

Collaborative Technology Workshop Series

Background

NOAA Fisheries, the Bureau of Ocean Energy Management (BOEM), and U.S. Department of Energy (DOE) are working with each other through the Regional Wildlife Science Collaborative for Offshore Wind (RWSC) to identify models, technologies, and information from other sectors, research areas, and potential partners in support of whale conservation and responsible offshore wind development.

To support this effort, [a collaborative virtual workshop series is being hosted by the RWSC and MTS](#), in partnership with the Pacific Northwest National Laboratory (PNNL) and National Renewable Energy Laboratory (NREL), with support from DOE and contributions from NOAA, BOEM, and Turn Forward. The objective of the series is to collaboratively assess the state of the science regarding technologies, tools, and methods for monitoring baleen whales around sound-producing offshore wind construction activities.

PNNL and NREL are leading the development of the technical workshop materials and outputs, with oversight by DOE, NOAA, and BOEM. RWSC and MTS are providing the forum, workshop facilitation, and are developing workshop proceedings for each session that capture participant input and discussion.

Workshop outputs will include:

1. A technical framework for evaluating efficacy of existing and new technologies, led by PNNL and NREL
2. Application of that framework to existing and emerging technologies for monitoring baleen whales around sound-producing offshore wind construction activities, led by PNNL and NREL
3. An assessment of potential technology implementation strategies to improve whale detection around sound-producing offshore wind construction activities, including deploying combinations of technologies, led by PNNL and NREL
4. Workshop proceedings / summaries, led by RWSC and MTS

This effort seeks to engage diverse subject matter experts and stakeholders. Anyone may join the virtual workshop by registering for each session using the links provided below.

Federal Constraints to Deliberations

- *Federal Advisory Committee Act (FACA):* The purpose of this workshop is obtaining information and viewpoints from individual attendees, not advice, opinions or recommendations from the group acting as a collective given that this is not a formal Federal Advisory Committee under FACA. No collective decisions will be made at the workshop. Rather, the information provided and viewpoints expressed will contribute to the range of data that informs next steps.
- *Statement to Manufacturers and Service Providers:* This workshop is not a demonstration or examination of your products or their capabilities. Please limit your commentary to the nature and qualities of

Workshop Ground Rules

- Participate actively and respectfully.
- Remain open-minded.
- Explore with good questions, deep background knowledge, and a spirit of “can do.”
- Focus on the practical and technical.
- Non-decisional and not seeking consensus from the group; i.e., points should be from individual attendees and not from the collective group.
- We are recording audio and video of the workshop for internal note-taking purposes only.
- The facilitation team will occasionally use polling to get a sense of perspectives on issues under discussion. This polling is being used to inform

various technologies, systems, and standards without specific reference to your products.

workshop deliberations; it is not intended as a “vote” or formal survey on any issues under discussion.

Workshop Session 1: Overview of Whale Detection Technologies and Ways to Evaluate Efficacy

April 18, 2024 | 1-4pm ET

[REGISTER HERE](#)

Purpose and Objectives:

- Develop a shared understanding of the applicability of existing technologies or classes of technologies to monitoring baleen whales around sound-producing offshore wind construction activities.
- Discuss the types of measures that can be used to evaluate technology efficacy.

Materials

- Overview of whale detection technologies spreadsheet
- Outline of technology specific document for baleen whale detection technology

DRAFT Agenda:

| Time | Session, Presenter, Materials, and Discussion |
|-----------|--|
| 1:00pm ET | Welcome <ul style="list-style-type: none">• Joy Page, Wind Energy Technologies Office, U.S. Department of Energy• Emily Shumchenia, Regional Wildlife Science Collaborative for Offshore Wind |
| 1:15pm ET | Workshop series and session objectives, agenda, and ground rules <ul style="list-style-type: none">• Why are we holding this workshop series?• What will we accomplish during this session? How does this session feed into future sessions and build on other efforts?• Agenda review and ground rules• Poll of who is present by sector |
| 1:30pm ET | Overview of real-time whale detection technology categories and potential means to evaluate efficacy <p><u>Session goal:</u> PNNL and NREL introduce a draft spreadsheet characterizing technologies for monitoring baleen whales around sound-producing offshore wind construction activities and a draft outline for detailed technology characterization that will further describe the state of each technology’s efficacy and readiness. This session will prepare participants for breakout discussions of the technologies and how they could be evaluated.</p> <ul style="list-style-type: none">• PNNL and NREL presentation |

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| | <ul style="list-style-type: none"> • Question and Answer Session (10 minutes) <p><u>Documents/tools for this session:</u> Overview of whale detection technologies spreadsheet; Outline of technology specific document for baleen whale detection technology (posted to workshop website one week in advance)</p> |
| <p>1:50pm ET</p> | <p>Large whale behavior and life history – considerations for detection</p> <ul style="list-style-type: none"> • <u>Session goal:</u> Provide participants with an overview of the challenges and opportunities to leverage new technologies to improve whale detection during sound-producing offshore wind construction activities given species behavior and life history traits. This session will prepare participants for breakout discussions of the technologies and how they could be evaluated. • Julia Dombroski, Ph.D., National Offshore Wind Research and Development Consortium, Offshore Wind Innovation Hub • Question and Answer Session (10 minutes) |
| <p>2:20pm ET</p> | <p>Breakout groups focused on evaluating technologies: Workshop participants will self-select into virtual breakout rooms with a set of prompts/questions to consider.</p> <p>Breakout groups based on categories of technology:</p> <ul style="list-style-type: none"> • Passive acoustic monitoring – stationary • Passive acoustic monitoring - mobile • Thermal imaging • Visible light cameras • Protected Species Observers • Other technologies (e.g., satellite imagery, eDNA, DMS concentration, telemetry, active acoustics) <p>Questions for each breakout group:</p> <ul style="list-style-type: none"> • What are the attributes of this technology that make it potentially useful for the purpose of this workshop? • What are the attributes that constrain or potentially limit this technology? • What measurements should be used to characterize the performance of this technology? • What information gaps limit our ability to determine this technology’s feasibility for offshore wind construction monitoring and what are priority R&D needs to fill those gaps? |
| <p>3:30pm ET</p> | <p>Discussion</p> <p><u>Session goal:</u> Brainstorm and discuss performance metrics needed to compare across technologies – What are the ideal metrics? Who are the metrics for? This conversation will inform the detailed characterizations of technologies that NREL and PNNL will further develop following this workshop.</p> |

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| 3:55pm ET | Next steps and adjourn |
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[Post-workshop survey](#) – share additional thoughts with us after the workshop.