be no fishing for six months and reduced shellfish landings in the immediate vicinity of the export corridors. It is assumed that charter fishing during construction pile driving will be reduced, and that no revenue is expected in cable corridors during cable installation.

Economic exposure results considering multipliers reveal $4,217,000 in impacts in Massachusetts. More details are available in the presentation.

The following questions (Q) and comments (C) were shared by the working group:

- Q: Is SouthCoast Wind conducting a similar economic analysis in Rhode Island or other states? *A: We are working through the federal consistency review in Rhode Island.*

Ørsted's South Fork Wind Compensation Approach

Ross Pearsall, Ørsted, gave an overview of the South Fork Wind project: Construction began in 2023, it will connect in East Hampton, NY, and first power was delivered in late 2023. Eleven of the 12 turbines were installed as of February 2024.

South Fork Wind is one of the first projects to be constructed in the United States, and to develop a fisheries mitigation package. The fisheries mitigation package was driven by the state permitting process and was overseen by Massachusetts Executive Office of Energy and Environmental Affairs (EEA) and CZM, with input from DMF and the FWG. DMF requested an emphasis on the charter and for-hire industry. In the engagement around developing the

mitigation package, stakeholders shared that they wanted fisheries mitigation to be fair, flexible, transparent, independently managed, and replicable. This fisheries mitigation package, and others, is serving as the basis for the regional fund administrator.

Ørsted has set aside $2.6 million for fisheries mitigation, and has tried to be as hands off in the eligibility determination and oversight as possible. There are three components to the total package: 1) coastal community fund, 2) navigation enhancement and training program, and 3) direct compensation. The coastal community fund sets aside $200,000 in a grant fund for any community effort in Massachusetts related to offshore wind except litigation, regulatory work, or petitioning activities. It will be guided by a DMF-appointed advisory council responsible for oversight, eligibility determinations, and claim approval. The navigation enhancement and training program sets aside $300,000 for vessels eligible for direct compensation. Commercial vessels will be eligible for $10,000 of upgrades and $2,000 of training. For-hire and charter vessels will be eligible for $5,000 of upgrades and $2,000 of training. Unspent funds will go to the coastal community fund. South Fork Wind will provide oversight and issue funds, but they will not make the eligibility determination.

The direct compensation fund sets aside $2,100,000 for construction, operations, and decommissioning of the project for eligible Massachusetts commercial and for-hire/charter vessels. Fishers are eligible if they have over three years of fishing history within the project footprint. Once determined eligible, fishers will have to demonstrate loss to receive compensation. Unspent funds at decommissioning will revert to the coastal community fund. Eligibility will be determined by the technical assistance provider (TAP).

Beth daSilva and Tom Pannell from PKF O'Connor Davies (PKFOD), the TAP overseeing the Ørsted fisheries mitigation fund, shared about their organization, the process, and eligibility determination. PKFOD is a traditional accounting firm with experience administering claims programs and conducting outreach with claimants. They have been hired to administer the already-established program, review eligibility claims, determine eligibility, communicate, and assist fishers with completing applications, and determine compensation amount.

Eligibility is determined based on historic fishing activity and is relevant for the direct compensation fund and navigation enhancement and training program. Fishers will submit vessel information, information to determine eligibility (i.e., if they have a state permit, homeport or residency in Massachusetts and have operated for at least three years prior to the claim), and a certification and release. Once deemed eligible, fishers can submit a claim for demonstrated loses. Loses are demonstrated by the difference in historic gross revenue and revenue from that year. Acceptable documentation includes Vessel Trip Reports, SAFIS (Standards Atlantic Fisheries Information System), MADMF (Massachusetts Division of Marine Fisheries) trip reporting, eTRIPS (electronic trip-level reporting system), tax returns, and handwritten log books. PKFOD is available to help fill out eligibility and claim forms in face-to-face meetings and phone calls. If desired, PKFOD can develop a computer-based form. More information about this process is available here.

Ross Pearsall presented on the navigation enhancement and training program. This voucher program will be administered by South Fork Wind but eligibility will be determined by the TAP.

South Fork Wind is vetting vendors and providers from each state that will be placed on an approved list and posted on the mariners website. Eligible fishers will then be able to go to an approved vendor and South Fork Wind will pay the pay bill.

The following questions (Q) and comments (C) were shared by the working group:

- C: New York State was part of the Article 7 cable transmission process in state, not federal, waters. As a result, New York fishermen received zero compensation for any part of the entire transmission cable or wind energy area for the South Fork Wind lease.
- Q: Are Massachusetts seafood dealers eligible? *A: Seafood dealers are not eligible for direct compensation, but they are eligible for the community fund.*
- Q: What happens for new entrants who purchase permits from qualifying retired fishermen? Does it pass to the next permit owner? *A: The claim is attached to the fisherman experiencing a loss or interruption, not the permit; the compensation would not pass on to the next permit owner.*
- Do you use the minimum, maximum or average historic revenue to determine economic loss? *A: Fishers are required to provide five years of income data, and the best three years are averaged to determine the baseline.*
- For the navigation enhancement and training program, are only Massachusetts and Rhode Island fishers eligible despite others being affected by the cable? *A: These funds are state-based; for South Fork Wind, these funds are only for Massachusetts and Rhode Island. For future projects, Ørsted intends to include vessels from other states.*
- Q: How will fishers demonstrate business interruption? Do they need to demonstrate attempts to fish in the area in addition to revenue loss? *A: PKFOD will look at this on a case-by-case basis. Some cases are more straightforward (e.g., someone was unable to fish in the cable lane and had to work harder elsewhere to obtain the same yield, lobster traps in the lease area with lower yield than historic production). For mobile gear fishermen, though, this is a developing process.*
- C: This is the singularly most regulated industry on the planet. Proving disrupted income will be an onerous process for fishermen who did not request these projects. Fishers will not have the time or inclination to fish elsewhere to make up the revenue. *A: The point of these funds is to distribute money to those directly impacted by the project.*
- Q: Will you look at confounding factors such as NOAA regulations and global climate change effects when determining loss? It is a problem that no one has figured out how to separate these impacts. Will this fund be redesigned if it does not work? *A: We will consider improvements if the fund does not function as desired.*
- Q: The Massachusetts form schedule A includes examples of excluded operation interruptions, which includes "general declines in stock for targeted species caused by climate change." How will you determine what is a result of climate change versus offshore wind development impacts?
- Q: Does the TAP funding come from the $2.1 million of direct compensation? *A: The TAP is being paid out of the earnings on the $2.1 million, not out of the fund itself.*
- C: There needs to be fishing industry advisors to the TAP; they do not know the industry and that will be a hindrance. *A: Massachusetts included a provision about hiring an industry advisor, so someone will be hired to fill this role.*
- Q: Are those disrupted by the cable route eligible, or just those in the array area? *A: Yes, they are eligible.*

- Q: How long will the eligibility period be open (South Fork Wind)? *A: There is no end date as of now. PKFOD wants to make sure as many people as possible know about the program and are able to fill out the form. Many fishermen were displaced when the cable was laid and lack of knowledge about the industry was a big challenge there.*
- C: The PKFOD should request a list of commercial and for-hire licenses from DMF and contact all of them about this effort.
- Q: Is it possible for someone to be eligible for the navigation enhancement and training program because they fish in the area but not for direct compensation because they did not suffer specific losses? *A: Yes. More information is here.*
- C: If a fund is undersubscribed, you should consider making vessels transiting the array eligible for the navigation enhancement and training program. *A: This fund is just for South Fork Wind. Hopefully transiting vessels will be covered by other developers' projects and compensation funds.*
- C: The Ørsted flier about compensation said that vessels transiting in the area were eligible. Is that no longer true? *A: That was never true; there was a mistake on that flier. It has been corrected.*
- Q: There is a lot to learn from this. Are there any plans to evaluate performance of these programs? *A: Not yet, but that is great advice.*
- C: I have heard feedback from fishermen that some of these funds should be allocated to a boat buy-back program. Retiring fishermen are going to have trouble selling their boats because fewer younger people are joining the industry. There needs to be consideration for crew members who will lose income due to reduced catches. *A: Is the request for a permit buy-back or boat buy-back program? Both would require a lot of money. Perhaps this could be discussed at the end of the projects if funds are still available.*

Developer Updates

Equinor – There was a termination of the Offshore Wind Renewable Energy Certificates (ORECs) for Empire 2 with NYSERDA. This is a cancellation of the contract, not of the project. Equinor's joint venture with bp is undergoing a swap transaction; Equinor will be the sole owner of Empire Wind, and bp will be the sole owner of Beacon Wind. Beacon Wind fisheries contacts are listed in the slides. MV Deep Helder is doing survey work. One munition and explosive of concern has been identified near a proposed turbine and is undergoing analysis; no relocation is expected. Fisheries and benthic monitoring surveys are being conducted, and Equinor is working to share data from this report. A New Jersey clammer caught an acoustic telemetry device which has since been returned.

Ørsted – The website has been updated. Once the weather clears, the final of the 12 South Fork Wind turbines will be installed. There is a small survey occurring in Narragansett Bay for Revolution Wind. Installation of Revolution Wind will begin this spring.

Work Plan Update

Abby Fullem, FWG facilitation team, reviewed the FWG's 2024 work plan, which included anticipated dates, agenda topics, and locations.

Next Steps and Closing

Pat Field, FWG facilitation team, closed the meeting and reviewed next steps (below). Dan McKiernan shared closing thoughts, including that there is a lot to learn from project delays, unexpected outcomes, and initial compensation programs.

- Greg DeCelles: Connect with Rutgers and Jascho about AI validation, and follow-up with Chris.
- Facilitation team:
    - Send calendar invites for 2024 FWG meetings.
    - Share BOEM's presentation from the Habitat Working Group on the Gulf of Maine timeline.
- Potential future meeting agenda topics:
    - Evaluation of compensation programs
    - Data sharing of Equinor's fisheries and benthic monitoring surveys