

**New York Environmental Technical Working Group (E-TWG)
Meeting Summary – 12 February 2019**

	<u>Name</u>	<u>Date</u>
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Disclaimer: While all efforts were made to accurately represent E-TWG discussions, the views expressed in this summary may not represent the views of all E-TWG members.

Background

As part of New York State's efforts to responsibly develop offshore wind energy, the New York State Energy Research and Development Authority (NYSERDA) has convened the Environmental Technical Working Group (E-TWG) to provide input to the state on environmental topics. The first two meetings were held in 2018¹; the third meeting was held on 12 February 2019 (Appendix A) in New York City². Twelve E-TWG members attended this meeting in person and ten participated remotely via webex/conference call (Appendix B). Four support staff from Biodiversity Research Institute (BRI), the Consensus Building Institute (CBI), and Cadmus Group were present in addition to two staff from Ecology and Environment, Inc. (E&E) to present E-TWG-related work.

This meeting summary is intended to capture the key points of discussion and input from the E-TWG, as well as action items identified during the meeting. This summary is loosely organized according to the structure of the meeting agenda (Appendix A). Specific comments are organized by topical relevance, not necessarily the part of the agenda in which the comments were made. Opinions are not attributed to specific E-TWG members unless there is a clear reason to do so. For topics where there were differences of opinion among E-TWG members, this summary identifies areas of agreement as well as the different perspectives offered during meeting discussions.

Action Items

The following action items to advance E-TWG objectives were identified during the meeting:

- NYSERDA and E-TWG support staff will move ahead with forming **two Specialist Committees (SCs)** that are focused on the development of **Best Management Practices (BMPs) for 1) marine mammals and sea turtles and 2) birds and bats**. The first step in this process will be for support staff to draft detailed charges for the two SCs, and reach out to the E-TWG via email to receive input on these revised charges and solicit suggestions for participants.
- NYSERDA will **fund CBI and Cadmus to conduct a stakeholder engagement process focused on developing one or more potential frameworks for a regional research and funding entity**. E-TWG support staff help coordinate the formation of an SC to advise this project. The first step in this process will be for support staff to reach out to the E-TWG via email to confirm the members who volunteered to participate in the SC.
- NYSERDA and E-TWG support staff will begin **planning another State of the Science Workshop** to be held in 2019 or 2020. **Cumulative impacts** was suggested as a major focus of the meeting, which could take a different structure/format than the 2018 meeting. The first steps in this process are 1) support staff will draft a "straw man" description of workshop goals and structure, and 2) support staff will coordinate the formation of an SC to advise on, and assist with, workshop planning. Support staff will reach out to the planning committee for the 2018 workshop to assess their interest in continued participation.
- NYSERDA will send a **letter to the National Offshore Wind Research and Development Consortium** on behalf of the E-TWG, referring several of the E-TWG's priority topics to the Consortium's attention. Further comments on the draft letter will be solicited from E-TWG members via email prior to submission.
- NYSERDA will **release an offshore wind research solicitation focused on environmental and fisheries** topics in spring 2019. Further E-TWG comments on the draft solicitation text will be sought via email.
- **E&E will develop an online version of the Mitigation and Monitoring Practices (MMP) Tool to provide E-TWG members with an opportunity to review and trial** the Tool. Feedback will be solicited on the Tool's design, the inclusion of different sorting criteria, the degree of detail included in individual MMPs, and additional key sources that should be included in the underlying tables.

¹ See: Events for meeting agendas, summaries, and presentations: <http://www.briloon.org/offshorewindny>

² E-TWG Presentations, Feb 12, 2019. http://www.briloon.org/uploads/BRI_Documents/Wildlife_and_Renewable_Energy/E-TWG%20meeting%202019February%2012.pdf

- Support staff will work with E-TWG to schedule the next E-TWG meeting and SC meetings, once formed.
- Support staff will develop a **meeting summary** from the February 12 meeting (this document), and E-TWG members will review the draft meeting summary and approve it or ask for modifications.
- Support staff will post materials from the February 12 meeting on the website, as appropriate.

Welcome & Introductions

Greg Lampman (NYSERDA) opened the meeting. E-TWG members and support staff introduced themselves and spoke briefly about their organizations and roles. Several changes to E-TWG membership were noted, including:

- Two new developers with geographically relevant leases joined the E-TWG since the previous in-person meeting (Shell and EDF Renewables)
- New representatives have been identified from several existing E-TWG member organizations, due to changes in personnel at their respective organizations
- Kate McClellan Press from NYSERDA will be involved with the E-TWG moving forward and will work in conjunction with Greg Lampman to oversee the group

Several changes and additions to E-TWG support staff were also noted. CBI and Cadmus Group will facilitate the E-TWG moving forward, along with the other Technical Working Groups for New York.

Updates

State of the Science Workshop

Kate Williams (BRI) provided an update from the first State of the Science Workshop on Wildlife and Offshore Wind Energy Development, held on Long Island, NY in November 2018³. The workshop was one of the first efforts to come out of the E-TWG. It included over 180 participants from a range of backgrounds and geographic locations. Additional details on the meeting will be published in the workshop report, which is still in development and will be made available soon.

To inform future planning, an online survey was circulated to attendees after the meeting. Survey response was high (over 40%). All eight workshop sessions were overwhelmingly viewed as being useful to attendees. Survey responses indicated a strong interest in holding similar workshops in the future, with 66% of respondents indicating that they would like to see another meeting within a year and 96% within two years. At the earliest, a second workshop could be held in the fall of 2019 or in the spring of 2020. NYSERDA has expressed a willingness to provide support for another meeting.

Discussion

- Most workshop attendees were professionally engaged in offshore wind issues in some way, including developers, consultants, non-profit organizations, state and federal government, and some marine user stakeholder groups (Long Island-based groups, fishing recreation groups). Some members of the public attended the evening open house, but the majority of workshop attendees were engaged in the field in some way.
- Multiple E-TWG members indicated that they felt the workshop was successful, conversations were engaging and useful, and that the workshop provided a unique platform for these conversations to occur. Several E-TWG members indicated the importance of providing an opportunity to follow up on issues or questions raised at the first workshop and to keep the momentum going.
- There was substantial E-TWG support for another workshop. Timing suggestions varied, including holding meetings on an annual or biennial basis. It was noted that shorter timelines are more difficult to manage,

³ <http://www.briloon.org/offshorewindny/workshop>

and that there is a balance between providing a platform to present new results while ensuring that content is not repetitive. Suggestions were made regarding opportunities for collaboration with other regional meetings, and to alternate years with the BOEM Atlantic Ocean Energy and Mineral Science Forum (which was most recently scheduled for January 2019, but was postponed due to the government shutdown).

- A member who participated in the planning committee for the first workshop indicated that it was a pleasure working with Kate and that the time commitment for the committee was minimal (planning committee members advised E-TWG support staff on the formulation of the technical agenda, and took the lead in reaching out to speakers with whom they were acquainted).
- One E-TWG member noted that the first workshop skimmed the surface of many issues, and that future meetings could provide an opportunity to do a deeper dive on specific topics. This concept was revisited during the discussion of Specialist Committee topics (below) in relation to cumulative impacts.

NYSERDA Updates

Greg Lampman (NYSERDA) discussed a range of New York and NYSERDA-specific updates, including:

- NYSERDA will be hosting its next offshore wind webinar on February 13⁴.
- In January, Governor Cuomo announced New York's 'Green New Deal,' which accelerates and expands previous goals relating to renewable energy and offshore wind. Offshore wind procurement goals have increased to 9,000 MW by 2035 (20% of the state energy load), with a new goal of 100% carbon-free electricity for the state by 2040. NYSERDA also recently released its Strategic Outlook Plan⁵. NYSERDA will continue working towards the previous 2,400 MW goal for offshore wind, and is setting up the process for the 9,000 MW goal in parallel.
- Proposals under NYSERDA's procurement solicitation⁶ for offshore wind energy are due February 14, 2019. Decisions will be made by April, and a notice for the next round of procurements will soon follow.
- NYSERDA is currently funding a desktop geophysical and geotechnical (G&G) study covering most of BOEM's New York Bight draft Wind Energy Areas, and plans to fund new G&G surveys beginning in 2019. Providing G&G data to developers early in the process is intended to support the state's offshore wind development timeline and increase certainty around site characteristics (thus improving proposals and reducing costs to ratepayers).
- The first Fisheries Technical Working Group (F-TWG) meeting was held in late 2018⁷. It included fisheries representation from Massachusetts, Rhode Island, New York, and New Jersey, as well as developers and fishing liaisons. The group has initiated two efforts:
 - Identifying fisheries transit lanes in the New York Bight. The recently formed Responsible Offshore Development Alliance (RODA) is working with fishermen to collect information on their movements and anonymize these data, which will be analyzed alongside data from the National Marine Fisheries Service to identify potential transit lanes. A workshop is planned for March 27, 2019, to discuss the locations of transit lanes that are the most important to the fishing community⁸. The workshop report could be used by BOEM to inform the leasing process, and by developers to understand where fishermen see the best opportunities for transit.

⁴ New York State Offshore Wind Public Webinar, February 13, 2019. <https://www.nyserda.ny.gov/-/media/Files/Programs/offshore-wind/2019-02-New-York-State-Offshore-Wind-Public-Webinar.pdf>

⁵http://www.briloon.org/uploads/BRI_Documents/Wildlife_and_Renewable_Energy/NYSERDA%20StrategicOutlook2019-2022.pdf

⁶ <https://portal.nyserda.ny.gov/servlet/servlet.FileDownload?file=00Pt000000Cps3NEAR>

⁷ <https://nyfisheriestwg.ene.com/>

⁸ New York Bight Wind Area Transit Lane Survey and Workshop <https://www.rodafisheries.org/ny-survey/>

- Improving fishing access in development areas. The upcoming NYSERDA research solicitation will include a topic area focused around understanding potential limitations to fisheries access at offshore wind projects, including space limitations by gear type as well as other issues.
- NYSERDA is funding a metocean study using LiDAR buoys to measure oceanographic conditions in the New York Bight. Ocean Tech Services is leading the project with partner companies Elios, Normandeau, and DNV GL. Buoys are scheduled for deployment in April at sites in Hudson North and Hudson South (BOEM draft Wind Energy Areas). In addition to oceanographic information, buoys will be equipped with bird and bat acoustic monitoring technology, hydrophones for marine mammal passive acoustic monitoring, and nanotag receivers. Normandeau is coordinating all wildlife data processing and reporting. Wildlife data will be publicly available on the Normandeau ReMOTe site⁹ and deposited in public data warehouses.

Greg Lampman and Kate McClellan Press from NYSERDA also gave an overview of the upcoming research request for proposals (RFP) that NYSERDA will issue in March. The RFP will make up to \$2 million available for research on offshore wind and environmental/fisheries issues. E-TWG members are requested to email comments on the draft solicitation text to Kate McClellan Press. This RFP has six focus areas:

- *Ecosystem Dynamics* – research to synthesize and analyze regional oceanographic and lower trophic level datasets to predict upper level species presence, habitat use, and movements.
- *Monitoring Protocols* – establish standardized monitoring protocols to help establish credible baselines, inform risk assessments, and detect changes in species or taxa as a result of offshore wind development.
- *Risk Assessments* – create a framework that incorporates monitoring data and information on relative vulnerability to offshore wind hazards to understand risk and effectively allocate resources for mitigation efforts¹⁰.
- *Citizen Science* – evaluate citizen science data from fishing communities or others in the offshore environment, or propose opportunities for new data collection efforts with quality assurance in mind.
- *Fishing Access* – understand limiting factors to fishing access within wind arrays, how those limitations may be addressed, and the associated costs.
- *Cold Pool Mixing* – examine how turbine placement may interrupt cold pool mixing and the effects of these hypothetical changes on fisheries.

NYSERDA is also asking for feedback from F-TWG members. Staff plan to issue the research RFP in March 2019, provide 6-8 weeks for proposals to be submitted, and begin contracting by the summer. The selection process involves a scoring committee made up of individuals from NYSERDA and external parties; proposals are reviewed and scored based on a ranking structure that is announced in the solicitation.

North Atlantic Right Whale Agreement

Francine Kershaw (Natural Resources Defense Council), Matt Robertson (Vineyard Wind), and Catherine Bowes (National Wildlife Federation) presented their organizations' recent agreement for mitigating impacts to right whales at the 800 MW Vineyard Wind project off the coast of Massachusetts and Rhode Island¹¹. Catherine and Francine noted Vineyard's commitment and leadership on the issue, with a sentiment that this is a precedent-setting agreement. Matt stated that Vineyard is extremely proud of the agreement and thankful to the other groups involved, as it was challenging to come to an agreement that was sufficiently protective of right whales and also logistically feasible.

⁹ https://remote.normandeau.com/remote_about.php

¹⁰ Based in part on feedback from the E-TWG, NYSERDA determined after the E-TWG meeting that this topic will be removed from the research solicitation.

¹¹ <https://www.nrdc.org/sites/default/files/vineyard-wind-whales-agreement-20190122.pdf>

Their presentation included the following points:

- The North Atlantic right whale population has declining at an increasingly rapid rate since 2010, with incidental entanglements and collisions as main causes of mortality.
- During their annual migration from calving grounds to foraging grounds, right whales could interact with any of the planned development areas along the U.S. east coast. As such, there are concerns for cumulative impacts from noise, increased risk of collision, and other possible stressors during the construction and operations of offshore wind farms. The most effective way to mitigate these stressors is to separate animals from activities during the most sensitive life history periods (e.g., pregnant females, mother-calf pairs, foraging individuals).
- The development of the agreement included formal negotiations, involvement of right whale experts, and input from engineers to help understand feasibility.
- The agreement takes a “stop light” approach to certain activities, with periods of red (no activity), yellow (can conduct activity with extra precautions) and green (normal precautions) throughout the year. Right whales may still be present in green or yellow periods, but in much lower numbers or in less sensitive life history periods. Specific points contained in the agreement include:
 - Vessel speed restrictions to 10 knots, with the exception of crew transfer vessels (which have safety and other limitations that require increased speed, and instead will have enhanced monitoring).
 - Both Protected Species Observers and real-time passive acoustics will be used to assess species presence. A 10 km clearance zone for certain activities is included for the yellow period, for example, which will require aerial surveys assess presence.
 - Vineyard committed to a 12 dB noise reduction during pile driving; they are still working out the specific approach(es) for how they will meet this commitment (bubble curtains, etc.).
 - Pile driving will be commenced during the day and during periods of good visibility to maximize probability of right whale detection.
 - The agreement will be revisited every two years to account for the latest science and technological and engineering advancements.
- In essence, the agreement includes seven general BMPs: site selection, seasonal and temporal restrictions on construction, monitoring exclusion zones during construction, vessel speed restrictions for the lifetime of the project, reduction of underwater noise during construction, commitments to scientific research and long-term monitoring, and contribution to species conservation efforts. These could be applicable to any development site, though specifics will vary by location/project. These broad practices are a useful starting point for more tailored site-specific conversations.

One E-TWG member noted that practices that work well for one species may push activities into times when another species is vulnerable, and development of BMPs can become even more challenging when considering multiple species or taxonomic groups.

In response to a question about whether the parties considered including validation of the mitigation measures included in the agreement, it was noted that they have a high degree of confidence in these measures (due to expert involvement) but that testing their effectiveness would be important, as well as continued testing and development of approaches not included in the agreement due to a lack of confidence in their efficacy (such as nighttime observation methods).

An E-TWG member asked whether the intent of the agreement was to increase developer certainty around requirements, or to increase protective measures beyond what was expected to be required by regulators. eNGO parties to the agreement indicated that it was a combination of both; there was a strong desire for responsible

offshore wind development to succeed, and also a need for strong protections for right whales that can hold up in court if challenged.

BOEM Updates

Jaron Ming from BOEM provided an update on BOEM-related activities, including:

- Currently there are 12 leases from Massachusetts to North Carolina with another three pending.
- The sale of lease areas off Massachusetts in December was very successful, with lease areas totaling 390,000 acres with over 400 million dollars in returns. Leases were sold to Equinor, Mayflower Wind, and Vineyard Wind.
- An upcoming lease sale in New York is anticipated to occur in early 2020.
- Seven Site Assessment Plans (SAPs) have been approved and BOEM is in the process of reviewing two Construction and Operations Plans (COPs) for the Vineyard Wind and Deepwater Wind South Fork projects.
- Calls for information about new Wind Energy Areas (WEAs) in the New York Bight closed in July 2018. Draft WEAs were shared at the Intergovernmental Renewable Energy Task Force meeting in November¹². BOEM received additional feedback on these areas, including input from NYSERDA, recommending that WEAs are sized and located to be commercially viable (>400 MW). BOEM planned to announce the final WEAs in January 2019, but due to the government shutdown this timeline has been pushed back to the spring.

E-TWG Membership

Kate Williams (BRI) provided a brief overview of E-TWG membership as outlined in the group charter¹³, noting that several new developers with geographically relevant leases were interested in joining the E-TWG, and asked for feedback about the importance of maintaining a strict balance between developer and eNGO members. Multiple E-TWG members indicated that they regarded the E-TWG process to be both informal and inclusive, such that those who have legitimate interest and technical expertise in the topic should be able to participate (including all developers that hold relevant leases). A strict balance was deemed to be less important than allowing all legitimate actors in the space to participate. However, it was noted that a degree of parity between groups would help facilitate discussions.

Various E-TWG members indicated that this may be an opportunity to engage more regionally-focused organizations, to take a two-tiered approach to group membership, with a first tier of local New York-focused institutions and a second tier that includes more regional actors, or to identify particular topic areas where gaps in the group's expertise could be filled with additional organizations. Kate asked E-TWG members to reach out to her if there are other groups that members feel should be engaged in the E-TWG process.

Other Updates

- *Equinor* – Avian digital aerial surveys are complete for the Empire Wind project and final reports are being developed. The project SAP has been approved and metocean buoys deployed. In collaboration with Stony Brook University, sensors have been deployed on buoy moorings to monitor Atlantic sturgeon. Equinor would be happy to share data from water temperature sensors on the buoys (for example, in support of the cold pool mixing study NYSERDA is including in their upcoming research solicitation). In collaboration with WCS as part of the Blue York program, Equinor is also preparing to deploy passive and real-time acoustic monitoring for marine mammals to help inform site-specific discussions.

¹² <https://www.boem.gov/Task-Force-Meeting-November-2018/>

¹³ [http://www.briloon.org/uploads/BRI_Documents/Wildlife_and_Renewable_Energy/NYSERDA%20E-TWG/ETWG%20charter%20-%2020181030%20\(1\).pdf](http://www.briloon.org/uploads/BRI_Documents/Wildlife_and_Renewable_Energy/NYSERDA%20E-TWG/ETWG%20charter%20-%2020181030%20(1).pdf)

- *Shell Joint Partnerships* – The EDF-Shell joint partnership recently acquired U.S. Wind’s New Jersey lease area. They are currently focused on developing their SAP, starting to reach out to stakeholders, and developing plans for surveys. The Shell joint partnership with EDP has a similar project status.
- *Wildlife Conservation Society (WCS)* – WCS is involved in several baseline studies in the New York Bight, including small boat-based surveys, two eDNA projects on marine mammals and broader biodiversity, and a nearshore passive acoustic monitoring project focused on areas where electricity could be brought to shore. In addition to monitoring marine mammals, this study also includes an acoustic gate to gather information on acoustically tagged animals.
- *New York State Department of Environmental Conservation (DEC)* – DEC is a funding entity for the WCS eDNA work and is also funding two projects with Stony Brook University focused on ocean acidification and Atlantic Surfclam dynamics in the New York Bight.
- *Maryland Department of Natural Resources (DNR)* – Maryland DNR is collaborating with BOEM and the state of Maryland to continue studies of marine mammals and black sea bass in relation to the Maryland WEA.
- *BRI* – NYSERDA has commissioned BRI to develop a 16-page report, aimed at a general audience (currently informally referred to as the “Dynamic Oceans” report). BRI is looking for volunteer reviewers for the draft report, which is focused on providing a broader context for offshore wind development (e.g., other human activities that are conducted in this highly dynamic marine environment). Volunteers included the National Wildlife Federation (NWF), New York DEC, The Nature Conservancy (TNC), Equinor, WCS, and EDF Renewables.

Guidance on Mitigation and Monitoring Practices (MMPs)

Greg Lampman (NYSERDA) provided an introduction to discussions around identifying mitigation and monitoring practices for wildlife at offshore wind farms. He made a distinction between general mitigation and monitoring practices, termed ‘MMPs,’ that have been attempted or recommended to minimize impacts, and ‘Best Management Practices,’ which may vary based on site-dependent characteristics. To term something “BMPs” requires a judgement that they are the best approaches to monitor or mitigate impacts for a specific situation or location.

Discussion Part 1: The Draft MMP Tool

NYSERDA is in the process of developing a tool to identify MMPs, which will serve as a reference to inform discussions around procurements and Environmental Mitigation Plans. Sarah Courbis from E&E provided an introduction to the tool. The methodology behind the tool involves information collated by resource group (marine mammals and sea turtles, birds and bats, fish, benthos, and fisheries). These underlying data feed into a tool with a user interface to allow querying by different criteria (e.g., resource, development phase, subtaxon). The results include generalized MMPs with associated specific information/examples and source(s). The tool does not get into site- or project-specifics, and is not designed to consider synergy between practices. As currently formulated, it does not try to set goals or prioritize MMPs, although ranking criteria could be developed and applied within the tool to help do so.

Discussion was focused on how the tool could be further developed, modified, or used. It was agreed that the tool’s functionality should follow its purpose. NYSERDA purposes for the tool include 1) gathering information to facilitate conversations around environmental mitigation plans and 2) informing possible BMPs to include in future procurements. Overall, E-TWG members agreed that synthesizing available mitigation approaches would make the tool a useful resource. Members cautioned against delving too far into quantitative ranking criteria, and generally indicated that the tool may be more useful as a reference guide to inform the prioritization process than a quantitative ranking tool.

E-TWG members indicated that they would like the opportunity to try out the tool themselves before providing detailed feedback. E&E and NYSERDA agreed that the tool would be made available online for testing and to provide comments. A few initial suggestions from the group included:

- Explore the possibility of making sources available for direct access, possibly through hyperlinks. E&E will look into options.
- Keep the tool updated. NYSERDA indicated that they are thinking along the lines of annual updates to incorporate new literature and ensure that the tool remains relevant.
- Consider incorporating other sources of information (i.e. white papers) that may be available from developers and other sources. E&E encouraged folks to reach out if they are aware of additional information that should be included in the tool.
- Consider including location as a tool criterion. This could either include geographic location (e.g., where a specific MMP was implemented) or the scale at which an MMP was implemented (site-specific vs. regional).
- The degree of detail in the tool should allow for determination of effectiveness of MMPs. If detail matters for determining an MMP's effectiveness, it should be included.

Discussion Part 2: Broader Discussions about the Development of BMPs

Kate McClellan Press (NYSERDA) discussed the ways in which we can think about BMPs, the MMP tool, and the NYSERDA research solicitation fitting into broader discussions around risk prioritization, monitoring, and mitigation ("mitigation," as used throughout these discussions, incorporates all aspects of the mitigation hierarchy: avoid, minimize, reduce, offset). The draft research solicitation incorporates both monitoring and analysis of data that can be used in risk assessment efforts; the MMP tool is a first step towards developing mitigation approaches.

Subsequent discussion primarily focused around how to move forward with BMPs, and there was general consensus around the formation of taxon-specific SCs to develop BMPs for mitigation. Recognizing that the feasible number of SCs is limited, the group recommended forming two committees, focused on what they felt to be the highest priority taxa for mitigation: marine mammals/sea turtles and birds/bats. It was determined that E-TWG support staff would further develop the structure and timeline for these SCs, including suggested end products such as white papers, but that each committee would have a degree of flexibility within those parameters to identify their exact focus and scope. E-TWG members will provide input on committee membership once revised SC charges are circulated to the group, and the E-TWG as a whole will review products to look for overlap and connections between SCs and other ongoing efforts. It was noted that it will be important to consider 1) the BMP development process in relation to procurement timing, and 2) how this work can be incorporated into the regulatory process.

Suggested resources for consideration included:

- Miradi software¹⁴ by Conservation Measures Partnership could be a useful tool for identifying conservation goals and tracking success metrics.
- The environmental sensitivity report¹⁵ developed in support of the New York Offshore Wind Master Plan might be a starting point for considering risk assessment approaches.

¹⁴ <https://www.miradi.org/>

¹⁵ <https://www.nyserra.ny.gov/-/media/Files/Publications/Research/Biomass-Solar-Wind/Master-Plan/17-25i-Environmental-Sensitivity.pdf>

- The BOEM report from the Best Management Practices Workshop for Atlantic Offshore Wind Facilities and Marine Protected Species¹⁶ may be relevant for consideration by SCs.

Regional Research and Funding Entity

Greg Lampman (NYSERDA) introduced the topic of a regional research and funding entity for offshore wind, noting that there has been substantial discussion around how best to support regional (rather than project-specific) research and conservation efforts. This topic was included in the Offshore Wind Master Plan and has been discussed more recently in a range of fora, including the State of the Science Workshop in November 2018.

Greg noted that an announcement is expected in the next month about the creation of a new 401(c)3 organization to address this issue for fisheries; the group's framework was created collaboratively among the National Marine Fisheries Service (NMFS), fishermen (represented by the Responsible Offshore Development Alliance, or RODA), and developers. The group's structure may be a useful framework for consideration for an analogous environmental funding entity. E-TWG members also suggested that this new fisheries-focused organization, as well as existing entities (e.g., the National Offshore Wind R&D Consortium, the National Fish and Wildlife Foundation), could be considered as potential "homes" for an environmental funding entity, rather than starting another new organization for this purpose.

NYSERDA proposed funding CBI and Cadmus to conduct an information-gathering exercise involving stakeholder input and the development of one or more "strawman" structures for an environmentally focused regional funding entity. Bennett Brooks (CBI) presented the proposed approach, which included 1) receiving E-TWG guidance, possibly by way of a Specialist Committee, 2) using existing information, research, and frameworks, 3) receiving input from stakeholders, and 4) outlining one or more possible frameworks for the entity in a final report. E-TWG members agreed that this proposed information gathering approach makes sense, and that the report could serve as the basis for one or more groups to set up a regional funding entity (it was clarified that the E-TWG itself will not be the home for such an entity). Several E-TWG members volunteered to be part of an SC to help guide this framework development effort (Ørsted, Shell New Energies, Equinor, NWF, TNC, Maryland DNR)¹⁷.

Specific feedback from E-TWG members included:

- Examine differences between mandated compensation funds and voluntary funds
- Developers in the oil and gas industry may have experiences that could inform this process
- Joint industry groups, such as the Offshore Renewables Joint Industry Programme (ORJIP) in the United Kingdom, may serve as useful models

Next Steps for E-TWG Priority Topics

Kate Williams (BRI) noted that in 2018, 22 topics were suggested by E-TWG members as potential priority topics for the E-TWG to move forward. Those were consolidated down to 15 topics at the E-TWG meeting in July 2018, and members voted in an online survey after that meeting to provide input on relative prioritization. E-TWG members and support staff also identified three additional topics for consideration. For each of these 18 topics, support staff recommend one of the following next steps:

- *Referral to the National Offshore Wind Research and Development Consortium.* Two technology-focused topics (Table 1) were suggested for referral to the R&D Consortium for potential inclusion in future RFPs. E-TWG support staff drafted a letter referring these topics to the Consortium for consideration. E-TWG members generally indicated that this is a good approach, and agreed that while all E-TWG member

¹⁶ <https://www.boem.gov/Final-Summary-Report-for-BMP-Workshop-BOEM/>

¹⁷ Immediately following the meeting, NRDC also expressed interest in serving on the SC.

organizations would be listed on the letter, the letter itself would come from Greg Lampman (NYSERDA) as the E-TWG chair. It was also suggested that a second letter or addendum with support from other NGOs could be useful, and E-TWG staff committed to following up on this with NWF. If the consortium declines to pursue these topics, it was suggested that they could be revisited at future E-TWG meetings.

- Inclusion in the NYSERDA research RFP. Several priority topics (Table 1) fell into the research categories suggested for inclusion in NYSERDA's upcoming RFP. Depending on the nature of research projects that receive funding, these topics could be revisited at future E-TWG meetings as needed.
- Specialist Committees. The E-TWG agreed on the formation of four initial SCs, which incorporate five original topic suggestions (Table 1):
 - **Development of Best Management Practices.** The E-TWG recommended formation of two taxon-specific Specialist Committees focused on the development of BMPs for mitigation for 1) marine mammals/sea turtles and 2) birds/bats. Several original priority topics are included within these two categories. It was recognized that these SCs may evolve over time, depending in part on whether future procurements mandate BMPs.
 - **Development of a Framework for a Regional Funding Entity.** As discussed previously, an SC will be formed to provide guidance during the stakeholder engagement process.
 - **Regional Coordination.** An advisory committee will support the planning process for future State of the Science Workshops and support broader regional coordination efforts as identified by the E-TWG and/or SC. This committee may include members of the previous workshop planning committee, if interested. E-TWG support staff suggested that the next workshop could be focused in part on cumulative impacts (one of the 18 possible priority topics), and there was general agreement that this would be a good approach to begin to address this topic.
- Topics shelved for future consideration. There was recognition that most topics in this category, while not identified as top priorities, are captured to some degree through other approaches described above. For example, the framework for compensatory mitigation could be included in the discussion of a regional funding entity, and the consideration of 'quiet' foundation types could be included in discussions of the SCs focused on development of Best Management Practices. These topics may be revisited at a later time as desired by the E-TWG.
- To be determined. Offshore wind projects selected under the New York offshore wind energy procurement in 2019 are required to coordinate with the E-TWG to refine their environmental mitigation plans. The method of coordination remains to be determined; one possible approach would be to form an SC for each project. While there was recognition of the importance of this topic, it was generally felt that it would make sense to determine coordination methodologies later in the year, after review of the environmental mitigation plans for selected projects.

Action Items

The E-TWG agreed to form SCs on the following topics: marine mammal and sea turtle BMPs, bird and bat BMPs, developing a framework for a regional funding entity, and planning the next State of the Science Workshop. Further development of the MMP tool will be addressed by the full E-TWG, rather than through an SC. Discussions will continue about E-TWG involvement in NY procurement environmental mitigation plans. E-TWG members will provide feedback on the draft letter to the R&D Consortium and draft language for NYSERDA's research RFP.

Table 1. List of 18 potential priority topics and suggested next steps for each topic.

Suggested Next Steps	Topics
Refer topic to R&D Consortium for inclusion in Pillar #3 RFP	Technology development for real-time observations of baleen whales: identifying practices to optimize monitoring methodologies and reduce exposure to offshore wind hazards
	Technology development and assessment for the detection and deterrence of bird and bat collisions
Topics are incorporated into the NYSERDA solicitation in the area of <i>ecosystem dynamics</i>	Develop strategies, tools, or approaches to integrate environmental datasets to better inform decision making
	Baseline study of prey populations (plankton, benthos, forage fishes) and the potential drivers of climate-driven shifts in these populations
Topics are incorporated into the NYSERDA solicitation in the area of <i>monitoring protocols</i>	Analytical guidance for impact assessments
	Development of a pre- and post-construction monitoring study design to detect impacts to lower food web populations from offshore wind energy development
Create SCs to advance the topics of BMPs for marine mammals/sea turtles and birds/bats	Review existing mitigation measures to reduce baleen whale exposure to noise (from construction or other activities), develop a recommended mitigation protocol or series of protocols, and develop a study design to test their efficacy
	Develop BMPs for New York procurements
Create SC to advise E-TWG support staff in planning the next State of the Science Workshop	Continuation of regional coordination through State of the Science workshops
	Make progress towards the development of cumulative impact assessments
Create SC to advise E-TWG support staff in identifying frameworks for a regional funding entity	Oversight of efforts to develop a framework for a regional research/funding entity
Shelve topics for now (most topics in this category, while not identified as top priorities, are being addressed to some extent through future State of the Science workshops, incorporation into the NYSERDA research solicitation topics, or via development of a framework for a regional funding entity)	Communications effort describing the state of the science on impacts to localized ecosystems and lower food webs
	Study the potential impacts of offshore wind energy development on various sediment types (e.g., scouring) and resulting impacts to benthic communities
	Develop a framework for a compensatory mitigation process, including how such a process should operate and what should trigger its initiation
	Research on the diving behavior of sea turtles to inform mitigation measures around high resolution geophysical (HRG) surveys and pile driving
	Baseline study of copepod populations: understanding distributions, abundance, and species composition, and the potential for climate-driven shifts in those populations
	Desktop study and brief communications document focused on the feasibility of different foundation types in the eastern U.S.
TBD. May end up creating an SC for each development project selected under the procurement?	Refinement of Environmental Mitigation Plans for projects selected under the New York offshore wind energy procurement

Appendix A: Meeting Agenda

New York Environmental Technical Working Group (E-TWG) Meeting Agenda

12 February 2019, 9:00am – 5:15pm
 Offices of the Department of Public Service
 90 Church St., New York, New York

Meeting Objectives:

- Share and discuss updates on E-TWG related activities
- Obtain E-TWG guidance on BMP process and next steps
- Discuss options for advancing a regional research/funding entity
- Identify initial Specialist Committees

Time	Agenda Item
9:00 – 10:00 AM	Breakfast and Networking
10:00 – 10:30 AM	Welcome <ul style="list-style-type: none"> • Opening remarks & brief introductions • Meeting agenda • Ground rules
10:30 – 12:15	Updates: E-TWG and Related Activities <ul style="list-style-type: none"> • State of the Science workshop <ul style="list-style-type: none"> ○ <i>Kate Williams, BRI</i> • NYSERDA updates <ul style="list-style-type: none"> ○ <i>Greg Lampman, NYSERDA</i> • Draft NY/NJ WEAs and new MA leases <ul style="list-style-type: none"> ○ <i>Jaron Ming, BOEM (tentative)</i> • E-TWG membership <ul style="list-style-type: none"> ○ <i>Kate Williams, BRI</i> • North Atlantic Right Whale Agreement for the Vineyard Wind project <ul style="list-style-type: none"> ○ <i>Francine Kershaw, NRDC; Matt Robinson, Vineyard Wind; Catherine Bowes, NWF</i> • Other relevant updates (2 minutes max.)
12:15 – 1:00 PM	<i>Lunch (provided on site)</i>

Time	Agenda Item
1:00 – 2:10 PM	<p>Guidance on Monitoring and Mitigation Practices, Part 1 <i>Presentation & Discussion</i></p> <ul style="list-style-type: none"> • NYSERDA process for identifying MMPs, and demo of tool for sorting/extracting MMPs <ul style="list-style-type: none"> ○ <i>Greg Lampman, NYSERDA</i> ○ <i>Anne-Elizabeth Kaitano and Sarah Courbis, Ecology & Environment, Inc.</i> • Discussion: Sorting criteria and design of the tool
2:10 – 3:00 PM	<p>Guidance on Monitoring and Mitigation Practices, Part 2 <i>Presentation & Discussion</i></p> <ul style="list-style-type: none"> • Risk assessment, monitoring, and mitigation <ul style="list-style-type: none"> ○ <i>Kate McClellan Press, NYSERDA</i> • Discussion: Goals and next steps for the E-TWG in relation to BMPs
3:00 – 3:15 PM	<i>Break</i>
3:15 – 4:00 PM	<p>Regional Research/Funding Entity <i>Presentation & Discussion</i></p> <ul style="list-style-type: none"> • Proposed NYSERDA process for developing a framework <ul style="list-style-type: none"> ○ <i>Greg Lampman, NYSERDA</i> ○ <i>Bennett Brooks, CBI; Farrah Andersen, Cadmus Group</i> • Discussion: Strategy for moving forward with Cadmus/CBI process
4:00 – 5:00 PM	<p>Initial Specialist Committees <i>Presentation & Discussion</i></p> <ul style="list-style-type: none"> • Obtain E-TWG input on draft charges for possible SCs <ul style="list-style-type: none"> ○ <i>Kate Williams, BRI</i> • Determine next steps
5:00 – 5:15 PM	<p>Wrap Up & Next Steps</p> <ul style="list-style-type: none"> • Review action items from the day's discussions
5:15 PM	Close

Appendix B: List of Participants

Point of Contact	Organization	Stakeholder Type	Role
<i>Kate McClellan Press</i>	<i>NYSERDA</i>	<i>State Government</i>	<i>Convener/chair</i>
<i>Greg Lampman</i>	<i>NYSERDA</i>	<i>State Government</i>	<i>Convener/chair</i>
Catherine Bowes	National Wildlife Federation	eNGO	Advisor
Koen Broker	Shell New Energies	Developer	Advisor
Jennifer Daniels	EDF Renewables	Developer	Advisor
Martin Goff	Equinor	Developer	Advisor
Aileen Kenney	Ørsted	Developer	Advisor
Francine Kershaw	Natural Resources Defense Council	eNGO	Advisor
Jillian Liner	Audubon New York	eNGO	Advisor
Carl LoBue	The Nature Conservancy	eNGO	Advisor
Joe Martens	NY Offshore Wind Alliance	nonpartisan NGO	Advisor
Matt Robertson	Vineyard Wind	Developer	Advisor
Howard Rosenbaum	Wildlife Conservation Society	eNGO	Advisor
Drew Faulhaber	Delaware Coastal Programs	State Government	Observer/ technical support
Kevin Hassell	New Jersey Department of Environmental Protection	State Government	Observer/ technical support
Jennifer Holmes	Delaware Coastal Programs	State Government	Observer/ technical support
Ursula Howson	National Oceanographic and Atmospheric Administration	Federal Government	Observer/ technical support
Scott Johnston	U.S. Fish and Wildlife Service	Federal Government	Observer/ technical support
Sherryll Huber Jones	New York Department of Environmental Conservation	State Government	Observer/ technical support
Catherine McCall	Maryland Department of Natural Resources	State Government	Observer/ technical support
Anne Marie McShea	New Jersey Board of Public Utilities	State Government	Observer/ technical support
Jaron Ming	Bureau of Ocean Energy Management	Federal Government	Observer/technical support

Support staff present

Kate Williams (BRI)

Julia Gulka (BRI)

Bennett Brooks (Consensus Building Institute)

Farrah Andersen (Cadmus Group)

Sarah Courbis (Ecology and Environment, Inc.)

Anne-Elizabeth Kaitano (Ecology and Environment, Inc.)