

The background of the slide is a photograph of a large, powerful ocean wave crashing, with white foam and spray visible. The water is a deep blue-green color. A semi-transparent teal banner is overlaid at the bottom of the image, containing the event title.

**Inaugural ROSA Advisory Council Meeting**  
September 28, 2020

# Agenda

COOPERATION  
COLLABORATION  
SCIENCE BASED  
DATA DRIVEN

- 9:30 Welcome
- 9:40 Purpose, Intent, Scope, & Structure of the Council
- 10:10 Fisheries Science around Offshore Wind Updates
- 11:00 BREAK
- 11:10 Creating the Research Advisory Board
- 11:30 What key research do we hope to see?
- 12:15 What's next?
- 12:30 Adjourn



# ROSA Council Code of Conduct

- Members will support the **mission and goals** of ROSA
- Members will support **science**,
- Members will support **regional collaboration, evidence-based inquiry, sound and quality science**, and **transparency of data**.
- Members shall abide by all U.S. statutes and regulations regarding **anti-trust behavior**
- **Recuse themselves** from any particular decision or action that would directly financially benefit them or their organization.
- Members shall **not discriminate**

# ROSA Council Code of Conduct

- Members shall participate **regularly and actively** in its activities and support the effort through in-kind or financial resources.
- Members will conduct Council meetings **in public**.
- Members will **express their own views**
- Members will strive to **work collaboratively**, act respectfully, and avoid making personal attacks or issuing statements blaming others
- Members will **avoid grandstanding and digressions**
- Members will make every effort to **stay on track**



Purpose, Intent,  
Scope, and  
Structure of the  
ROSA Advisory  
Council



# Introductions via Mentimeter

- Go to the URL in the chat (same as below)
  - <https://www.menti.com/1ht6rcfj7u>
- Enter the answers to the questions
- We'll display when Lyndie has completed her presentation
- Thanks!

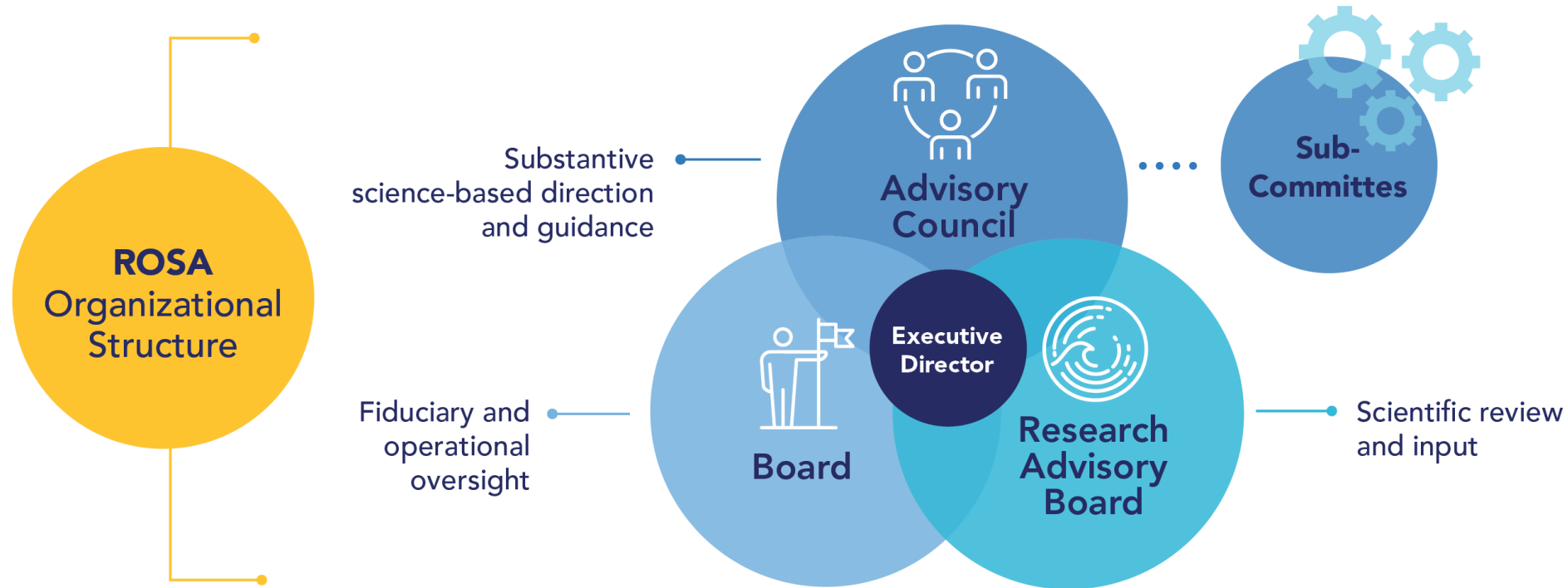


# ROSA Objectives

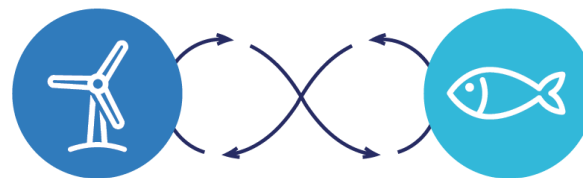


- Identify **regional research** and **monitoring** needs
- Provide a forum for **coordinating existing programs**
- Advance regional understanding through **collaboration, partnerships, and cooperative research**
- Facilitate and improve **standardization** and **access to data** and **administer research**
- **Disseminate research** and **communicate findings** and issues

# ROSA Organizational Structure



COLLABORATION + SCIENCE = IMPROVED UNDERSTANDING





# ROSA Governance & Roles

	Board of Directors	Advisory Council	Research Advisory Board	Committees
Members	<ul style="list-style-type: none"> <li>Offshore wind developers</li> <li>Fishing industry representatives</li> </ul>	<ul style="list-style-type: none"> <li>Offshore wind developers</li> <li>Fishing industry representatives</li> <li>Federal and state agencies</li> <li>Fisheries Councils and Commission</li> </ul>	<ul style="list-style-type: none"> <li>Membership open to any sector if criteria is met</li> </ul> <p><i>(more on this later)</i></p>	<p>Could be members of:</p> <ul style="list-style-type: none"> <li>Advisory Council</li> <li>Research Advisory Board</li> <li>Board of Directors</li> <li>Others outside of ROSA governance with the appropriate expertise</li> </ul>
Roles & Responsibilities	<ul style="list-style-type: none"> <li>Fiduciary, operational, and policy oversight</li> </ul>	<ul style="list-style-type: none"> <li>Organization guidance, including determining short- and long-term research goals</li> </ul>	<ul style="list-style-type: none"> <li>Provides independent scientific and technical input</li> <li>Advisory Council advises on the selection and direction of RAB</li> </ul>	<ul style="list-style-type: none"> <li>Conduct core, detailed work</li> <li>May be issue- or area-specific</li> <li>Chair(s) determined by Advisory Council</li> </ul>
Examples	<ul style="list-style-type: none"> <li>Reviewing and approving ROSA's operating budget</li> <li>Audit oversight</li> </ul>	<ul style="list-style-type: none"> <li>Determining regional research needs</li> <li>Reviewing ROSA protocols/procedures/documents</li> </ul>	<ul style="list-style-type: none"> <li>Help develop protocols and tools</li> <li>Develop/review RFPs</li> <li>Provide peer review</li> </ul>	<ul style="list-style-type: none"> <li>New England/Mid-Atlantic committees</li> <li>Monitoring Plan Guidance <i>(more on this later)</i></li> </ul>
Meeting frequency	<ul style="list-style-type: none"> <li>Monthly to quarterly</li> </ul>	<ul style="list-style-type: none"> <li>At least 2x per year</li> </ul>	<ul style="list-style-type: none"> <li>At least 2x per year</li> </ul>	<ul style="list-style-type: none"> <li>Varies based on committee goals and timeline</li> </ul>

# ROSA FAQs

## ROSA'S MISSION AND GOALS

**To provide for and advance regional research and monitoring of fisheries and offshore wind interactions through collaboration and cooperation**

- What is the difference between ROSA and RODA?
- What is the difference between ROSA and RWSE?
- How is ROSA engaged with NROC/MARCO/MACO?
- Where do the regional data portals and other data platforms such as NERACOOS/MARACOOS fit in?
- Aren't NMFS and/or the Fishery Management Councils already working on this?
- How will ROSA avoid redundancy across groups/organizations/agencies?

# Expectations of Advisory Council Members



- Function as ROSA's key advisors
- Actively attend and participate in meetings (and notify me when you can't)
- Adhere to the ROSA Advisory Council Code of Conduct
- Serve as a liaison between ROSA and your organization/agency/company/network
- Council members will serve 3-year terms, reviewed annually
  - May stagger 2- and 3-year appointments initially if needed to ensure continuity
  - Will be reviewed annually



# ROSA Objectives



PARTNERSHIPS

COOPERATIVE RESEARCH

DATA ACCESS

COMMUNICATION

- Identify **regional research** and **monitoring** needs
- Provide a forum for **coordinating existing programs**
- Advance regional understanding through **collaboration, partnerships, and cooperative research**
- Facilitate and improve **standardization** and **access to data** and **administer research**
- **Disseminate research** and **communicate findings** and issues

Fisheries  
Science around  
Offshore Wind  
Science  
Updates



# Southern New England Regional Science Pilot Updates

ROSA Council Meeting

Julia Livermore (RIDEM DMF) & Mike Pol (MassDMF)

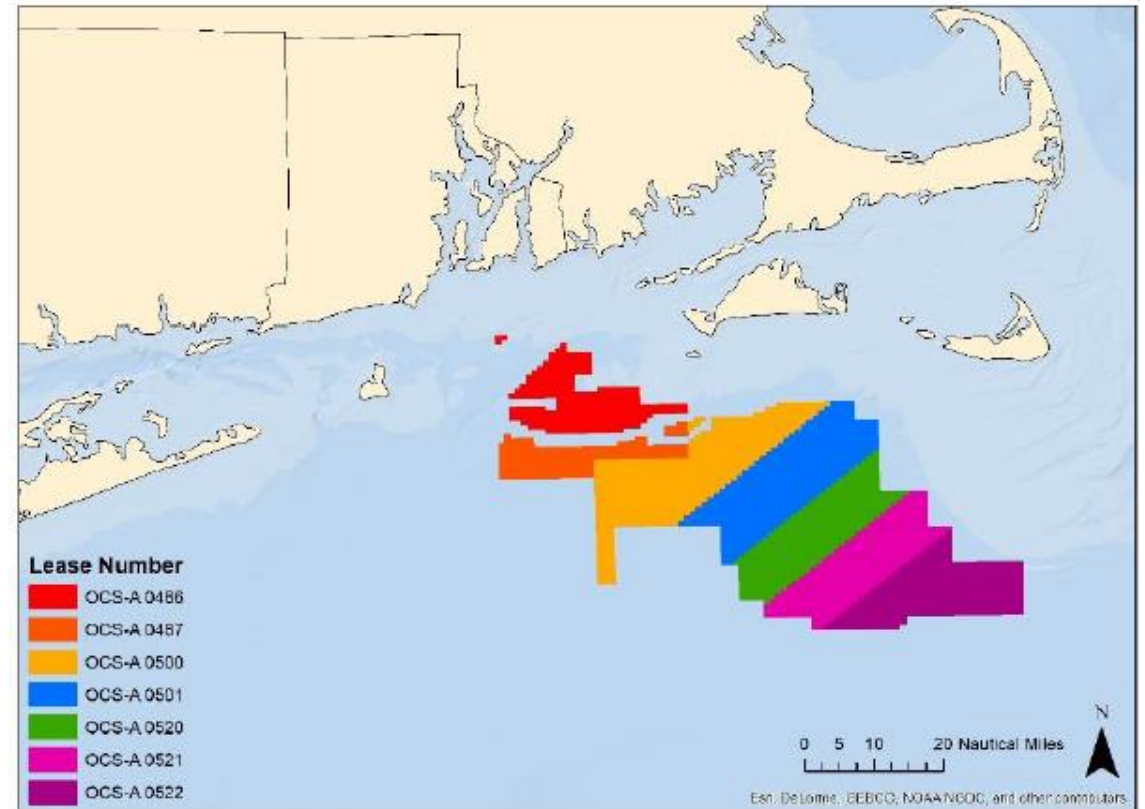
9/28/2020





# Process

- Funding provided by BOEM (\$400,000), MassCEC (\$400,000) and RIDEM (\$200,000) = \$1,000,000 total
- RFP (open solicitation) development involved funders and other agency input (e.g., NYDEC, NOAA)
- 3 topic areas: 1) Fishery Resource Studies, 2) Seafloor Habitat Studies, and 3) Technical Studies
- Study area restricted to Southern New England (figure at right) – pilot project
- RFP issued Aug. 30, 2019 and applications received through Oct. 17
- Projects started summer 2020 (some delays due to Covid)



# Project 1: Passive Acoustic Telemetry as a Tool to Monitor The Baseline Presence and Persistence of Highly Migratory Fish Species in Popular Recreational Fishing Grounds within Southern New England Wind Energy Areas



- **INSPIRE Environmental** (Brian Gervalis/Jeanine Boyle) and Anderson Cabot Center for Ocean Life
- The objectives of the study are to use passive acoustic telemetry to monitor the presence and persistence of bluefin tuna, blue shark, and shortfin mako shark (three of the most commonly captured and targeted species in southern New England within the three most popular recreational HMS fishing areas in the southern New England).
- The survey plan includes the deployment of 15 receivers in 2020 and 2021 and work with the recreational fishing community to conduct for-hire tagging trips to target and tag up to 20 bluefin tuna, 20 blue shark, and 20 shortfin mako shark with acoustic transmitters.
- Presence and persistence of these HMS in and around the primary study sites will be monitored. We will also share data and coordinate receiver deployment with a BOEM-funded study that will be occurring concurrently and will use acoustic receivers to monitor Atlantic cod presence and spawning activity on Coxes Ledge. The resulting 'detection' data obtained from acoustic receivers will be merged with regional data and analyzed to meet study objectives with the overall goal of establishing baseline information on HMS presence and persistence in the popular recreational fishing areas and establishing a long-term monitoring strategy to evaluate the impacts of wind energy projects on key HMS in the southern New England WEAs.

# Project 2: Larval Lobster and Fish Neuston Net Survey for Regional Fisheries Monitoring in Southern New England Offshore Wind Development



- **University of Massachusetts Dartmouth** (Kevin D. E. Stokesbury, PhD. / Michelle Plaud) and Mass. Lobstermen Assoc.
- Estimate the relative abundance and distribution of larval lobster and fish using a towed neuston net
- Sampling at 30 stations that are randomly selected and distributed based on the proportional total area within each ten-meter depth contour of the 3670 km<sup>2</sup> study area
- 1) estimate distribution of larval species in the areas of concern, 2) correlate abundance data with environmental factors (temperature, salinity, PH, and dissolved oxygen), and 3) determine the seasonal variations of larval species in the wind energy lease areas. This work will create a strong baseline of data to be use in future studies and analysis as the planned windfarm projects continue.



# Project 3: Developing Standard Approaches to Synthesizing, Visualizing, and Disseminating High-Resolution Acoustic and Imagery Data to Advance Benthic Habitat Mapping in the Wind Energy Areas of the Northeast



## Topic Area 2: Seafloor Habitats

- **INSPIRE Environmental** (Marisa Guarinello/ Jeanine Boyle)
- There is a substantial need to characterize and visualize the distribution of the benthic habitats in wind farm and cable route areas.
- The project will develop best practices for
  - 1) integrating acoustic data and high-resolution imagery to map benthic habitats, and
  - 2) making those habitat data available to federal and state regulators and stakeholders in a vetted and established forum (Northeast Ocean Data Portal)
- INSPIRE will synthesize existing high-resolution acoustic and imagery data previously generated from the numerous offshore wind development benthic assessment studies in the region, along with publicly available data, across a gradient of habitat types to develop a standard means of classifying benthic habitats that will be amenable to regional habitat mapping.
- INSPIRE will collaborate with the Northeast Ocean Data Portal to ensure these habitat data products are compatible with existing mapping standards. The Northeast Ocean Data Portal team will also aid in convening stakeholders to elicit input regarding specific benthic habitat mapping needs as well as coordinating review and vetting by stakeholders of the developed habitat data products.

# Project 4: A Comparative Analysis of Europe and Japan's Approaches to the Regulation of Offshore Wind Farms



## Topic Area 3: Technical

- **New Bedford Port Authority** (Edward Anthes Washburn/Abigail Hevey)
- Through this project, the New Bedford Port Authority (NBPA) proposes to hire a qualified contractor to complete this analysis.
- The contractor will develop an objective inventory of existing wind farms in Europe and their respective policies in regards to coexistence with the commercial fishing industry.
- The contractor will also analyze the emerging policies as being developed in Japan regarding the coexistence of commercial fishing and offshore wind as the offshore wind industry begins to grow.

# Project 5: Fishing Status of Vessels Using the AIS: A Big Data and Machine Learning Approach

THE  
UNIVERSITY  
OF RHODE ISLAND



DEM  
RHODE ISLAND

## Topic Area 3: Technical

- **University of Rhode Island** (Thomas Sproul, Ph.D./ Ted Myatt) and Rhode Island DEM (Julia Livermore)
- Goal of this study is to improve estimates of where/when fishing vessels are actually fishing, and to generate improved maps of fishing effort and landings values at sea. Improved mapping of fishing activity can be used to limit conflicts between wind development and commercial fishing, and because our approach will form a baseline that can be used to assess changes in fishing practices after wind farm development.
- Deliverables: i) fishing activity maps, to be available on the Northeast Ocean Data Portal, ii) publicly available, open source computer code for replication by other scientists, iii) measurement of improvements of landings estimates relative to existing approaches
- Methods:
  - Merge AIS, VMS, VTRs, dealer reports, United States Coast Guard registry records, and the NOAA Observer data
  - Develop a machine learning approach to modeling the probability of fishing based on vessel activity at the FMP level
  - Enhance “feature engineering” by obtaining information on key vessel behavior patterns directly from the fishing industry and commercial fishing research organizations (CFCRI, Mass Fishermen’s Partnership, RI CFRF, and ROSA)
  - The model will then be trained using merged NOAA Observer Program data where fishing status of vessels is known, and fishing activity maps will be generated by extrapolating the fitted model to the full non- observer data set.





# U.S. Outer Continental Shelf Renewable Energy

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**Brian Hooker**

*Office of Renewable Energy Programs – Biology Team Lead*

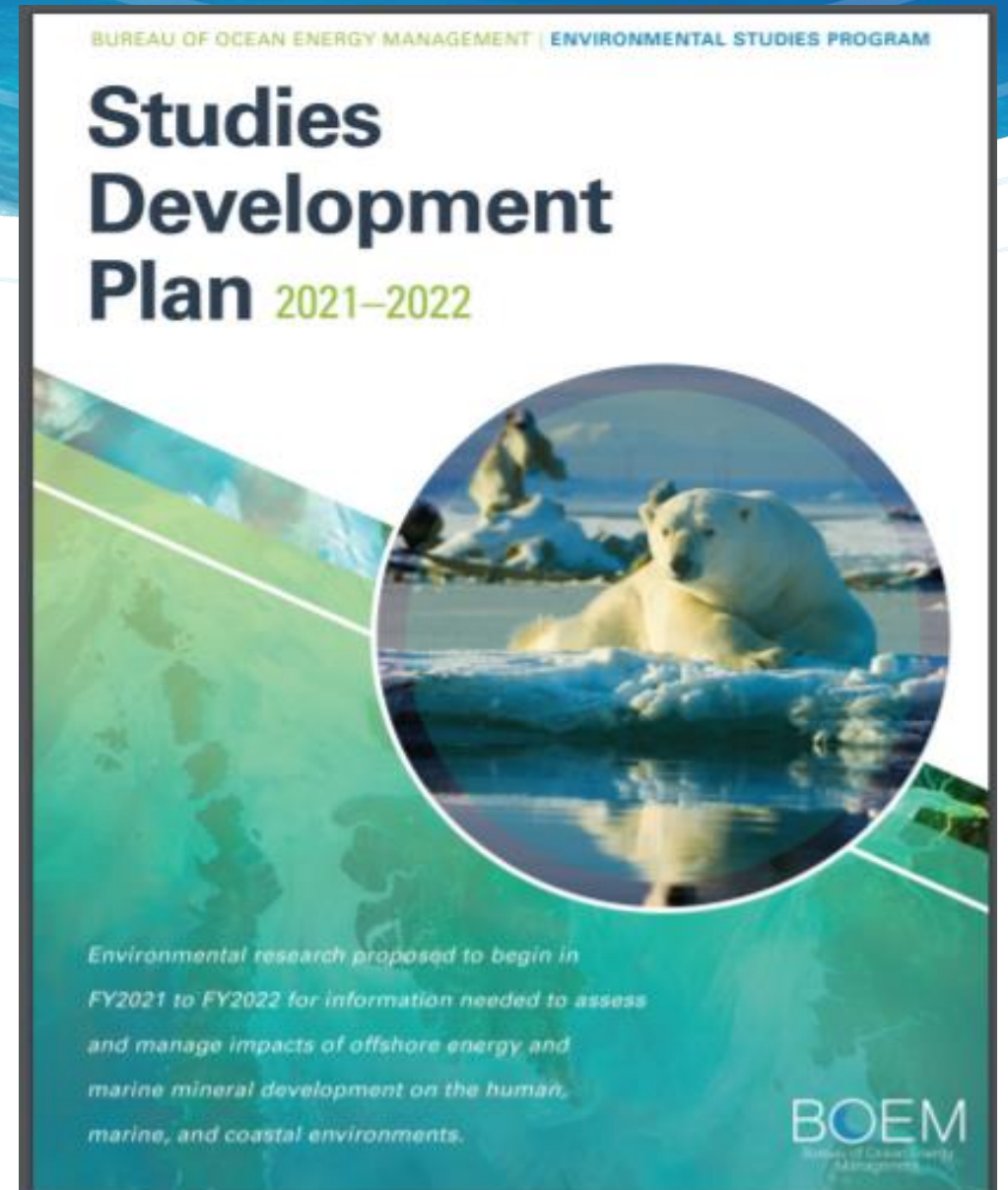
**Responsible Offshore Science Alliance Advisory Committee**

September 28, 2020

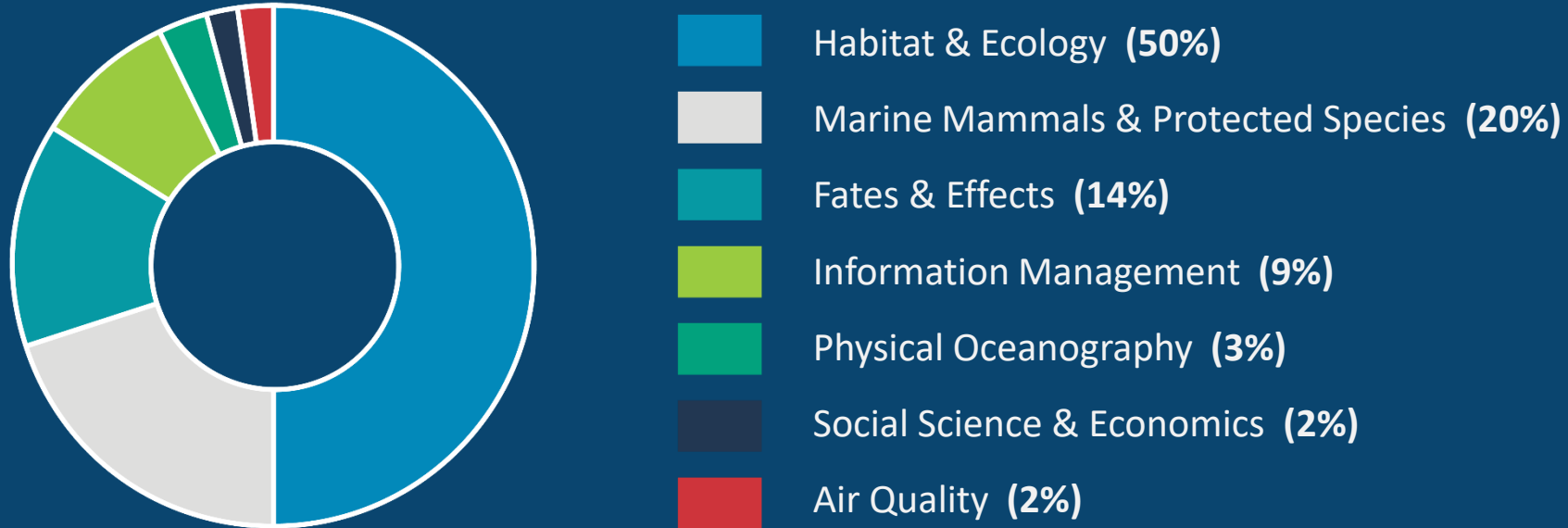


# Environmental Studies Program

- BOEM concluded solicitation for 2021 study ideas last winter
- Study ideas are reviewed by the Standing Committee on Offshore Science and Assessment (COSA) convened under the National Academy of Sciences
- Results of studies are incorporated into BOEM environmental assessment and decision-making process



## Funds for Renewable Energy Information Needs | FY 2011-18 Cumulative (~\$47M)



*Includes obligations for all regions supporting environmental information needs for renewable energy, totaling \$47.3 million*



# BOEM Fisheries-Related Studies

- **Since 2009:**
  - Over \$12 million in fisheries-related studies.
  - Over 22 studies.
  - 23% competitive contracts
  - 41% cooperative agreements
  - 36% inter-agency agreements
  - 44% in Habitat and Ecology
  - 23% in Social Science
  - 18% in Fates and Effects (EMF and Sound)
  - 5% Physical Oceanography

# Habitat & Ecology: Benthic Habitat/Artificial Reef Effect

- **Completed:**
  - Fishery Physical Habitat and Epibenthic Invertebrate Baseline Data Collection
  - Southern New England Lobster Seasonal Movement
  - Southern New England Juvenile Fish Habitat Report
  - RODEO studies at the Block Island Wind Farm

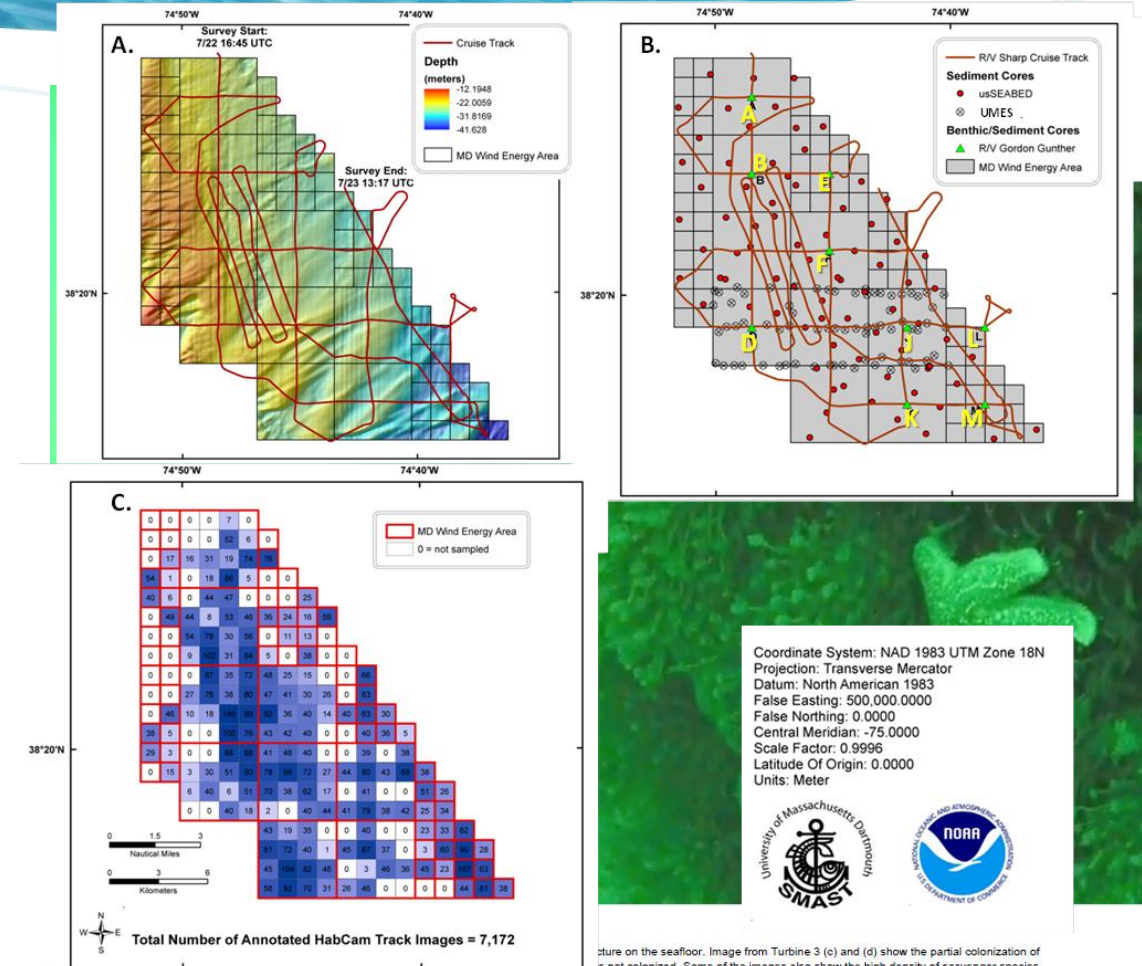
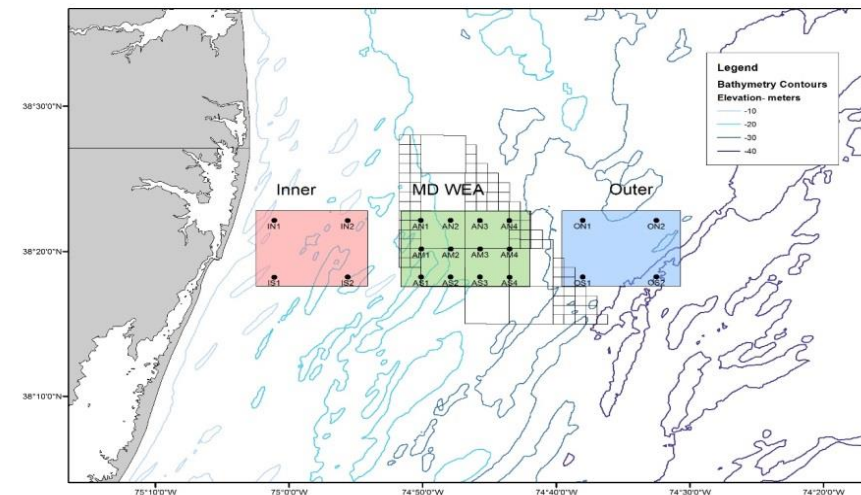
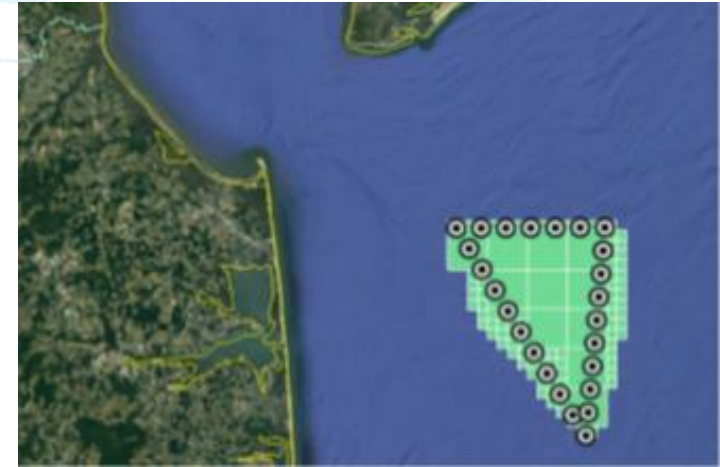


Figure 1. Benthic habitat and artificial reef effect. (a) Bathymetry map of the Block Island Wind Farm area. (b) Map of sediment core locations. (c) Map of annotated images. (d) Image from Turbine 3 showing partial colonization of the seafloor. (e) Image from Turbine 3 showing high density of scavenger species. (f) Image from Turbine 1 showing high density of scavenger species. (g) Image from Turbine 1 showing no colonization. (h) Image from Turbine 1 showing high density of scavenger species. (i) Image from Turbine 1 showing high density of scavenger species. (j) Image from Turbine 1 showing high density of scavenger species.

# Habitat & Ecology: Fish Telemetry

- **Endangered Atlantic Sturgeon Habitat Use in Mid-Atlantic Wind Energy Areas**
- **Atlantic Fish Telemetry: Monitoring Endangered Atlantic Sturgeon and Commercial Finfish Habitat Use Offshore New York**
- **Atlantic Fish Telemetry: Movement and Habitat Selection by Migratory Fishes within the Maryland Wind Energy Area and Adjacent Sites**
- **Occurrence of Commercially Important and Endangered Fishes in Delaware Wind Energy Area using Acoustic Telemetry**





# Habitat & Ecology: Southern New England Fisheries Pilot Studies

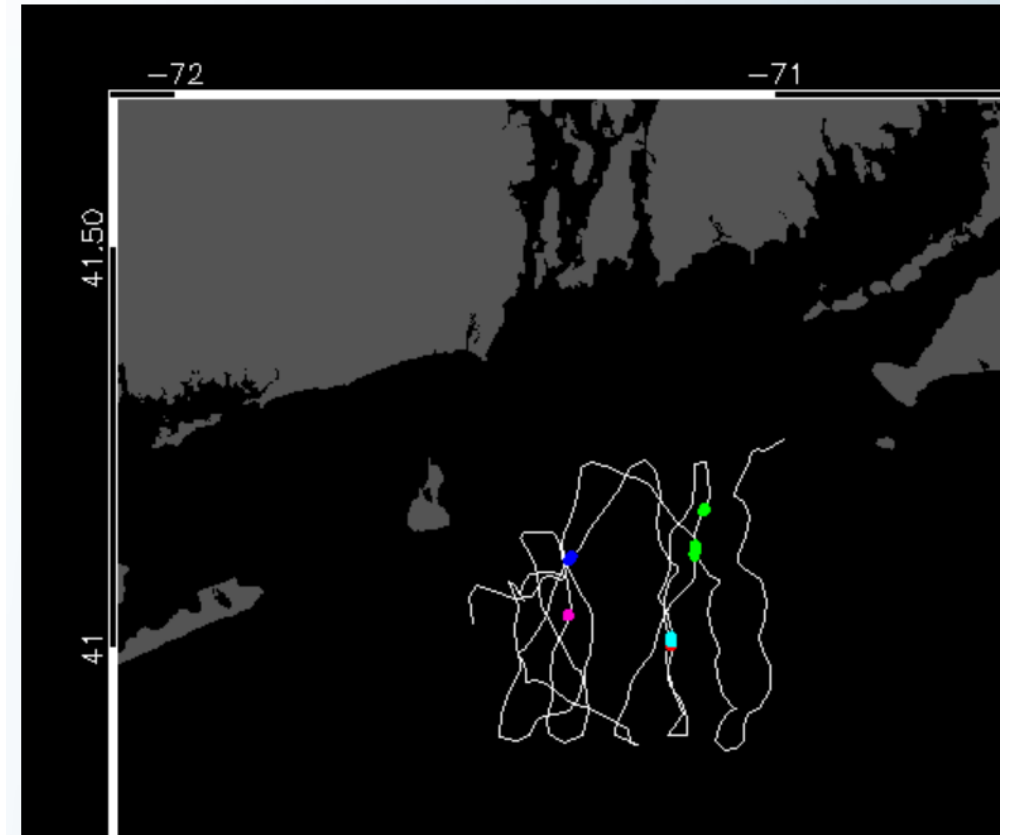
- **\$1 million joint collaboration between RI, MA, and BOEM.**
- **Solicitation resulted in 19 proposals.**
- **Proposal reviews occurred on December 10, 2019.**
- **Studies awarded in 2020 and are underway.**



# Habitat & Ecology: Cox Ledge Fisheries Study

- **Began in October 2019 for 3 years.**
- **The glider will listening to fish spawning sounds and has acoustic telemetry receiver**
- **Will identify the location and seasonal occurrence of commercial and protect species**
- **Environmental parameters will be measured**
- **~25 bottom mounted acoustic telemetry receivers will be deployed.**

VEMCO tag detections:





# Fate & Effects: Noise

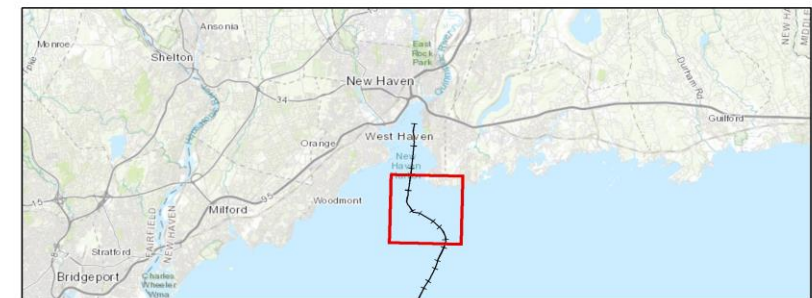
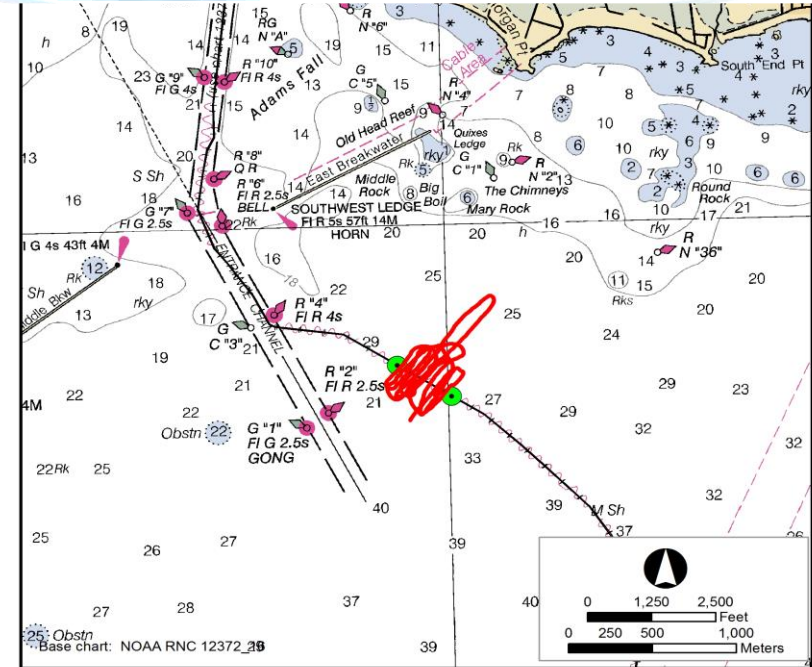
- Fish Auditory Thresholds - Part 1
- Behavioral Effects of Sound Sources from Offshore Renewable Energy Construction on the BlackSea Bass (*Centropristis striata*) and Longfin Inshore Squid (*Doryteuthis pealeii*): A Field Study





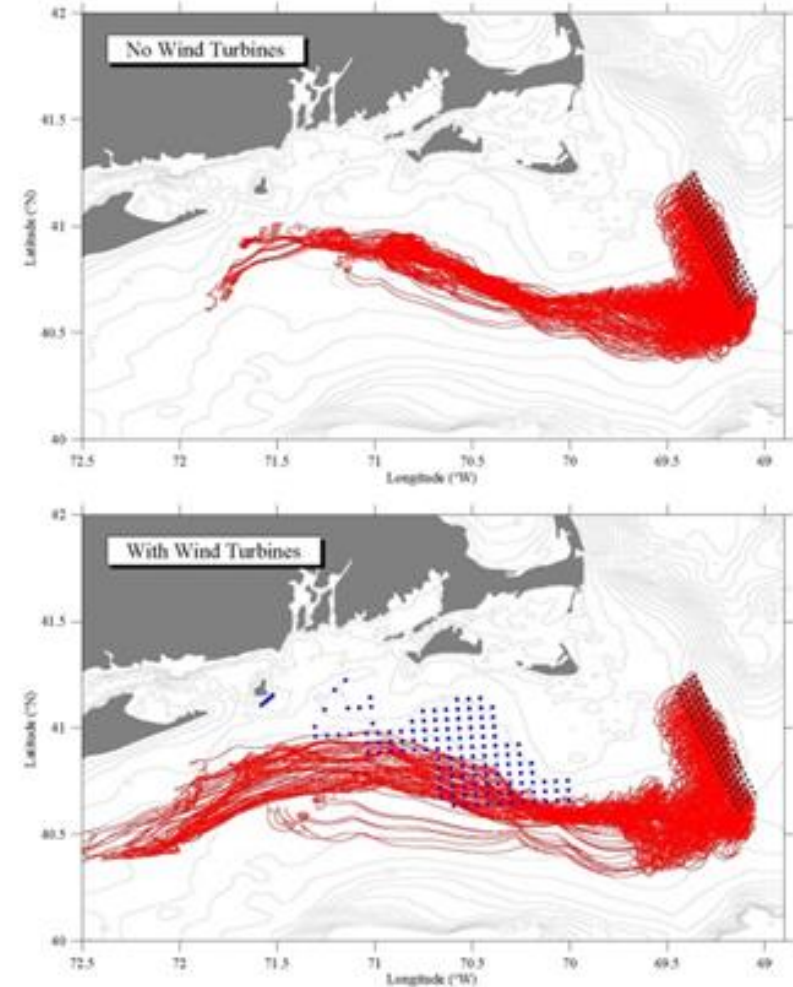
# Fates & Effects: EMF

- EMF (Electromagnetic Field) Impacts on Elasmobranch (sharks, rays and skates) and American Lobster Movement and Migration
- EMF Impacts on American Eel Movement and Migration



# Physical Oceanography: Hydrodynamic Modelling

- **Use of Finite-Volume Modeling and the Northeast Coastal Ocean Forecast System in Offshore Wind Energy Resource Planning**
- **Hydrodynamic Modeling and Particle Tracking in the Mid-Atlantic Bight**
  - Hydrodynamic model development
  - Particle tracking/agent-based model development
  - Model scenarios
    - 3 particles
    - 4 OWF scenarios
  - Final Report Spring 2021



# Social Sciences: Private Recreational Fishing

- **Methodology for Analyzing the Effects of the Block Island Wind Farm (BIWF) on Rhode Island Recreation and Tourism Activities**





# Social Sciences: Commercial Fishing

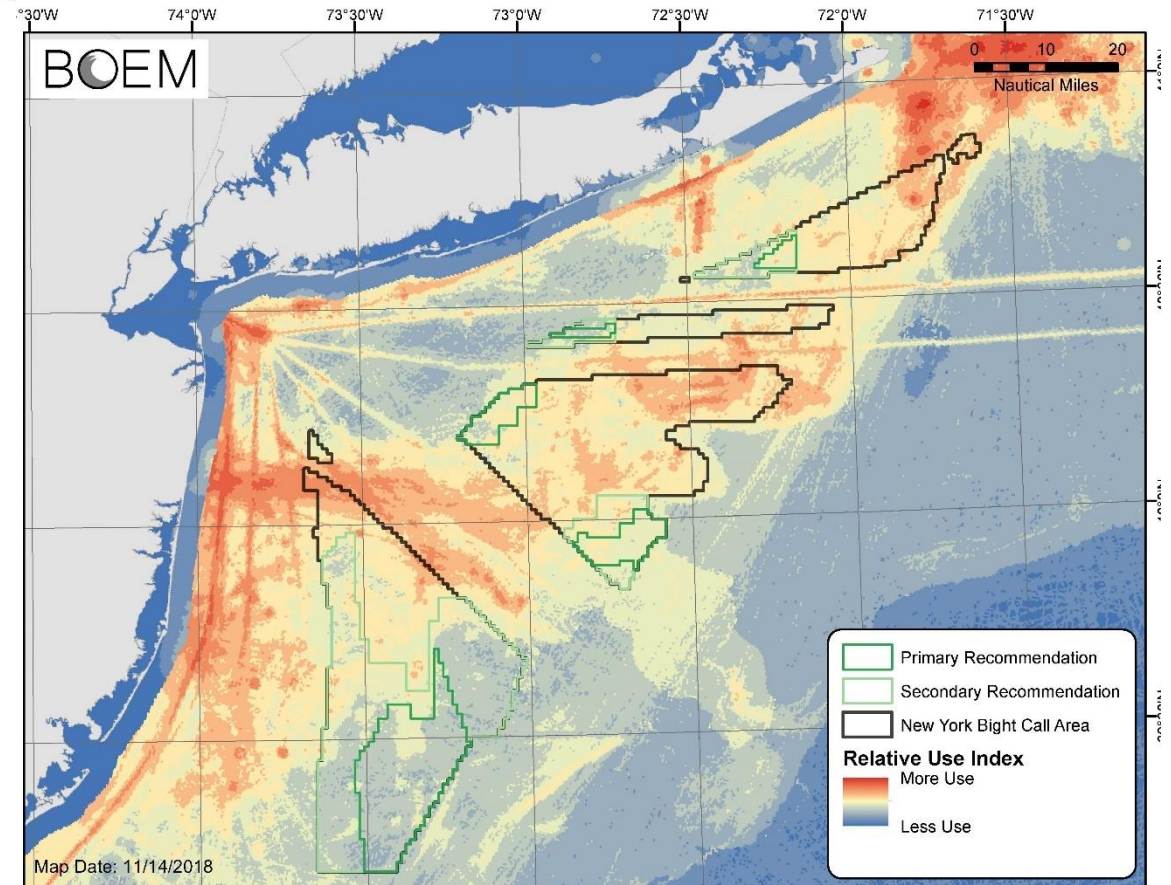
- **OCS Renewable Energy and Space-Use Conflicts and Related Mitigation**
- **Development of Mitigation Measures to Address Potential Use Conflicts between Commercial Wind Energy Lessees/Grantees and Commercial Fishers on the Atlantic Outer Continental Shelf**
- **The Socioeconomic Impact of OCS Wind Development on Fishing**
- **Collaborative Fisheries Planning for Virginia's Offshore Wind Energy Area**
- **Understanding Potential Economic Impacts to Surfclam/Ocean Quahog Commercial Fishing from Offshore Wind Energy Facility Construction and Operations**





# Science to Inform Management

- **BOEM environmental studies are designed to inform decision-making through incorporation into environmental assessments.**
- **Examples:**
  - Revenue exposure analysis
    - Directly informed preliminary and secondary draft NY Bight Wind Energy Areas.
    - Core part of VW supplement to the DEIS (cumulative impact).
  - RODEO – Block Island Wind Farm
    - Benthic surveys results directly led to impact analysis in VW assessment.



# Where to Find Reports

- **Main renewable energy landing page (Atlantic and Pacific):**  
<https://www.boem.gov/environment/environmental-studies/renewable-energy-research>
- **BOEM Environmental Studies Search:**  
<https://marinecadastre.gov/espis/#/>



# BOEM

Bureau of Ocean Energy Management  
U.S. Department of the Interior

BOEM.gov



Brian Hooker | [brian.hooker@boem.gov](mailto:brian.hooker@boem.gov) | 703-787-1634







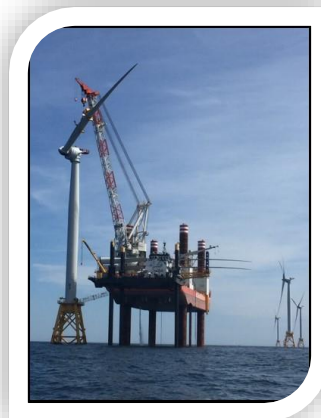
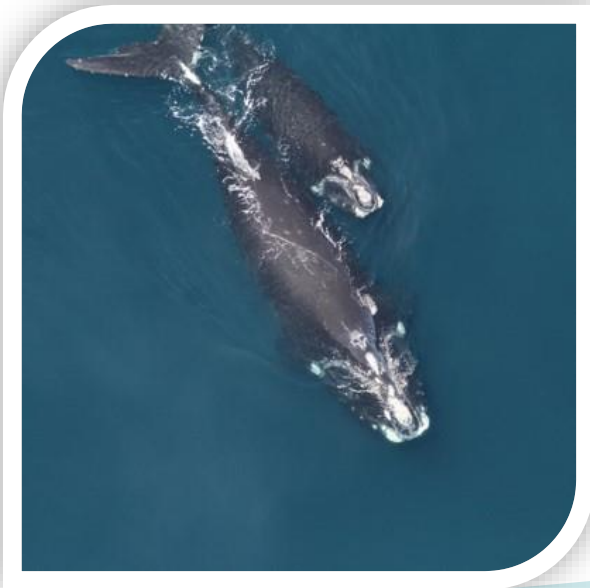
**NOAA**  
**FISHERIES**

Northeast Fisheries Science Center  
NMFS Office of Policy

# Wind Energy Update

Douglas Christel, NOAA Greater Atlantic Regional Fisheries Office  
Andy Lipsky, NOAA Northeast Fisheries Science Center  
Sofie Van Parijs, NOAA Northeast Fisheries Science Center  
Genevieve Davis, NOAA Northeast Fisheries Science Center

Presentation to the ROSA Council Meeting  
September 25, 2020



# NMFS Updates

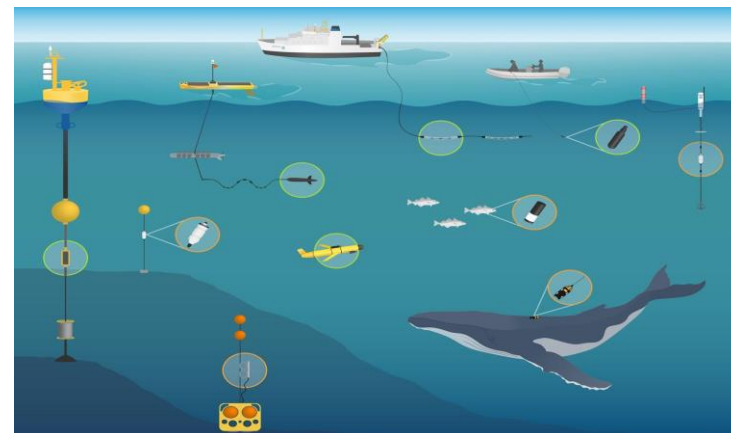
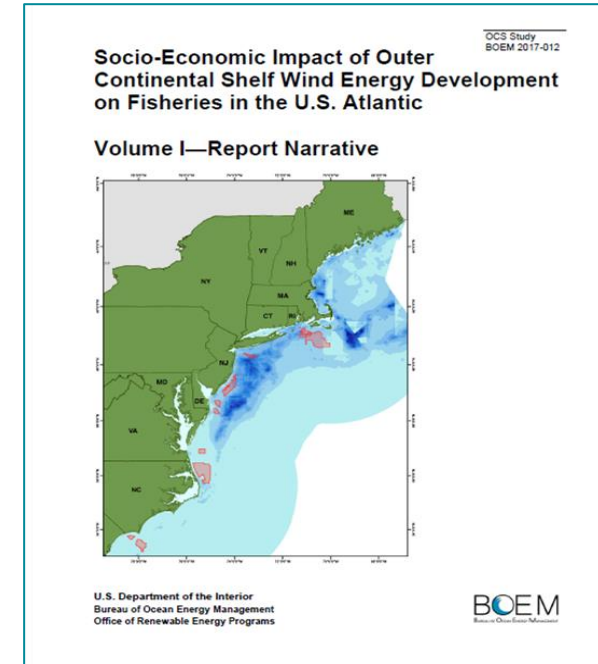
- Initial efforts to develop plans and needs to adapt multi-species bottom trawl survey (BOEM/NEFSC)
- Sea scallop survey strategy to incorporate wind energy development
- Supporting interagency science/data collaborations-NREL, MACO, NY TWIGs, ROSA, DOE research RFP, Regional Wildlife SC
- Technical Assistance for a variety of fishing community impact research
- Advancing international scientific collaborations through ICES

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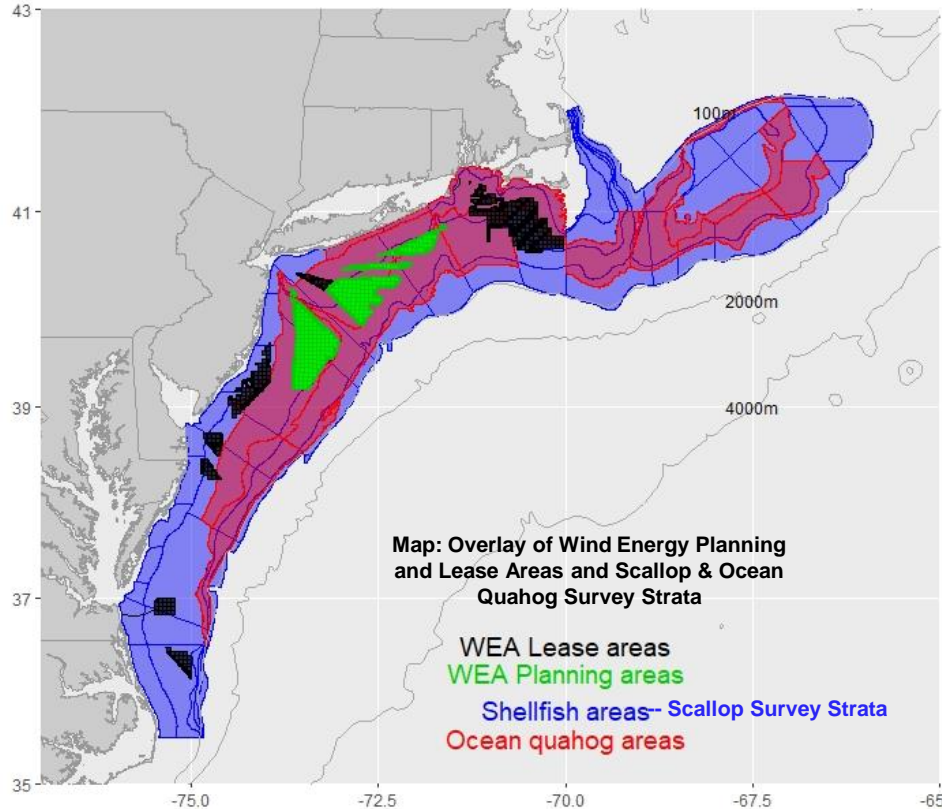
# NMFS Fisheries & Wind Research

- Fishing revenue impact studies
- Habitat characterization
- Marine mammal, seabird, fisheries and ecosystem surveys and guidelines
- Sound studies, BSB
- Site specific monitoring studies, e.g. Cox's Ledge
- PAM guidelines and standards



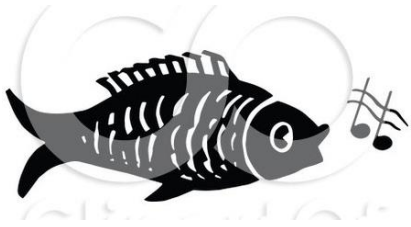


# Interactions of Wind on NMFS Science Enterprise



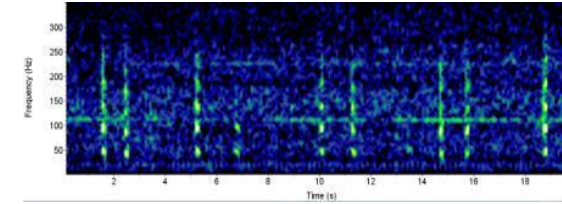
**317 Years of Combined Survey Effort Support Fisheries that contribute \$14 Billion Annually to U.S. GDP**

Survey	Year Started	Survey Design	Major Applications
Autumn Bottom Trawl Survey	1963	Random Stratified Design - North Carolina to Nova Scotia (bottom trawl)	abundance; length, age, sex, weight, diet, maturity samples, distribution, components of Ecosystem Monitoring survey
Spring Bottom Trawl Survey	1968	Random Stratified Design - North Carolina to Nova Scotia (bottom trawl)	abundance; length, age, sex, weight, diet, maturity samples, distribution, components of Ecosystem Monitoring survey
Scallop Survey	1979	Random Stratified Design (dredge); line transect (HabCam)	biomass, abundance, distribution, size and sex of sea scallops and other benthic fauna
Atlantic Surfclam and Ocean Quahog Surveys	1980	Random Stratified Design (hydraulic dredge)	biomass, abundance, distribution, size and sex of Atlantic surfclam and ocean quahog
Northern Shrimp Survey	1983	Random Stratified Design (commercial shrimp trawl)	biomass, abundance, length
Gulf of Maine Cooperative Bottom Longline Survey	2014	Randomly Stratified Design (bottom longline)	abundance, biomass, length, age, sex, weight, maturity samples, distribution, focused on hard-bottom habitat data
Ecosystem Monitoring Survey	1977	Random Stratified Design (linked to Trawl Survey Design); fixed stations embedded in design (plankton and oceanographic sampling)	Phytoplankton, zooplankton, ichthyoplankton, carbonate chemistry, nutrients, marine mammals, sea birds
North Atlantic Right Whale Aerial Surveys	1998	Aerial line transects	Right Whale population estimates; dynamic area management <sup>40</sup>
Marine mammal and sea turtle ship-based and aerial surveys	1991	Line transects for ship and aerial surveys. Plus opportunistic biological and physical oceanographic sampling from shipboard surveys	Abundance and spatial distribution of marine mammals, sea turtles, and sea birds



## PAM Wind Energy project Atlantic Cod spawning

- Southern most range for Atlantic cod spawning
- Spawning dynamics in area poorly understood
- 3 year project (Oct 2019 – 2022) funded by BOEM
- Baseline data collection on Atlantic cod spawning and other somniferous fish to address potential effects of offshore wind development
- Vulnerable to disturbance - form large, dense spawning aggregations over multiple weeks in predictable locations between years
- Collaboration with GARFO, MASS DMF, WHOI, UMASS SMAST, Rutgers University, TNC



# Advancing Combined sampling approaches

## Gliders



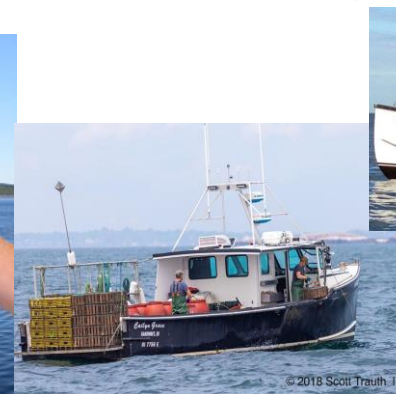
Acoustic and telemetry surveys for 3 to 6 months/year (December through March/May)

## Telemetry



Tag ~ 100 spawning cod, track with array of bottom mounted receivers and glider

## Fisheries independent sampling



Local vessels will support monthly sampling for life history information

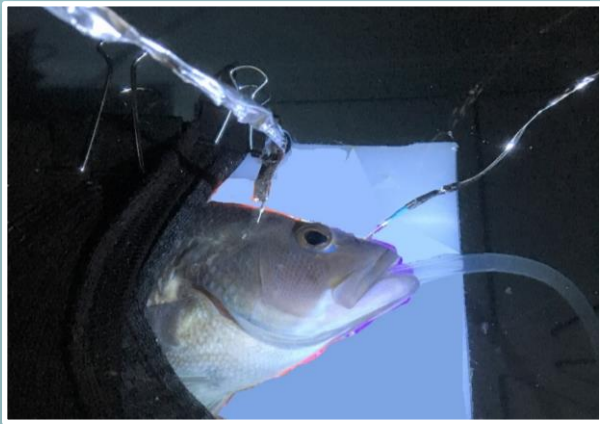
Slide Courtesy of Sofie Van Parijs and Genevieve Davis- NOAA NEFSC







# Black Sea Bass hearing and behavioral reaction to pile driving sound

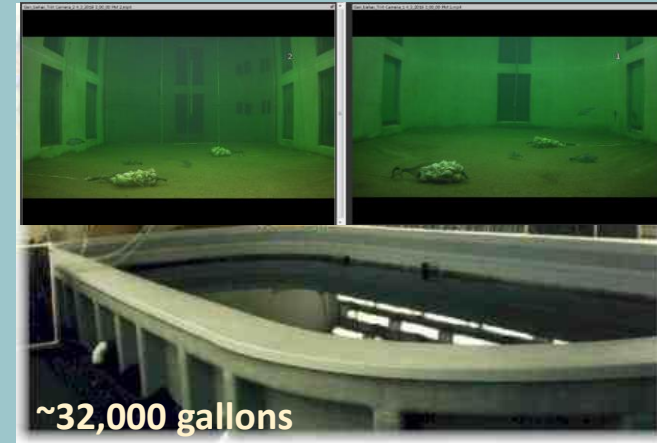
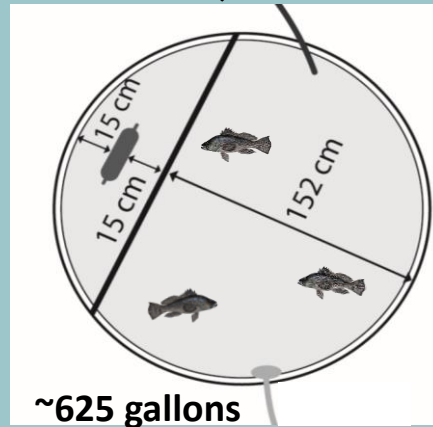


**Study 1.** Hearing range and sensitivity of black sea bass via Auditory Evoked Potentials

Stanley, J.A., Caiger, P.E., Shelledy, K., Phelan, B., Mooney, T.A., Van Parijs, S.M. (accepted minor rev.) Ontogenetic variation in the hearing ability of black sea bass (*Centropristus striata*). *Journal of Experimental Biology* (2020) 223, jeb219683. doi:10.1242/jeb.219683

**Study 2.** Behavioral responses to pile-driving playback in a small tank

- General behavior
- Feeding



~32,000 gallons



**Study 3.** Ecologically relevant behavioral responses to pile-driving playback in large controlled environment

- General behavior
- Spawning

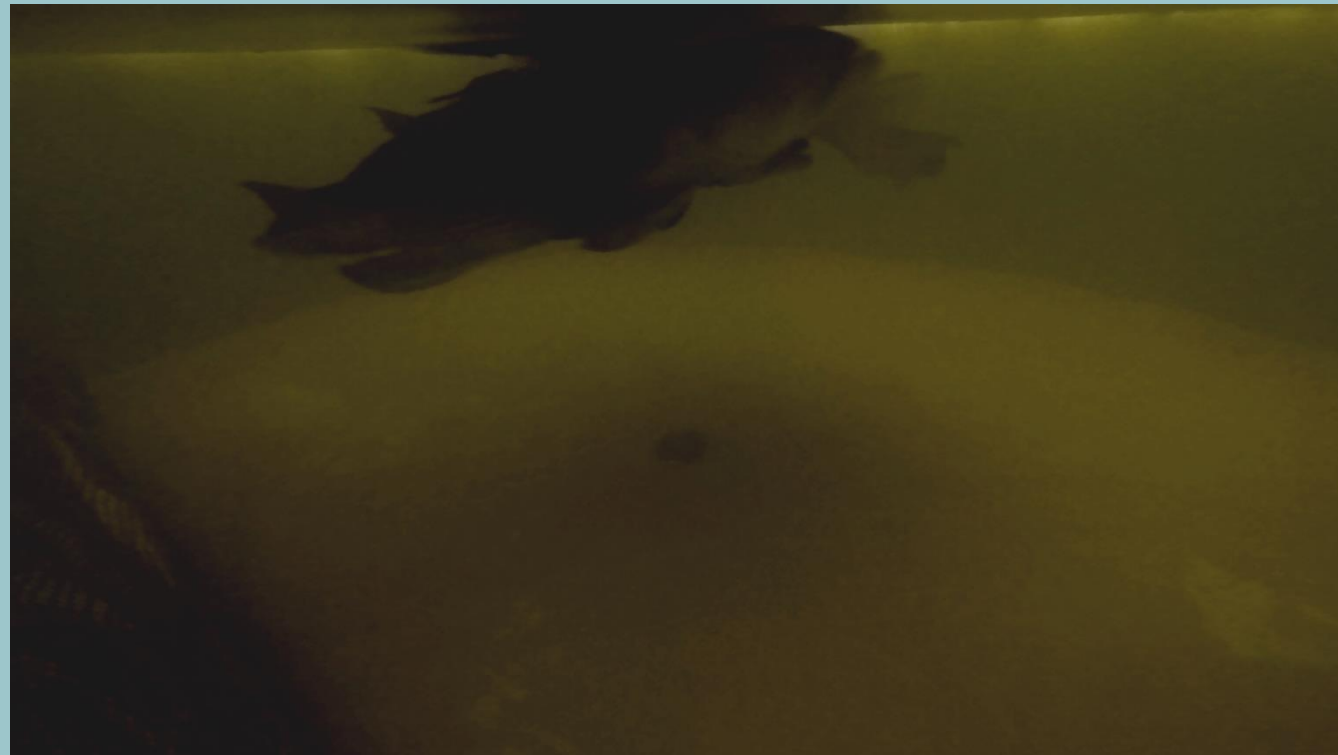




# Reaction at sound onset



## Black Sea Bass





**NYSERDA**

# **NYSERDA Sponsored Fisheries Research – ROSA Update**

**September 28, 2020**



# Key Fisheries Research Projects

- RODA – Creation of a Fishermen’s Data Trust for Effective Inclusion of Fishermen’s Knowledge in OSW Decision Making
- NREL – Strategies and Tools to Address Commercial Fishing Access for OSW Farms
- Tetra Tech – Cabling Activities in the NY Bight
- RCG – Offshore Wind Opportunities for Experienced Mariners

# Additional Fisheries Related Projects

- Fishermen's Gateway – Improving and Standardizing Communication between Offshore Wind Developers and Fishermen
- Recreational Fisheries Liaison Outreach Efforts
- Documentation of Current State of Play for Fisheries Compensation Mitigation
- Regional Wildlife Funding Entity Support and Collaboration with ROSA

# Contact Information

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RESPONSIBLE OFFSHORE  
SCIENCE ALLIANCE

# ROSA Interim Fisheries Monitoring Working Group (IFMWG)



# ROSA Interim Fisheries Monitoring Working Group



- Partnership with **NOAA Fisheries NEFSC** and **GARFO**
- Members include:
  - Federal and state agency representatives
  - Researchers/Academics
  - Fishermen and RODA staff
  - Developer fishery staff
  - Several are also NTAP members
- Began meeting **June 2020**
- **Goal: Draft Interim Guidance by October 2020**
- Longer term goal of more **detailed guidance, regional monitoring plan**, and **data storage and sharing protocols**
- Builds upon existing **BOEM guidance** to highlight **best practices** and elements that could help **improve future monitoring plan submissions**

# Template-style guidance focusing on:



## Monitoring Plan Objectives

- **Fisheries Monitoring Plan Objectives for Offshore Wind Projects**
- Plans should clearly define purpose, objectives assumptions, and testable hypotheses
- Guidance describes several objectives monitoring plans should address at a minimum

## Sampling Design

- **Development of Sampling Design for Project Monitoring**
- Sampling design should address monitoring plan objectives
- Guidance describes sampling design elements such as power analysis, sampling frequency, design strategy (i.e. BACI/BAG), and duration of monitoring during construction phases

## Sampling & Analytical Methods

- **Description of Sampling and Analytical Methods**
- Describes components of sampling methods that should be included such as gear types, operational protocols, and types of information collected and need to describe why
- Outlines goals of analytical methods and examples of statistical methods that could be used to assess change



# Interim Guidance Considerations



- This short-term guidance should be considered **INTERIM**
  - Longer term goals to delve into more **detailed guidance**
  - Guidance development process has shown **complexity** of components
- Monitoring plans will likely **adapt** over time
- Guidance should be considered a **living document**
- Plan acknowledges but not address:
  - **Cumulative** or **across-project** considerations
  - Access concerns for **long-term surveys** or **fishery dependent data**
  - Methods of assessing potential **socioeconomic impacts**
  - Development of **research** beyond monitoring goal
  - **Data sharing** protocols
- First step of many to improve our **regional coordination** for research and monitoring

# Biobreak and Mentimeter

- Go the URL in the chat (same as below)
  - <https://www.menti.com/1ht6rcfj7u>
- Enter an answer to the question
- TAKE A BREAK!
- Thanks!



# Creating the Research Advisory Board





# ROSA Research Advisory Board



- Provides **independent scientific input** and **review**
- Research Advisory Board role:
  - Help identify **detailed scientific needs** based on Council direction and committee work
  - Review **scientific input** from committees
  - Help develop **consistent protocols** and **tools**
  - Review and assist with developing **RFPs**
  - Provide **peer review**
- Formation will be through the guidance of the **Advisory Council**

# ROSA Research Advisory Board

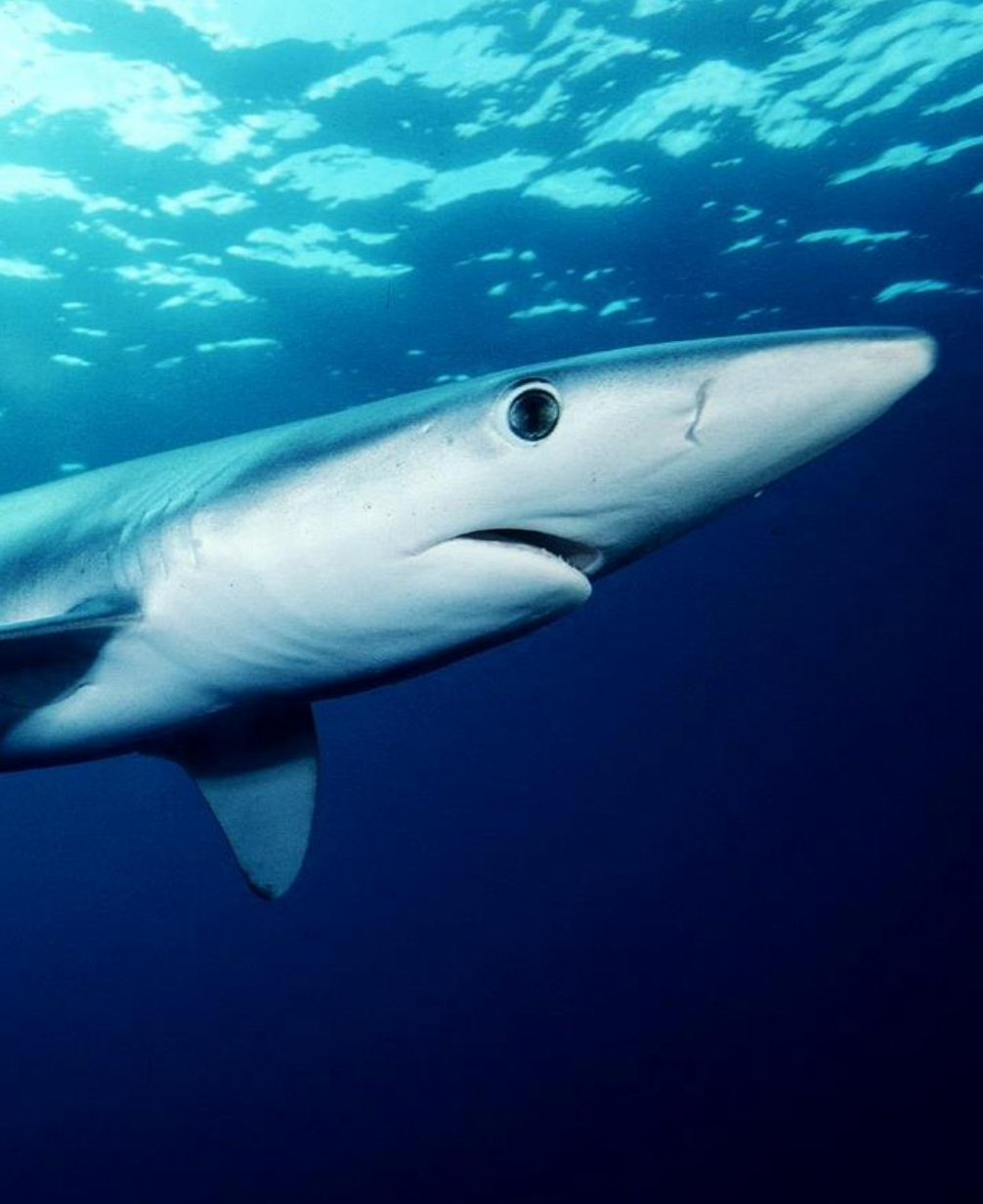
- Membership Criteria (as stated in the ROSA Framework):
  - Have demonstrated expertise & experience in **collaborative fisheries research & monitoring**
  - Selection would be based on **eminence, expertise, and ability to work in collaborative processes**, not by sector or by organization
  - May be from academia, state or federal government, Fisheries Councils and Commission, independent research organizations, consulting firms, non-profits, etc.
- Proposed approach:
  - **Amend criteria** based on Advisory Council feedback
  - **Open application** process for anyone meeting criteria- online form and/or submission of resume/CV
  - Develop **broad list of experts** that can be called upon as needed
  - Form **RAB Executive Committee** to provide leadership

What key regional fisheries and offshore wind research do we hope to see?





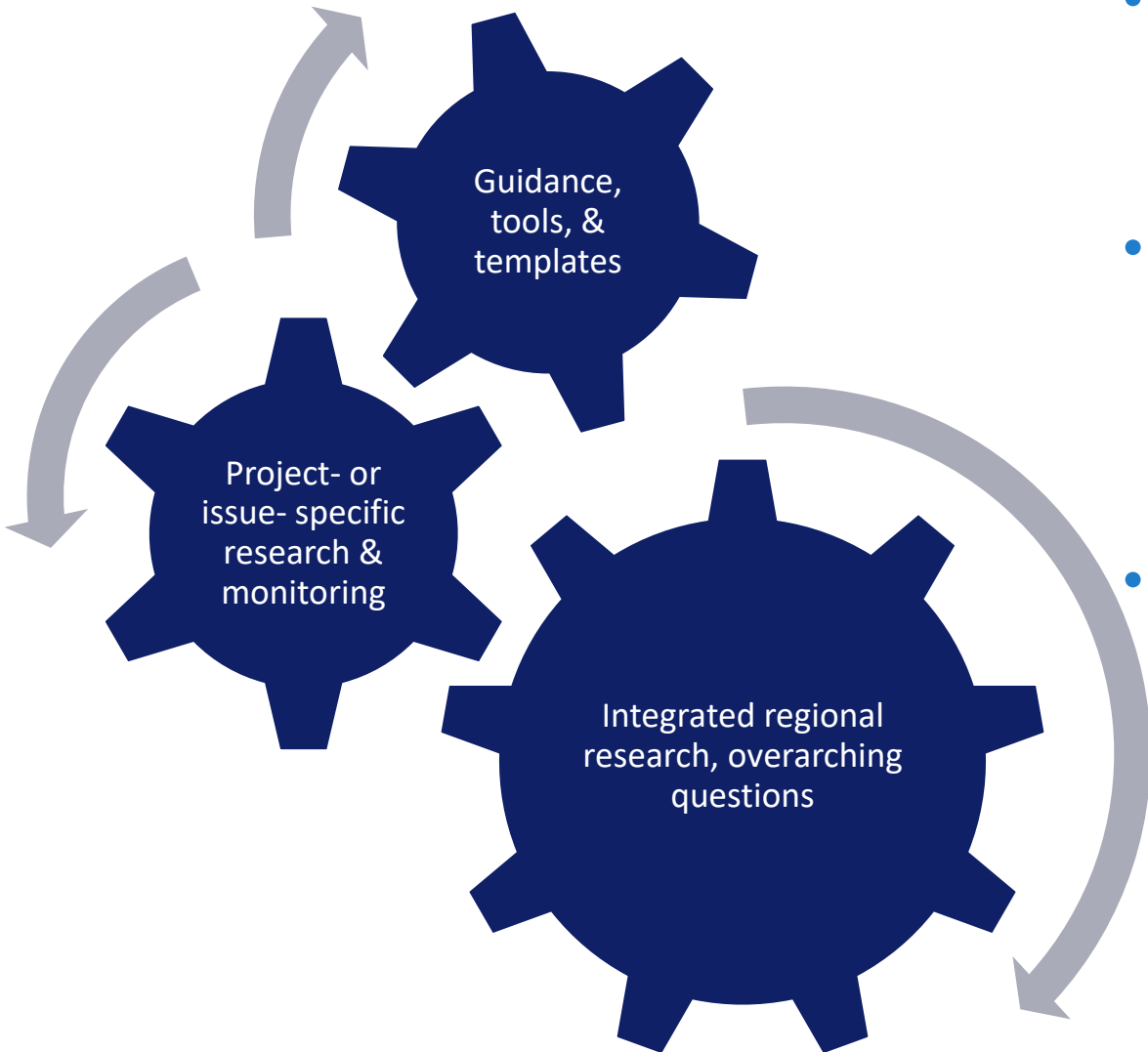
# General Feedback Received to Date



- Commonly heard topics/concerns
  - Data sharing/data management
  - Access concerns for Bigelow and other long-term surveys
  - Acoustic telemetry
  - Cables/cabling
  - Sensory disturbance (i.e. noise, EMF)
  - Navigation/transit/vessel safety
  - Integration across research and monitoring projects
- Role of ROSA in socioeconomic impacts?
- Will ROSA address risk retirement?
- Proactive approach to emerging issues?
  - Floating wind
  - Other regions- West Coast, South Atlantic



# Types of Research ROSA may address



- **Guidance, tools, & templates**

- Monitoring plan guidance & templates
- Data management & sharing
- Compendium of existing research

- **Project- or issue-specific research & monitoring**

- Impacts to key species at various life history stages- i.e. scallops, cod, sturgeon
- Impact concerns- i.e. habitat alteration, cold pool dynamics

- **Integrated regional research, overarching questions**

- Cumulative impacts
- Implications to scientific surveys
- Socioeconomics
- Development of innovative research tools

# Breakout Groups

- 30 Minutes
- Breakouts for: 1) Council members: 2) Council Alternates and ROSA Board Members; 3) Others stay in Plenary for their breakout
- QUESTIONS
- What are specific topics and efforts ROSA could tackle in the next year (assuming there are some funds available)?
- What are bigger, longer-term, research projects ROSA should consider building toward?
- What is the role of ROSA in socio-economic research (where vessels are fishing, economic impact determinations, compensation calculation methodologies)?



# Breakout Mentimeter

- Go to the URL in the chat (same as below)
  - <https://www.menti.com/1ht6rcfj7u>
- Feel free to add your summary from the breakout you were in as your reporter reports out
- Thanks!



What's Next?





# ROSA Advisory Council Executive Committee

- Works with the Executive Director to plan and coordinate the Council
  - Plan agendas, meetings, and work
  - Help address issues, problems, or conflicts that arise in Council meetings
  - Generally ensure the smooth functioning of the Council
- Comprised of Co-Chairs of the ROSA Board and additional members elected by the Council members within the following categories:
  - a federal member from a federal agency or entity
  - a state from New England and the Mid-Atlantic
  - a fishermen from New England and the Mid-Atlantic
  - a New England and Mid-Atlantic wind energy developer



# Offshore Wind and Fisheries Interactions: Synthesis of the Science



Project leads: RODA/NMFS/BOEM

- Planning began with signing of MoU in March 2019
- Facilitation and workshop organization by Consensus Building Institute
- Planning committee includes RODA, BOEM, GARFO, NEFSC, NMFS HQ, ROSA, and Shell

Two-Part Effort:

1. Workshop (Oct. 14-16 and 30): Registration currently open
2. Report (completion in late spring): Section leads from project team coordinating groups of authors, reviewers, and fishing industry expertise

Goals:

1. To describe the current state of science, existing research and monitoring programs, data gaps, and solicit input into priority research questions
2. Model best-practices to successfully engage the fishing industry in complex scientific processes and setting research and monitoring agendas
3. Advance the Responsible Offshore Science Alliance's (ROSA) regional science efforts

[MORE INFO: www.rodafisheries.org/synthesis-of-the-science](http://www.rodafisheries.org/synthesis-of-the-science)



# General Topics

## 1. Ecosystem Effects

- Benthic habitat modification
- Physical habitat modification
- Physical oceanographic process modification
- Ecosystem synthesis – Biological impacts

## 2. Fisheries Socio-Economics

- Distribution of effort
- Navigation
- Safety
- Impacts to coastal communities (secondary/tertiary impacts)
- Gear loss
- Ports/infrastructure
- Opportunity costs

## 3. Fisheries Management and Data Collection

- Fishery Dependent Data Collection
- Fishery Independent Data Collection
- Impacts on Management

## 4. Methods and Approaches

- Cumulative impacts
- Integrated ecosystem assessment
- Innovative monitoring approaches and technologies
- Regional science planning



# Next Steps

