



Advisory Council Meeting

October 28, 2022 | Meeting Summary

Developed by the Consensus Building Institute

Meeting-In-Brief

On October 28, 2022, the Responsible Offshore Science Alliance (ROSA) Advisory Council met, convening 23 members and 8 alternates (a list of Council attendees can be found in Appendix A). Fifty-one interested others (including ROSA Research Advisors and Board of Directors), two facilitators and three ROSA staff attended the event. At this meeting:

- ROSA reviewed progress on a regional research framework tracking ongoing science, regional priorities and gaps. WSP previewed a tool developed to track and identify regional science gaps to assist in research prioritization.
- ROSA presented findings about fisheries data accessibility and standardization, and the Advisory Council discussed ways ROSA could help address the data standardization challenge.
- NERACOOS presented its effort to develop a regional buoy monitoring network to include means to monitor fisheries as well as oceanographic parameters.
- Advisory Council members shared updates, issues, and questions.

Meeting materials, including the agenda and presentations can be found on ROSA's website: <https://www.rosascience.org/advisory-council>.

Welcome

ROSA Executive Director Lyndie Hice-Dunton welcomed attendees and thanked them for participating and providing input. Facilitator Patrick Field (Consensus Building Institute) oriented participants to ground rules and the agenda.

ROSA Tracking of Ongoing Science, Regional Priorities and Gaps

Purpose and Intent of this Work

ROSA Executive Director Lyndie Hice-Dunton reviewed the purpose and intent of tracking ongoing science, regional priorities, and gaps: to develop a shared regional research framework that synthesizes and builds upon others' work of identifying priorities. This shared research framework serves to direct existing resources, such as focusing and coordinating the distribution of several states' and developers' newly established research funds through a transparent and objective research framework.

Dr. Hice-Dunton reminded participants that the shared regional research framework was identified as a priority during the March and June 2021 Advisory Council meetings. Since then, a committee formed to guide the effort. The committee and Advisory Council identified the challenge of developing a universal set of priorities, and instead determined it was most important to synthesize research needs and ongoing research and conduct a gap analysis.

Dr. Hice-Dunton reviewed the framework and described the collaborative approach ROSA used to coordinate with NYSERDA's Environmental Technical Working Group (E-TWG) and the Regional Wildlife Collaborative for Offshore Wind (RWSC) to build upon previous work, e.g., through a joint workshop on potential prioritization criteria. She acknowledged that the question of how the framework impacts decision-making is ongoing.

Sharing the Tools

WSP Marine Biology Consultant Noelle Mathies presented *Fish FORWRD*, the soon-to-be-publicly available database tool developed for ROSA to track research needs, ongoing research (2017 – present), and identify research gaps. It is intended to support a wide variety of users and uses, such as request for proposal (RFP) creation, mitigation fund allocation, and academic research.

Ms. Mathies shared that *Fish FORWRD* pulls projects and research needs from a large range of sources including information from federal and state agencies (including Biological Opinions), universities, and not-for-profit organizations. Identified research need categories are listed in the meeting presentation. The tool will eventually be a “living database” to which researchers and organizations can submit studies and reports for inclusion. Ms. Mathies explained that *Fish FORWRD* goes beyond other databases in its gap analysis, which categorizes projects into the identified research needs, and ranks research needs as “met,” “partially met,” or “not met” by subject and scale. Rankings will evolve as projects are added to the database.

WSP's Noelle Mathies explained that *Fish FORWRD* exists currently in spreadsheet form though the hope is at some future point it will be housed as a more interactive, web-based database. She reviewed the spreadsheets tabs, columns, and sorting abilities, and pre-populated pivot tables (a detailed walk through is available in the meeting presentation). Ms. Mathies described the next steps for *Fish FORWRD*: the database, user manual, and project submission template will be posted on the ROSA website; the gap analysis will be updated on a bi-annual basis; and the database will eventually be accessible as a web-tool.

Discussion

Below are verbal and written questions and comments that followed. Attendee questions are first order bullets, and answers are italicized below.

- Will this be emailed to the ROSA Advisors for review?
 - *Fish FORWRD will be available as a spreadsheet on the ROSA website in the next few months, and we plan to update it over time, and additions and corrections are welcome then.*
- How did you determine which types of projects are considered relevant to offshore wind research?
 - *We focused on identifying the research needs relevant to offshore wind, rather than building an exhaustive list of projects. We did use a somewhat narrow scope as projects were identified from state and federal funding efforts and published COPs. Once the tool is live, we hope to crowdsource a variety of projects because many types could be relevant.*
- Will there be direct links to reports in the spreadsheet?
 - *Yes, the link will be included if the study is available online.*
- What is the timeline for the tool?
 - *The three primary files (spreadsheet, user manual, process report) are being reviewed by*

ROSA. ROSA is working on a new website, and the intention is to include Fish FORWRD on the new website. Our conservative estimate is that the tool will be ready by the end of November. If there is a website delay, it will be posted on the current website. We want it to be publicly accessible as soon as possible.

- Can users suggest a new research priority or study to include?
 - *Hopefully the addition of new research priorities will be rare; the database has over 200 research priorities. If Maine or any other ROSA Advisory Council member develops new research priorities, we can add them. The bi-annual database update will focus on the research and gap analysis, not inclusion of new priorities given the sheer number of priorities already identified.*
- What criteria is ROSA using to determine whether a project sufficiently addresses a research need? One example showed that the research need of fisheries distribution has been met, but our organization disagrees.
 - *WSP staff who developed the database determined the rating, and a third-party spot checked these determinations. Obviously, it is somewhat subjective. Users can look at the “guts” of the spreadsheet to make their own determination. Research needs marked “partially met” indicates that there is some research that could be informative, e.g., a study on one species within a broader priority.*
 - Suggestions to validate the sufficiency determination included:
 - *Feedback form on the ROSA website, and*
 - *ROSA Advisory Council or Research Advisors acting as a semi-independent entity to determine sufficiency.*
- Is there a way to parse out studies or needs by offshore wind technology (i.e., fixed or floating)?
 - *Yes, the columns and sorting abilities allow technology type to be selected.*
- Is developer pre-construction monitoring included in the database?
 - *Yes, we pulled those in as in-process projects. We are limited temporally (2017 - present) and geographically (ROSA study area) in scope, though.*

Follow-Up on Fisheries Resource Data Production, Storage, Accessibility

Review of Data Fields from Various Sources

ROSA Research Director Mike Pol introduced the work conducted by ROSA summer intern Will Shoup from Virginia Institute of Marine Science (VIMS) on fisheries resource data production, storage and accessibility. He reminded participants that since ROSA’s founding, the Advisory Council and Data Accessibility Subcommittee have instructed ROSA to focus on data standards. Data standards are foundational because they would allow researchers to utilize data from across projects to gain a better understanding of regional effects and impacts. To learn more about data standards, ROSA began by investigating if other entities (e.g., ACCSP, FIGIS (FAO), VIMS NEAMAP) had already defined them. ROSA found that they have not defined formal standards, or they are unwilling to share their standards with others in any regional and collective way.

Dr. Pol shared that this finding caused ROSA to change its approach: ROSA requested data from several state or academic-led fisheries surveys to compare datasets to determine if *ad hoc* standards exist. Dr. Pol shared that the investigation revealed how difficult data were to acquire; despite much effort ROSA was only able to acquire actual data from four of seven surveys, and metadata from six of seven. Dr. Pol described that the attempts to do basic combining of datasets proved challenging due to simple differences in data, e.g., year format, position resolution, species codes, length measurement units and method. This effort revealed that there were not even *ad hoc* standards in place.

ROSA Research Director Mike Pol clarified that the push to make data more accessible, and the hurdles associated with it, are not unique to offshore wind in the United States.

Role of ROSA in Addressing this On-going Substantial Challenge – Ideas for a Way Forward on a Big Challenge

Given the difficulties of this topic, Dr. Pol asked the Advisory Council to provide advice on how to proceed. Attendees discussed the prompt “In what ways should ROSA help standardize data?” and the prepared initial response options, including:

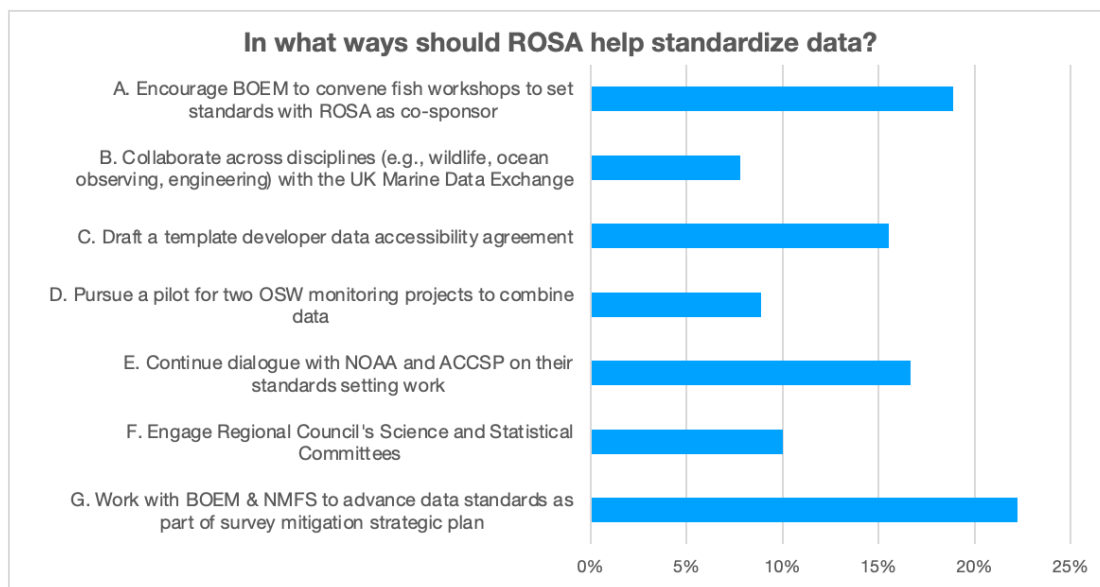
- A. Encourage BOEM to convene fish workshops to set standards with ROSA as co-sponsor
- B. Collaborate across disciplines (e.g., wildlife, ocean observing, engineering) with the UK Marine Data Exchange.
- C. Draft a template developer data accessibility agreement
- D. Pursue a pilot for two OSW monitoring projects to combine data
- E. Continue dialogue with NOAA and ACCSP on their standards setting work
- F. Other

Below are verbal and written comments and questions on Dr. Pol’s presentation and the prepared responses. Attendee comments are the first order bullets, and answers are italicized below.

- These options are all forward looking – has the ship sailed to standardize past monitoring work? How do we take advantage of the huge amounts of unstandardized data? Could ROSA play a role in this, or is the onus on the researcher to retroactively standardize?
 - *The best time to have started this effort was a long time ago. The second-best time to start is right now. We could request researchers to update their data to a standard format, or, as a data repository is formed, we could standardize it ourselves.*
- The same issues of standardization are present with surveying gear.
- Convening a workshop would be helpful but we cannot spend six to twelve months figuring this out. A good short-term step would be ROSA providing a standard data accessibility template.
- All of these steps would be helpful. We should advocate for developers to be required to adhere to minimum data standardization and sharing criteria. The effort could be funded by the government or the developers.
- ROSA should coordinate with BOEM and NMFS on their federal survey mitigation strategic implementation plan, which relates to project monitoring data standardization and accessibility.
 - *This idea was added as a poll response option.*
- ROSA should engage the Regional Fishery Councils’ Science and Statistical Committees.
 - *This idea was added as a poll response option.*
- Wind energy area resource surveys collect similar data to NOAA resource surveys. When wind areas are in operation, these wind energy area resource surveys could fill the data gap that will occur from NOAA no longer being able to survey them.
- ROSA’s fisheries survey framework document includes some elements of this discussion, e.g., data standard references.
- One participant generously offered their logbooks from fishing trips dating back to 2003.
- A [recent publication](#) on data access on marine biota monitoring, mainly benthic data in the North Sea, Arctic and Arctic may be of interest.

Discussion & Direction from the Advisory Council

ROSA Advisory Council, Alternates, Research Advisors, and Board Members responded to the poll: “In what ways should ROSA help standardize data?” Participants were directed to pick three of the response options. The responses of highest interest were: G. Work with BOEM & NMFS to advance data standards as part of survey mitigation strategic plan (24%), A. Encourage BOEM to convene fish workshops to set standards with ROSA as co-sponsor (16%), and C. Draft a template developer data accessibility agreement (16%). Full results are included below in chart and graph formats.



In what ways should ROSA help standardize data?	Votes
G. Work with BOEM & NMFS to advance data standards as part of survey mitigation strategic plan	20
A. Encourage BOEM to convene fish workshops to set standards with ROSA as co-sponsor	17
E. Continue dialogue with NOAA and ACCSP on their standards setting work	15
C. Draft a template developer data accessibility agreement	14
F. Engage Regional Council's Science and Statistical Committees	9
D. Pursue a pilot for two OSW monitoring projects to combine data	8
B. Collaborate across disciplines (e.g., wildlife, ocean observing, engineering) with the UK Marine Data Exchange	7

A few participants submitted additional avenues for ROSA to pursue to help standardize data. Their responses are below:

- Investigate if creating normalization guidelines among different datasets will allow for retroactive comparisons, as opposed to only standardizing future work.
- Engage regulatory agencies to produce standardization criteria for survey data elements and

- engage developers to encourage data sharing.
- Work with ROSA Research Advisors and wildlife groups to create data standards and/or templates.
- Identify an entity (e.g., ROSA, ACCSP) to house the data. Have them develop data standards and encourage BOEM to mandate data be submitted to that entity.
- Explore ACCSP method of asking data producers to translate their data in a standardized format.

A Regional Monitoring Network and Consideration for Fisheries

Overview and Approach

NERACOOS Executive Director Jake Kritzer shared information about NERACOOS, a regional monitoring effort. Dr. Kritzer overviewed the idea to design and implement a buoy array off Rhode Island and Massachusetts in and around the wind energy areas. Buoys have unique value in that they continuously collect data over a sustained period. The buoy array would address five priority issues associated with offshore wind development: 1) mariner safety, 2) pollutants and contaminants, 3) climate signals, 4) fisheries management, and 5) wildlife conservation. The existing NERACOOS system is heavily used by fishery interests (commercial fisheries and recreational guides) and, despite its focus on oceanographic conditions, fishery scientists.

NERACOOS Executive Director Jake Kritzer explained his effort to design an expanded observing buoy array near the Massachusetts and Rhode Island wind energy area. His current push is to talk with agencies, researchers, and industries to get feedback on what should be measured, where, and why in this expanded system. Dr. Kritzer explained that he is looking for guidance from ROSA on how to design the array with an eye towards fisheries management. The current idea for array design includes a high-density array within the turbine field to track surface currents and waves, and a halo of stations outside the same wind energy area.

Discussion

Below are verbal and written questions and comments that followed Dr. Kritzer's presentation. Attendee written and verbal questions and comments are first order bullets, and answers are italicized below.

- Sea state and wind condition data from buoys make for more favorable and safer trips. Commercial Fisheries Center of Rhode Island is part of a joint effort with Woods Hole Oceanographic Institute to understand the physical conditions from the surface to deep water. We deploy vessels twice a month to measure variables including temperature, acidification, and salinity. Our findings reveal the movement of hot water onto the bank, which has resulted in the incredible squid years, and the movement of tuna closer to the beach. The data gathered through the buoy monitoring network data gathering effort will enhance fisheries management. Ideally, the next step will be creating models to predict conditions.
 - *Your research effort's data on variability, extreme currents, and waves, helped us identify locations to install buoys. Buoy monitoring, which has the strength of continuity, needs to be accompanied by other types of data collection (e.g., vessels, gliders, satellites) to fill temporal and spatial gaps.*
- How is this funded?
 - *Our hope is that agencies and private sector actors will cost share the effort because of its utility to many users. We are not actively pursuing specific funding opportunities, but*

we may seek Inflation Reduction Act funds and NOAA challenge grants. Our current focus is to share our idea and incorporate feedback to create the best possible design.

- Regarding the slide on larvae dispersal: does the buoy array measure biological components of the water column or physical parameters that affect the biological components?
 - *We used physical parameter data (e.g., contaminants, temperature) to look at larvae movement and survival.*
- It will be important to design the buoy array within the wind energy so as not to infringe on potential fishing locations. Consider attaching buoys to turbines and avoiding transit and fishing lanes.
 - *We agree. We do not want to place assets that are intended to support navigation in locations that inhibit fisheries and mariner navigation.*
- Cable systems are opportunities for data collection. ROSA could support an effort to pursue the co-location of monitoring systems on wind infrastructure.
- Consider learning from WHOI's work to design a buoy array that can be used to mitigate industry impacts.
- Explore the use of environmental data in stock assessment models, despite potential challenges, and explore the interaction of fisheries and protected species.
 - *It is unlikely that we will develop a system that feeds specific stock assessments since each assessment would require a different design. In addition, assessments do not use environmental covariates. Our approach to date has been establishing assets and trusting biologists will benefit from them. We are now trying to consider biologists' perspectives when determining buoy locations.*
- The challenge of focusing monitoring within one wind energy area is that wind energy areas do not match fisheries distribution or our fisheries management needs.
- Are there plans for a similar buoy array in the NY Bight?
 - *Not at this time. We are focused on the Massachusetts and Rhode Island region. If this is set up well in terms of partners and cost sharing, we could hopefully set a precedent for other regions. NERACOOS collaborates with MARACOOS in the NY Bight area. MARACOOS does not manage buoys but does host data on their website (<https://oceansmap.maracoos.org/>).*
- The use of oceanographic parameters to model population distribution and direct measurement of fisheries is exciting. There could be an opportunity to combine acoustic sensors and genetic data monitoring with the network array. The buoy array is compelling, and ROSA is the right place to talk about fisheries implications.

Updates from ROSA and AC Members

Dr. Hice-Dunton shared highlights from recent meetings hosted by ROSA: joint workshop with NY E-TWG and RWSC, the adjacent workshop at the NYSERDA State of the Science workshop, and a symposium at the American Fisheries Society (AFS) annual meeting. She also noted a recent theme session at the ICES Annual Science Conference. She reminded attendees that the new ROSA website will be launched later this year.

Dr. Hice-Dunton shared information about relevant upcoming meetings:

- ROSA Advisory Council Quarterly Meeting
 - December 19, 2022, 9:30 am - 12:00 pm EST.
 - Focus will be regional partner updates. If you are interested in presenting or sharing ideas, please let ROSA know.
- [NOAA Cooperative Research Summit](#)

- January 31, 2023- Newport News, VA
- February 15, 2023- Providence, RI
- Abstracts due December 7, 2022
- [AFS Southern Division annual meeting](#)
 - February 2-5, 2023- Norfolk, VA
 - Session on “Offshore wind and fisheries: monitoring interactions and assessing impacts“
 - Abstracts due November 15, 2022
- [AFS Mid-Atlantic chapter annual meeting](#)
 - November 15-16, 2022- Asbury Park, NJ
 - Reduced registration for fishing & aquaculture industry members.

Attendees shared the following updates:

- [BOEM solicitation](#) to nominate members to a new committee on offshore wind energy and fisheries within the National Academies of Science. The committee will serve as an independent, credible forum to discuss the state of science and pressing concerns related to the intersection of offshore wind with fisheries.

Attendees shared topics that would benefit from additional discussion:

- **Unexploded ordnances.** Exposed unexploded ordnances are extremely alarming and better communication about them is needed. Perhaps ROSA would be an appropriate venue to discuss.
 - *BOEM and State representatives noted that they are actively working on this issue.*
- **Exposed boulders.** Boulders (ranging from one to 30 tons) are being exposed as export cables are laid and foundations constructed. Boulders are being moved to the edge of the cable corridor, potentially causing future snags for mobile gear and posing a safety risk. This hazard will increase as export and array cables are laid. One alternative approach to consider is moving boulders to an existing rock pile or creating a new rock pile. NOAA approval would be needed.
 - *BOEM: We are actively working on this issue.*
 - One participant offered to share his log of snags to identify current hazards.

Summary of Meeting Outcomes and Adjournment

Facilitator Pat Field reviewed key meeting outcomes: ROSA and WSP shared *FISH FORWRD*, a tool to identify research gaps, and ROSA shared their struggle to identify data standards and compare datasets. The participants gave advice about approaches ROSA should use to address the data compatibility challenge. ROSA will need support from partners to address this large issue. Dr. Kritzer shared information about buoy monitoring and ROSA will help advance the effort. All are encouraged to reach out to ROSA if interested in sharing updates at the December ROSA Advisory Council quarterly meeting focused on regional science updates. ROSA will follow-up with participant who offered scallop trip and snags logbooks data.

The Advisory Council adjourned at 2 PM.

Appendix A | ROSA Council Member and Alternates Attendance

Michelle	Bachman	New England Fishery Management Council (NEFMC)
Crista	Bank	Vineyard Wind
Chris	Batsavage	North Carolina Department of Environmental Quality
Bob	Beal	Atlantic State Marine Fisheries Commission (ASMFC)
Deirdre	Boelke	Community Offshore Wind
Morgan	Brunbauer	New York State Energy Research and Development Authority
Colleen	Brust	New Jersey Department of Environmental Protection
Doug	Christel	NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO)
Greg	DeCelles	Ørsted
Willy	Goldsmith	American Saltwater Guides Association
Brian	Hooker	Bureau of Ocean Energy Management (BOEM)
Kirk	Larson	Lindsay L Inc.
Andy	Lipsky	NOAA Fisheries Northeast Fisheries Science Center (NEFSC)
Frederick	Mattera	Commercial Fisheries Center of Rhode Island
Catherine	McCall	Maryland Department of Natural Resources
Conor	McManus	Rhode Island Department of Environmental Management
Trish	Murphey	North Carolina Department of Environmental Quality
Cheri	Patterson	New Hampshire Fish and Game Department
Rachael	Peabody	Virginia Marine Resources Commission
Ruth	Perry	Mayflower Wind Energy
Kathleen	Reardon	Maine Department of Marine Resources
Rick	Robbins	Community Offshore Wind
Mark	Rousseau	Massachusetts Division of Marine Fisheries
Daniel	Salerno	Sector Manager for Northeast Fishery Sectors V and XI
Sarah	Schumann	Commercial fishing deckhand & Shining Sea Fisheries Consulting
Joel	Southall	Mayflower Wind Energy
David	Storner	Delaware Department of Natural Resources and Environmental Control

Sebastian	Velez	Attentive/Total
Mike	Waine	American Sportfishing Association
Kevin	Wark	Endeavor Fisheries
Sara	Winslow	Mid-Atlantic Fishery Management Council (MAFMC)