

Maine Offshore Wind Research Consortium

Advisory Board

Meeting Summary

Tuesday, June 3, 2026

9:00am-12:00pm EST

Hybrid meeting

In-person: Coastal Enterprises, Inc.,
30 Federal St, Brunswick, ME, 04011

Meeting materials are available [here](#).

MEETING OBJECTIVES

On June 3, 2026, the Maine Offshore Wind Research Consortium (the Consortium) Advisory Board (AB) held a hybrid meeting at Coastal Enterprises, Inc. (CEI). The objectives of this meeting were to:

- Introduce new Advisory Board members
- Receive brief updates on relevant research in the Gulf of Maine
- Receive updates on two Consortium-funded expert workshops
- Discuss workshop outcomes to inform future rounds of research funding

WELCOME & INTRODUCTIONS

The Advisory Board was welcomed to CEI by Emily Wood, Program Director of Business Sustainability and Resilience. Opening remarks were given by Terry Alexander, co-chair of the Consortium. Katy Bland (Maine Sea Grant), Consortium Program Manager, reviewed the meeting agenda and objectives and gave a brief overview of the meeting guidelines.

A list of AB members who attended the meeting can be found in Appendix A.

PROGRAMMATIC UPDATES

Katy shared that starting in July, she will be stepping back from her role as Program Manager for the Consortium, but Katy will continue to coordinate with the Consortium as a Collaborator from Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS). Likewise, Maine Sea Grant will be stepping back from their current program management advisory role due to limited capacity, but they will continue to engage through Gayle Zydlewski (Director, Maine Sea Grant) who sits on the Consortium AB. Julia Hiltonsmith, who has served as the Consortium intern since March 2024, will step into the role of Program Manager and continue to work with the Maine Department of Energy Resources (DOER) and Carbon Trust on the Program Management (PM) team.

New Advisory Board members

Katy provided a brief overview of the AB term commitments and new AB member recruitment efforts. In December 2025, the PM team began the term renewal process for AB members who had fulfilled their 3-year term commitment. In May 2026, the Steering Committee (SC) convened to review and discuss candidates for the AB, which resulted in the onboarding of seven new AB members. While the [Terms of Reference \(TOR\)](#) recommends capping the AB at 30 people, the SC approved exceeding that cap to allow for more robust and diverse expertise. At this time, the AB consists of 30 people, with one additional person to be confirmed for the Recreational Charter seat, as required by legislation (LD 1895). A full list of AB members and their bios can be found on the [Consortium website](#).

RELEVANT MAINE RESEARCH UPDATES

Maine Department of Marine Resources (DMR) Research Array Survey updates

Becca Peters (Maine DMR and Consortium SC member) provided an update related to the DMR's ongoing survey work in and around the Maine Research Array, which is located 20 nautical miles off the coast of Maine. The survey work centers around baseline data collection in an effort to fill the data gaps for species and environmental conditions that were identified during the Research Array siting process. The DMR's efforts expand beyond the Bureau of Ocean Energy Management (BOEM) requirements and include other studies to better understand the ecosystem as a whole. The work includes seafloor mapping, oceanographic monitoring (including shore-based high frequency radar), plankton survey, active acoustic survey, bottom trawl survey, highly migratory species monitoring, and a local historical knowledge project.

For more information on the DMR's Research Array survey work, see meeting slides 10-24.

University of Maine's VoltturnUS+ ¼ scale test bed

Anthony Viselli, AB member and Chief Engineer for Ocean Energy and Engineering at the University of Maine (UMaine) Advanced Structures and Composites Center (ASCC), provided an update on the VoltturnUS+ demonstration unit, which is primarily funded through an ARPA-E award granted by the Department of Energy (DoE). He explained that UMaine has deployed a ¼-scale model of a 20-megawatt (MW) floating offshore wind (FOW) wind turbine for nearly a year in Penobscot Bay. With assistance from Maine Maritime Academy (MMA), the unit was towed over 60 nautical miles from the construction site in Trenton, ME, through Searsport, and finally to its current location in Castine. The ¼-scale turbine was constructed in partnership with a large group of construction partners using full-scale model materials – namely, concrete – which demonstrates this technology's potential for job creation. Details about the VoltturnUS+ ¼-scale design parameters can be found on meeting slide 34. It is currently the only grid-connected floating turbine in the United States.

Anthony shared that the turbine withstood severe storms and extreme conditions over the winter. These conditions provided key engineering metrics necessary to assess the floating foundation and de-risk the technology for commercial projects in the future. In terms of other research taking place at the unit, Anthony informed the AB that there are a number of ongoing research projects using the asset, such as those funded by DOER's BlueTech RFP (see below). Apart from these research projects, there are

still opportunities for additional research to take place at the turbine, and Anthony encouraged those interested to contact him via email (anthony.viselli@maine.edu).

Finally, he shared that UMaine is planning two tours in August and September to help educate key stakeholders, including AB members, on the wind turbine generator. If AB members were not able to attend the turbine tour in Castine in summer 2025, or if they have suggestions for other groups or individuals who would benefit from attending, they are invited to reach out to Anthony.

Discussion:

- Question from AB member about how sea conditions simulations were calculated, given that Castine does not experience 41-foot waves. Response from Anthony that Castine experienced up to 10-foot waves, and because the demonstration unit is $\frac{1}{4}$ -scale, they determine wave scale by multiplying the true wave height by four. This is representative of a full-scale system, and the team has used the same data-scaling principles validated at the Harold Alford W2 wind wave ocean laboratory at UMaine.
- Question from AB member about potential opportunities or thoughts on underwater monitoring of sound or vibrations from $\frac{1}{4}$ -scale model. Response from Anthony that while this would be a great research project, UMaine did not have the capability to carry it out. Response from another AB member that JASCO Applied Sciences has completed noise measurements of a full-scale floating turbine in Scotland: <https://www.jasco.com/public-reports/hywind-tampen-floating-offshore-wind-farm-sound-source-characterisation-of-operational-floating-turbines-pdf-jasco-applied-sciences>
- Question from AB member about the depth of the water and the footprint of the anchoring system. Response from Anthony that the water depth is 75 feet and the scope of the mooring is 3:1, making the radius about 230 feet. The makeup of the line is about 15 feet of chain attached to the hull, which then switches to marine offshore nylon rope about 2 inches in diameter. The anchors are buried at least 15 feet deep.
- Question from a Collaborator asking if there's been any work on bottom disturbance and scour of benthic habitats from the anchor and cables. Follow-up question asking if they evaluated sweep in platform radius during the storm event. Response from Anthony that monitoring chain sweep would require specialized equipment that UMaine does not have access to, but that this would be a great project.

For more detailed information from this presentation, see meeting slides 25-43.

BlueTech Projects

Katy reminded the AB that in fall 2025, DOER announced a competitive solicitation (RFA #: 202507101, Maine BlueTech Innovation: Offshore Wind Monitoring and Testing) to test innovative blue technology and monitoring at the $\frac{1}{4}$ -scale demonstration turbine. The solicitation resulted in 17 applications and three funded projects that align with Consortium priorities but were funded by non-

Consortium sources. Team members from each of the projects presented project overviews during the AB Meeting, which are summarized below.

Geo SubSea and Lobster Robotics

Project Title: “Offshore wind monitoring and testing: Assessing seafloor interaction with floating offshore wind moorings”

Presenters: Tricia Souder (Project Manager, Geo SubSea) and Jeff Gardner (Program Director, Geo SubSea)

Timeline: July 2026 – June 2027

Trisha provided a brief overview of the project teams, noting that Geo SubSea is a marine science and offshore consulting company that supports a variety of offshore projects, and Lobster Robotics is a Dutch company focused on unmanned underwater vehicles (UUVs). The purpose of this project is to improve our understanding of how FOSW technology impacts benthic habitats. This is to be achieved with the use of the Scout 3 (a UUV) which will produce high-resolution imagery through a process that demonstrates a repeatable, georeferenced approach for habitat mapping.

Jeff explained that the original proposal includes documenting the habitat, seafloor communities, and outside control sites, but – if time allows -- the team intends to cover the full footprint of the structure (including all four structures and cable going to shore). The team estimates that the full footprint can be mapped in three days. Data mapping efforts will be performed using the Coastal and Marine Ecological Classification Standard (CMECs) framework. Geo SubSea is developing a proprietary online data portal and website to host the data, and they are working with the Regional Wildlife Science Collaborative (RWSC) to provide access to these data repositories.

The UUV is being shipped from Europe and is expected to be on site in July. The research team plans to offer a demonstration of the vehicle on the dock in Castine on the first day of mapping efforts. If AB members are interested in joining for the demonstration, they are encouraged to reach out to Meghan Suslovic (DOER, meghan.suslovic@maine.gov).

Discussion:

- Question from AB member about the size of the UUV and if it can handle high tidal forces. Response from Jeff that it can operate up to 3 knots, and that the project team will keep an eye on the current and tides while they’re out there.
- Question from Collaborator about if any baseline benthic monitoring was done on this pilot study test site to compare the pre- and post-installation effects on benthic habitat. Response from Anthony that UMaine has pre-installation site data for comparison. Response from Jeff that Geo SubSea may also seek future funding to support a follow-up investigation to perform the same mapping study after the turbine is decommissioned and removed to understand potential disturbance and effect on the benthic habitat.

For more detailed information from their presentation, see meeting slides 44-54.

Dr. Amrit Verma (University of Maine)

Project Title: “Turbulence, Stratification, and Mixing Around a Floating Offshore Wind Turbine: A Field Study”

Presenter: Dr. Amrit Verma (UMaine)

Timeline: July 2026 – June 2027

Dr. Amrit Verma explained that there are data gaps around FOW structures and their potential to cause sea water mixing. Typically, warm freshwater floats on top of saltier deep water; however, offshore structures could potentially obstruct water flow in the water column that could cause these layers to mix. Such mixing could affect nutrient distribution and cause ecological hotspots around turbines. Dr. Verma’s team is using three complementary measurements to study effects on velocity, turbulence, and mixing, including: ADCP & CTD; Thermal-IR Drone; and In-Situ Particle Image Velocimetry (PIV). The latter (PIV) will use laser light to visualize the structure of wakes around the structure. This measurement system has so far only been used in labs or rivers, and this will be the first use of PIV in the ocean.

Discussion:

- Question from AB member about how the ADCPs are deployed. Response from Dr. Damian Brady, AB member and co-PI, that they are bottom-mounted beneath the turbine platform.
- Question from AB member about the ecological implications of the preliminary data that Dr. Verma showed. Response from Dr. Verma that if there’s mixing between different temperature water, there could be new ecological hotspots for sustaining life. Additional response from Dr. Brady that if the cold water coming to the surface around the unit is nitrate rich, that’s an interesting initial finding. The water at the ¼-scale turbine deployed in Castine is much shallower than water depth at the Wind Energy Areas (WEAs), but this remains the first data that demonstrates potential mixing around turbine structures.

For more detailed information from their presentation, see meeting slides 55-63.

Biodiversity Research Institute (BRI)

Project Title: “Using novel technologies to monitor bird and bat behavior at offshore wind turbines”

Presenter: Nate Fuller (BRI)

Timeline: February 2026- June 2027

Nate explained the need for effective and reasonable monitoring strategies to characterize risk and measure impacts of OSW arrays to birds and bats. There are several common methods already being deployed, including passive acoustic techniques, videography, and boat surveys, but each of these methods include tradeoffs that can make it difficult to interpret the data or that require significant resources. The research team intends to develop minimization approaches by using multiple monitoring systems to leverage their strengths and limit weaknesses. To do so, they have deployed self-contained,

ultrasonic microphones, including one omnidirectional microphone, at the ¼-scale turbine. Additionally, the team is adding in stereo thermography to understand how videography might be better used in tandem with other monitoring technology. In testing the robustness of this monitoring design, the research team hopes to better understand how changes in physical characteristics, deployment parameters, or software settings will optimize wildlife monitoring offshore.

Discussion:

- Question from AB member about how the team is handling validation and training for the auto-detectors and if there is any use of Artificial Intelligence (AI). Response that, as of now, there are no plans to use AI in this work. In the cases of acoustic monitoring, the team will be using commercial products such as auto-classifiers that were developed prior to the advancement of AI solutions. These products require validation by human experts to do the acoustic vetting to confirm calls. Likewise, the videography work will be done based on thermal visual tracker algorithms.

For more detailed information from their presentation, see meeting slides 64-69.

EXPERT WORKSHOPS UPDATE AND DISCUSSION

Meghan reminded the AB about the process that led the Consortium to fund two expert workshops. In August 2025, the AB met in Castine to discuss and rank potential Consortium-funded projects, the outcome of which was to fund a bird tracking study, a study to understand potential interactions between FOW electrical infrastructure and marine life, and a study to understand potential interactions between FOW mooring and anchors and the benthic environment. The PM team is actively drafting this RFP with the goal to issue it in the coming months.

In addition to these projects, the AB also recommended funding two workshops to convene experts in groundfish and oceanographic modeling. The goal of the workshops was to identify data gaps and develop recommendations for a future Consortium-funded RFP. Luke Feinberg and the Regional Wildlife Science Collaborative (RWSC) were engaged as the respective workshop facilitators, while topic experts – including AB members – helped shape workshop agendas. Both workshops were held in April 2026 at the Roux Institute in Portland, with nearly 60 participants in attendance between the two meetings. The facilitators provided overviews of the two workshops during the AB Meeting, which are summarized below.

Workshop 1: Forecasting Groundfish Species in the Gulf of Maine in Consideration of Changing Ocean Uses

Date: April 28, 2026

Facilitator: Luke Feinberg

Luke began by sharing that the workshop was well-attended by a range of perspectives represented from the industry, including five AB members. He then oriented the AB to the goals of the workshop, which was guided by the problem statement, “Development of Offshore Wind energy facilities in the

Gulf of Maine has the potential to displace existing groundfish through changes in benthic habitat and fishing patterns. What data and model capabilities are needed to forecast groundfish distribution in the vicinity of offshore wind facilities in the Gulf of Maine?"

The workshop began with a series of presentations aimed at setting the context for the region's offshore wind planning efforts, as well as three separate presentations around groundfish modeling status quo, modeling hindcasting, and modeling forecasting. After this level-setting, workshop participants then examined what was needed to improve forecasting for groundfish, focusing specifically on variables and barriers to effective forecasting. Attendees were then split into groups and asked to discuss and rank the relative importance of the data variables and barriers that were previously identified. The result of this ranking process shows a clear consensus that baseline species distribution was most important relative to other identified variables. This outcome is also consistent with the results from the pre-workshop survey that was sent out. The highest-ranked variables were once again discussed by breakout groups to brainstorm project ideas that could respond to these data gaps. After the breakout groups shared their suggested project ideas with the larger group, participants were once again asked to rank project ideas in terms of urgency and impact. The project topic that ranked highest for both urgency and impact was assessing and improving baseline data availability. Notably, several other baseline data assessments – including one project that integrated fishermen's ecological knowledge (FEK) -- emerged as high-priority projects, suggesting an opportunity to combine these project ideas into a single coordinated effort.

Discussion:

- Comment from AB member who also attended the workshop that traditional ways of collecting data may not be practicable once turbines are in the water. This point was made in each of the independent, smaller group discussions.
- Question from AB member to clarify the data sharing that RWSC is already doing to better understand the data gap these projects seek to address. Response from Katy that the Regional Offshore Science Alliance (ROSA), which leads regional research on ocean development, offshore wind, and fisheries, attended the workshop and is also in attendance at the AB meeting as a collaborator. ROSA (and RWSC) has been doing a lot of data coordination and management, and anything advanced forward for an RFP would be done in coordination with them to ensure no overlap with existing work.
- One AB member who also attended the workshop expressed interest in Project 4 [Food-Web ecology of wind structures]. He noted that surveys are currently index-based and are dependent on survey vessels' ability to access the areas that have historically been monitored for data collection. Offshore structures such as floating offshore wind turbines have the potential to attract groundfish species because prey (e.g., herring, mackerel, kelp, and mussels) will likely congregate on the structures. Suggestion that Project 4 is a strong idea that should be considered. Response from another AB member who also attended the workshop that Project 4 was ranked lower because it would require structures in the ocean for a duration of >12 months. While we could attempt to study this with structures other than turbines, the scientists who attended the workshop questioned methods. Another potential opportunity to study this

could be at the ¼-scale turbine, but the environment in Castine is quite different than what is found offshore.

- Question from AB member about what we're trying to forecast with respect to groundfish and OSW. Response from Luke that we're able to forecast groundfish distribution now, but workshop discussions focused on how those models may need to be altered or redeveloped in consideration of OSW impacts. Follow-up comment from AB member that the 1-year time frame of additional data collection seems fairly narrow compared to the decades of data from traditional surveys.
- Question from AB member about the timeframe and spatial scale of the suggested modeling efforts, especially if we're thinking about structures going into the water in 10-20 years. Response from Luke that, before any ranking was done, the workshop participants established a series of assumptions, including that the scope for these projects should consider the existing Wind Energy Areas (WEAs) and the duration would be the average lifespan of an OSW turbine, about 30 years.
- Comment from AB member that Project 7 [Policy opportunities to improve data sharing] was developed in recognition of the fact that developers will be collecting their own data, and there may be tools that can guarantee access to that data. This project could result in a White Paper that could help us prepare for the long-term impact.
- Comment from a Collaborator that there is an existing project conducted by BRI and funded by New York State Energy Research and Development Authority (NYSERDA) looking at Project 4 [Food-web ecology of wind structures] in southern New England.
- Comment from another Collaborator that some biofouling research on floating structures is happening at the University of Massachusetts (UMass) - more from a structural engineering perspective, but still potentially useful: <https://arrowosw.org/arrow-student-nazila-emamdoost-presents-at-energy-transition-symposium/>

For more details about this workshop debrief, including a full list of ranked variables, barriers, and project ideas, see meeting slides 74-93.

Workshop 2: Oceanographic Modeling and Data Needs to Support Marine Life and Ecosystem Assessment in the Gulf of Maine

Date: April 30, 2026

Facilitators: Emily Shumchenia and Julia Dombroski (RWSC)

Emily led the debrief by sharing that this workshop was the result of a great partnership between DOER and RWSC, as well as learnings and work from other partners throughout the broader region.

This Gulf of Maine-specific workshop is complementary to another, upcoming oceanographic modeling workshop hosted by RWSC at NYSERDA's June 8-11 State of the Science research symposium, where they will be building on discussions that were raised at the Consortium-funded modeling workshop. In advance of these two workshops, Emily and Julia met with regulators to hear their perspectives and considerations. For some decision makers, their biggest focus was on potential impacts, considering things like what infrastructure and spacing should be required of developers to lower impact. If some

impacts are unavoidable, what kind of monitoring should be required? While we may have the ability to detect effects considering regulatory aspects relevant to the decision-making in the Gulf of Maine (such as the right whale critical habitat and its features), we will need means of attributing changes to a driver (such as offshore wind or climate change). These considerations served as the guiding principles for the workshop participants.

Emily shared a table identifying workshop participants and breakout groups, noting that they represent a range of expertise, from modeling to observational studies to remote sensing, from marine mammal biologists to plankton biologists, all of whom represent the various sectors across academia, states, private entities, and consulting companies. Workshop participants were first provided with the decision-making context, which served as a central piece of guidance for the day. RWSC identified key questions for participants to consider throughout the workshop, which are “How will floating offshore wind in the Gulf of Maine impact (or not) hydrodynamics/oceanography, and what effects could that have on the ecosystem?” The workshop then hosted a series of lightning talks that provided the state of the science on oceanographic modeling in the Gulf of Maine. The talks began with lessons from Europe and finished with linkages between physical and ecological modeling.

Attendees were then divided into breakout groups to discuss questions related to oceanographic modeling that “keep them up at night” -- questions that they don’t feel are being adequately addressed by current studies and data collection but are extremely important – and tools/ methods that could help to answer them. A second breakout session refined the list of outstanding questions by asking participants to reflect on the technical and methodological feasibility of answering outstanding questions given existing data and tools.

With the full group convened at the end of the day, participants were asked to rank and discuss four synthesized research questions/ topics presented by the facilitators, which have been further distilled into a recommendation for a future RFP to be supported by the Consortium. Emily noted that achieving the full vision of this proposed project would require a coordinated sequence of investments, and she encouraged the Consortium to consider partnering with other organizations (such as ROSA and RWSC) to continue to address other elements of the questions.

The recommendations that stemmed from the oceanographic modeling workshop are to fund one or more coordinated studies within a comprehensive, cross-topic monitoring plan encompassing relevant scales and characterization of mechanisms driving the main physical, chemical, and biological linkages in the Gulf of Maine. This recommendation includes core elements that should be included in an RFP but also identifies optional concepts that would be complementary and provide additive value.

Discussion:

- Question from AB member about how the project ideas would support broader goals/ needs for the Gulf of Maine, or about how durable/ applicable the projects would be, now that offshore wind development has slowed and is likely at least 10 years away from development. Concern

that the Consortium might invest money in something that would need to be recreated in 10 years. Alternatively, these investments could lead to products that could be built on in the future. Encouragement to support projects that have durability and utility beyond offshore wind. Follow-on comment from another AB member echoing these sentiments. Response from Emily that a lot of the concepts in their recommendation have value outside of offshore wind. For example, the monitoring and modeling study will inform some ecosystem-level questions that remain unanswered. RWSC strongly stands behind these recommendations as having value for the Gulf of Maine, resource management, protected species management, and environmental modeling.

- Question from AB member about the suggestion to nest these recommendations into a longer-term research program. Which of these could be funded as standalone projects if they were not a part of a larger research program? Response from Emily that RWSC's goal in assisting Maine with this RFP is to ensure exactly that – that the project the Consortium funds is placed within a longer- and broader-scale set of research questions that have applicability to Maine and beyond. A number of different academic labs and research entities across the region are actively working on modeling offshore wind projects using full buildout scenarios from BOEM and plugging generic turbine specs into their models. However, not many of these efforts are being done in collaboration with ecologists. Now that there are structures in the water in southern New England, there is real data that can plug into and validate the models. That said, no one is modeling FOW with the exception of the ¼-scale turbine in Castine. What's more, no one has plugged in any assumed modeling parameters for a FOW farm into a hydrodynamic, oceanographic, or atmospheric model. The modeling community is excited about using the southern New England wind projects to inform modeling efforts, but at the same time, models must be tuned to Gulf of Maine-specific dynamics. There is no entity currently funding this type of work, leaving us with a piece-by-piece approach that RWSC is actively facilitating.

For more details about this workshop debrief, including the core and optional elements related to the modeling study and monitoring plan, see meeting slides 94-112.

NEXT STEPS

- The PM team will compile responses from AB members regarding the workshop recommendations and share back with recommended next steps.
- The meeting summary and slides will be posted online.

APPENDIX A – PARTICIPANTS

A total of 64 participants attended the meeting.

Advisory Board Members

Terry Alexander, F/V Jocka, Co-Chair
Alison Bates, Colby College, Co-Chair
Damian Brady*, University of Maine
Jack Clark, Penobscot Nation
Wing Goodale, BRI
Sarah Haggerty, Maine Audubon
Brian LeFebvre, James Caird Maritime Solutions
Ben Martens, MCFA
Laura Morse*, JASCO
Chris Payne, MLA
John Perry, Maine DIFW
Becca Peters*, Maine DMR
Grant Provost*, Iron Workers Local 7
Dan Salerno*, Fisheries Scientist, Limington, ME
Graham Sherwood*, GMRI
Geoff Smith, TNC
Kanae Tokunaga, GMRI
Mary Beth Tooley*, O'Hara Corp
Anthony Viselli*, University of Maine
Stephanie Watson, Maine DOER
Trevor White, Indian Township Passamaquoddy Reservation
Ann Zoidis*, Tetra Tech
Gayle Zydlewski*, Maine Sea Grant

Collaborators MA Executive Office of Energy and Environmental Affairs & Mass Clean Energy Center
National Marine Fisheries Service
US Fish and Wildlife Service
National Offshore Wind Research & Development Consortium
Responsible Offshore Science Alliance
Regional Wildlife Science Collaborative

Maine BlueTech Innovation Awardees

Nate Fuller*, BRI
Jeff Gardner*, Geo SubSea
Trisha Souder*, Geo SubSea
Amrit Verma*, University of Maine

Program Management, Advisors, and State Agency Staff

Beth Bisson, Maine Sea Grant
Katy Bland, Maine Sea Grant
Olivia Burke*, Carbon Trust
Julia Hiltonsmith, Maine Sea Grant
Jessica Jansujwicz*, Maine Sea Grant
Laura Singer, SAMBAS Consulting
Meghan Suslovic, DOER
Erin Wilkinson*, Maine DMR

*Denotes online attendance

Additional observers attended online and in-person.