

MA Habitat Working Group on Offshore Wind

Virtual Meeting – February 5, 2024

MEETING SUMMARY

Updates from Massachusetts

Todd Callaghan, Massachusetts Office of Coastal Zone Management (CZM), 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.
- Massachusetts Executive Office of Energy and Environmental Affairs (EEA) stood up the [Interagency Offshore Wind Council](#) in April 2023, with participation from CZM and MassCEC. It is tasked with developing an offshore wind roadmap for Massachusetts. It is composed of three subcommittees: workforce, ports and supply chain; environment, ecology and marine uses; and energy needs, procurements, and transmission. The consultant leading this effort may request input from the Habitat Working Group (HWG). The report is expected in September.
- All are welcome at the HWG and Fisheries Working Group (FWG) meetings. Membership is not conducted through formal appointments; anyone can participate.
- CZM has three current policy initiatives related to the HWG. The first is the boulder relocation framework, a series of recommendations for developers regarding how and to where boulders should be relocated to minimize fishing and habitat impacts. The second is the wildlife mitigation recommendation document, a series of recommendations for developers about avoiding and mitigating harm to wildlife. These have both been reviewed by the HWG and are now being finalized by CZM communications staff. They will be posted on the website and can be updated as needed. The third is a list of scientific principles to follow when conducting offshore wind research. It was developed with Connecticut and Rhode Island, and differs from the Regional Wildlife Science Collaborative (RWSC)'s list of research needed.
- The New England Aquarium continues to conduct the aerial surveys (normally funded by Bureau of Ocean Energy Management (BOEM)) with temporary funding from National Oceanic and Atmospheric Administration (NOAA). These surveys provide consecutive months of data.

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

- Q: What types of questions will the Interagency Offshore Wind Council ask of HWG members, and when will they ask? *A: The consultants will likely reach out in April and ask big picture questions such as what types of resources could be impacted by offshore wind development; how could permitting be improved; and what are the hot button issues for your team?*
- Q: Will the questions asked by the consultant be shared in advance? *A: This has not yet been determined; the subcommittees have only met once for initial planning.*
- Q: Are the research recommendations research methods or topics? *A: Neither, they are scientific principles. The document is quite brief.*

- Q: Are the policy initiative documents posted on the CZM website? *A: They will be posted on their own landing page within the CZM website.*

BOEM Gulf of Maine Timeline Update

Zach Jylkka, BOEM, presented on the Gulf of Maine timeline. The draft Wind Energy Area (WEA) was published on October 19, 2023. This was followed by a 30-day public comment period which yielded over 300 public comments. Engagement around the WEA included approximately 60 external meetings. Meetings were distributed along the coast, though the bulk were in Maine. Meetings were held in person and virtually. The vast majority of the meetings focused on fishing issues.

Through this engagement, BOEM heard general support for the engagement, model, and transparency. There was almost no support for the Secondary Areas. There were concerns about eventual transmission routes and landfall locations, and support for phased leasing, and multi-factor auctions. BOEM heard feedback about specific habitat and natural resources, and were directed to focus on key user and resource conflicts.

Following the engagement, BOEM was left with key questions about characteristics of the Final WEA (e.g., size, number of leases, location), phased leasing, remaining conflicts with the Draft WEA and Secondary Areas, transmission, and lease stipulation and bidding credits. To meet energy capacity requests from Maine, Massachusetts, Independent Service Operator New England (ISO-NE), and American Clean Power, the WEA would need to be approximately 2 million acres.

With regards to the commercial leasing milestones, the next step is to designate the Final WEA in early 2024. This would be followed by the Proposed Sale Notice and a 60-day comment period, a Final Sale Notice, and an auction. This process is expected to be complete in the fourth quarter of 2024.

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

- Q: What types of units do you anticipate in the WEA? How many will be floating or piling? *A: We expect wind turbines to be floating though that is not a requirement. There are very few areas shallower than 60 m, which is the cutoff for piling. Developers may propose a fixed substation within a floating array.*
- Q: Is there a standard technology or machinery used elsewhere that we could look at to better anticipate impacts? *A: BOEM can share resources from National Renewable Energy Laboratory (NREL) about existing and planned technologies. There is uncertainty, though, as to what technology will be used in the 2030's. An introductory presentation on floating technology is [here](#).*
- Q: Can you give an update on BOEM's perspective on conservation credits? It does not need to be specific to the Gulf of Maine. *A: Conservation credits are an evolving issue within BOEM. We are looking at what is the issue that is trying to be solved, what tools does BOEM have to address it (e.g., novel lease stipulations, bidding credits), and*

implementation and enforcement. There are limitations on new and novel bid credits that could be incorporated into these 2024 lease sales.

- Q: Can you share more information on the feedback heard around phased leasing? *A: There was almost unanimous support for phased leasing, but a variety of ways proposed to do it.*
- Q: Will BOEM require or mandate specific anchoring technology? If the decision is left to developers, there could be multiple technologies used that create different kinds of impacts to the ecosystem and fishing industry. There are a lot of questions outstanding about floating technology that will be unanswered as the leasing process begins. BOEM should be thinking more about this; now is the time to avoid impacts before you have to mitigate them. BOEM is leaving money on the table by not waiting to understand more about floating technology; the New York Bight leases sold for \$10,000/acre and California leases went for \$1,000/acre due to unknowns about the cost of floating wind turbines. *A: BOEM is not going to mandate a specific technology at this stage of the process as it would limit technology evolution between now and construction. There is a lot to learn from floating technology in other places.*

Offshore Wind Developer Updates

SouthCoast Wind – Permitting updates include: the Massachusetts Environmental Protection Act (MEPA) supplemental certificate and the Massachusetts water quality 401 application were filed in December. The Rhode Island water quality 401 application was deemed complete in December and will likely be granted in March. The SouthCoast Wind Fisheries Manager will present the final fisheries analysis at the Fisheries Working Group meeting on Friday. The final report on sediment sampling in Mount Hope Bay (the expected cable route) revealed that no samples exceeded reportable concentrations of total suspended solids. Onshore geotechnical work is planned along the onshore cable route for later this year. SouthCoast Wind will be present at Massachusetts Lobstermen’s Association’s annual weekend and the New England saltwater fishing show. There will be a public comment hearing for the Rhode Island 401 water quality application on February 22.

Vineyard Wind – Vineyard Wind 1 (VW1) reached first power in quarter one of 2024. Monopile installation is on hold for North Atlantic right whale (NARW) seasonal restrictions. VW1 is conducting real time passive acoustic monitoring (PAM) along the vessel transit corridor and using artificial intelligence to analyze in-field trials. To ensure compliance, VW1 is looking through pre-construction archival PAM data. VW1 is looking to make these data public. There is another week left of the trawl study. Lastly, VW1 is participating in regional science efforts.

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

- How many turbines have been constructed for VW1, and how many monopiles have been installed? *A: Eight wind turbine generators have been constructed and 47 monopiles have been installed to date.*
- Q: What will the total capacity of the project be once the turbines are operational? When is construction anticipated to end? *A: The fully constructed farm has a nameplate capacity of 806 megawatts and is anticipated to be complete in 2024.*

- Q: How is seapicket used? What does VW1 do when it receives that information? A: *The main purpose is for increased situational awareness for the entire fleet. An onboard processor, which does not have a cross-reference, processes detections. The buoys can detect whales up to 10 kilometers away. The frequency bands are reviewed to determine if the frequency is from a NARW or humpback whale. This information is relayed to the fleet in the field. If it is a NARW, the fleet will move below 10 knots for the day. We constantly check seapicket. We do not have aerial overflight support for detection. The seasonal designation of a Dynamic Management Area that overlaps with the project means the fleet goes below 10 knots, with the exception of crew transfer vessels, even if no detections are made.*
- Q: Has VW1 ever shared an overview of the seapicket system, e.g., where the buoys are, to the HWG? A: *This has not happened but could potentially.*

BOEM – Whale Entanglement Model

Desrey Reeb, BOEM, presented on the whale entanglement model, which is a three-dimensional entanglement simulator for risks that whales and sea turtles may face from floating turbines, mooring systems, and perhaps fishing gear. The simulator focuses on aquaculture and floating offshore wind, both of which are new technologies. The model is being developed in a partnership with BOEM, NOAA, subject matter experts, and others. There are no analogous technology developments in such deep waters, so virtual reality can be used to look at potential impacts. This model allows us to reverse engineer entanglements to understand how they happen. Parts of this effort will be publicly available (e.g., species guides) but the tool itself is currently being developed as an agency tool to inform permitting and inform whale-safe design.

The first step was to develop species guides for critical species including NARW, humpback whale, blue/fin whale, leatherback sea turtle. Guides include how water moves around an animal, how interactions affect animals and systems, draft coefficients, etc. The team modeled the most relevant animal behaviors, e.g., startle reactions.

The second step is look at different types of interactions (e.g., primary, secondary, and tertiary entanglement, inter array cable entanglement) and run hundreds of scenarios to develop statistics to understand how the simulator is performing. It will then be used to try to recreate known entanglements as a simulator test. The study is ongoing and will hopefully end in 2025. There will be a lot of papers published on the simulator biophysics and math. The team is updating the graphical user interface.

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

- Q: We do not have a clear concept of what the floating turbines will look like. How can you use this simulator with so much uncertainty? A: *It is always a chicken and egg scenario; by the time the technology is developed we want to know the potential impact. The simulator uses the best available information and is incredibly changeable. We used information from the oil and gas industry (e.g., cabling position, cable flexibility) and we can update the models.*
- Q: How much flexibility is there for a non-BOEM user to adjust inputs? A: *The user can change everything (e.g., oceanography, whale behavior, gear configuration) in the*

simulator. This is not publicly available software. If non-BOEM people want a specific scenario run, they will have to talk to us.

- Q: Would BOEM train people to use this tool in the Gulf of Maine? *Yes.*
- Q: When will this be complete? *A: The study is in its second four-year term. The software is usable but continues to get updates. The statistical scenario development is underway now. The shared version will be developed by 2025.*
- Q: This is a cool tool. Will it lead us to mitigation modifications? *A: Absolutely! The objective is to better understand and evaluate entanglement risk, and then be able to mitigate them.*
- Q: Are there example of secondary entanglements with mooring gear? We have yet to see any. It is interesting to look at examples where we have not yet seen a problem. There are some places, e.g., Neptune Gateway Terminal in Massachusetts, that have fishing gear and no recorded entanglement problems. You could look at those places to see what is *not* happening. *A: We are likely starting a probability analysis with someone's data on fishery entanglement. We are trying to simulate reality, which is more about creating something through modeling, not entering empirical data.*
- C: The Center for Coastal Studies does lots of entanglement and derelict gear work.

Member updates

The Regional Wildlife Science Collaborative for Offshore Wind (RWSC) is [hosting a webinar](#) on their regional science plan on February 9.

Year in Review and Looking Ahead at 2024

Abby Fullem, HWG facilitation team, shared the HWG 2023 year in review and 2024 work plan.

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

- C: It would be great to have a synthesis of what we have learned from monitoring across projects, not just from a project-specific perspective. It would be good to look at the questions: what information do we have a better handle on now, what is working as expected, what is new?
- C: It would be great to hear more about developers' lessons learned. For example, to what extent was the noise attenuation technology effective? It would be good to review the CZM wildlife mitigation recommendations, and to learn about the offshore wind roadmap.
- C: It would be good to learn from Vineyard Wind 1's work on eelgrass. We do not need to ask others to look at this issue if there is no impact.
- C: It would be good to hear about the biodiversity initiative from the Massachusetts Governor: [Executive Order - No. 618: Biodiversity Conservation in Massachusetts](#).
- C: It would be good to take a deeper dive into the technology developers are using, and to learn about nature inclusive design from the Tufts-led consortium.
- C: Increase HWG meeting length to ensure enough time for discussion.

Next Steps and Closing

Melanie Gárate, HWG facilitation team, closed the meeting and reviewed next steps (below).

- CZM: Share an update on the Offshore Wind Council engagement timeline with HWG and FWG.
- CBI: Send calendar invites for anticipated 2024 HWG meetings.
- CBI: Schedule future HWG meetings to be 2 hours.