GOVERNOR'S Energy Office

SAMBAS Consulting LLC

Advisory Board

Maine Offshore Wind Research Consortium

May 6, 2024

A Few Guidelines for Today

Advisory Board Members

- Practice common rules-of-the road: Please raise your hand, share the floor and respect differences of opinion.
- Please use video (if you can) and use hand-raise function (*9 on phone). We'll try to be sure we pause periodically to make sure you can participate fully but shout out if you need to or put ideas in the Chat.

Observers

- Thank you for joining, we are glad you are here. This is a working meeting of the Advisory Board.
- Please keep video off and so we can focus discussion on the Advisory Board members.

Everyone on-line

- *Mute unless speaking please (*6 on phone to unmute)*

Meeting Objectives

- Discuss 2024 Research Consortium timeline
- Receive brief updates on Research Consortium activities
- Discuss and initially prioritize research questions (8)

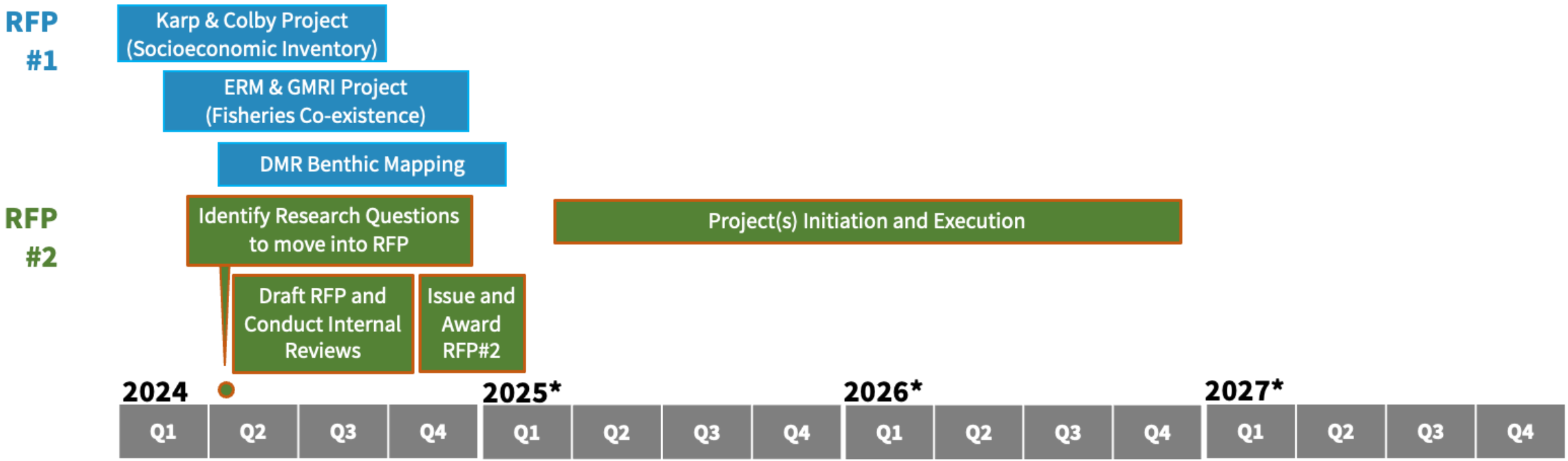
Meeting Agenda

9:00	**Welcome & Introductions** – *Alison Bates, Co-Chair; Katy Bland, Maine Sea Grant*
9:10	**Research Consortium & General Timelines Review –** *Katy Bland, Maine Sea Grant*
9:30	**Programmatic & Research Updates –** *Stephanie Watson & Meghan Suslovic, GEO*
9:45	**Research Question Reprioritization Discussion & Break –** *Olivia Burke & Jan Matthiesen, Carbon Trust*
11:45	**Advisory Board & Collaborator Updates**
11:55	**Wrap Up and Next Steps**
12:00	**Adjourn**

Research Consortium Timeline

Estimated Timeline

Timeline Updated May 1, 2024



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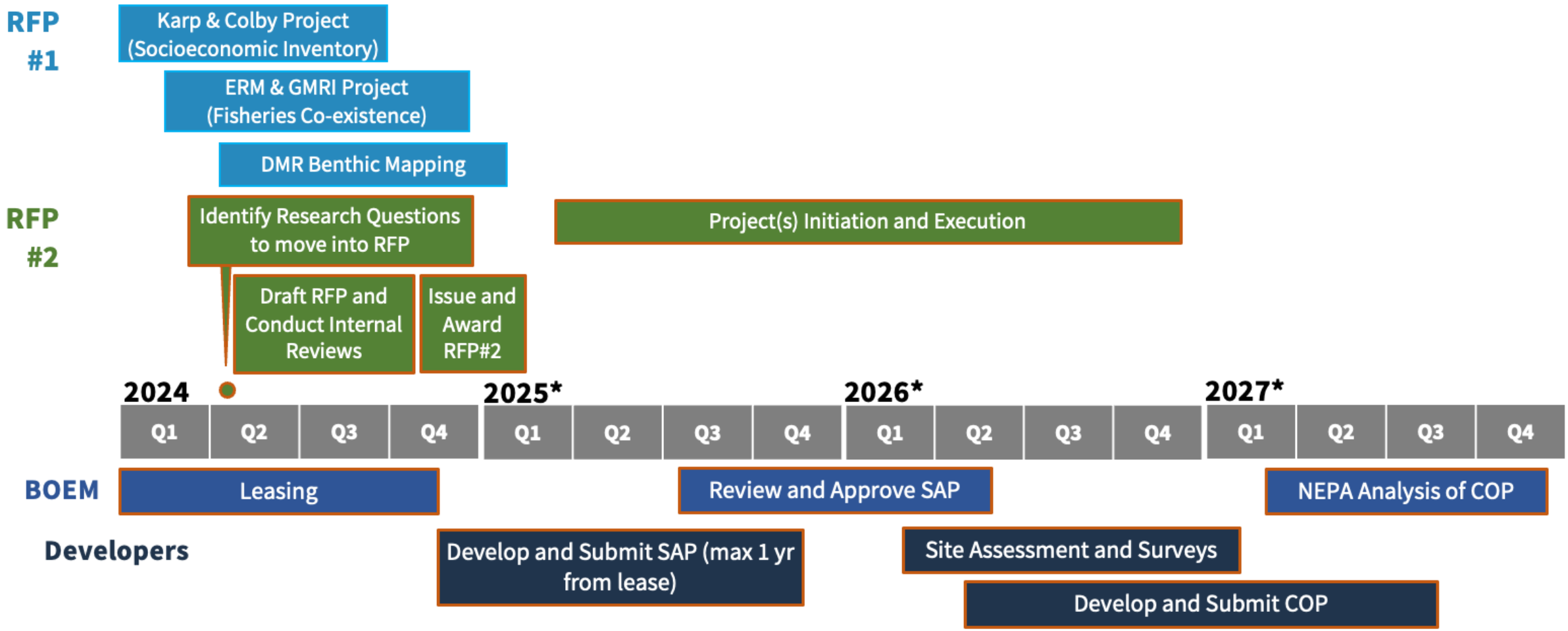

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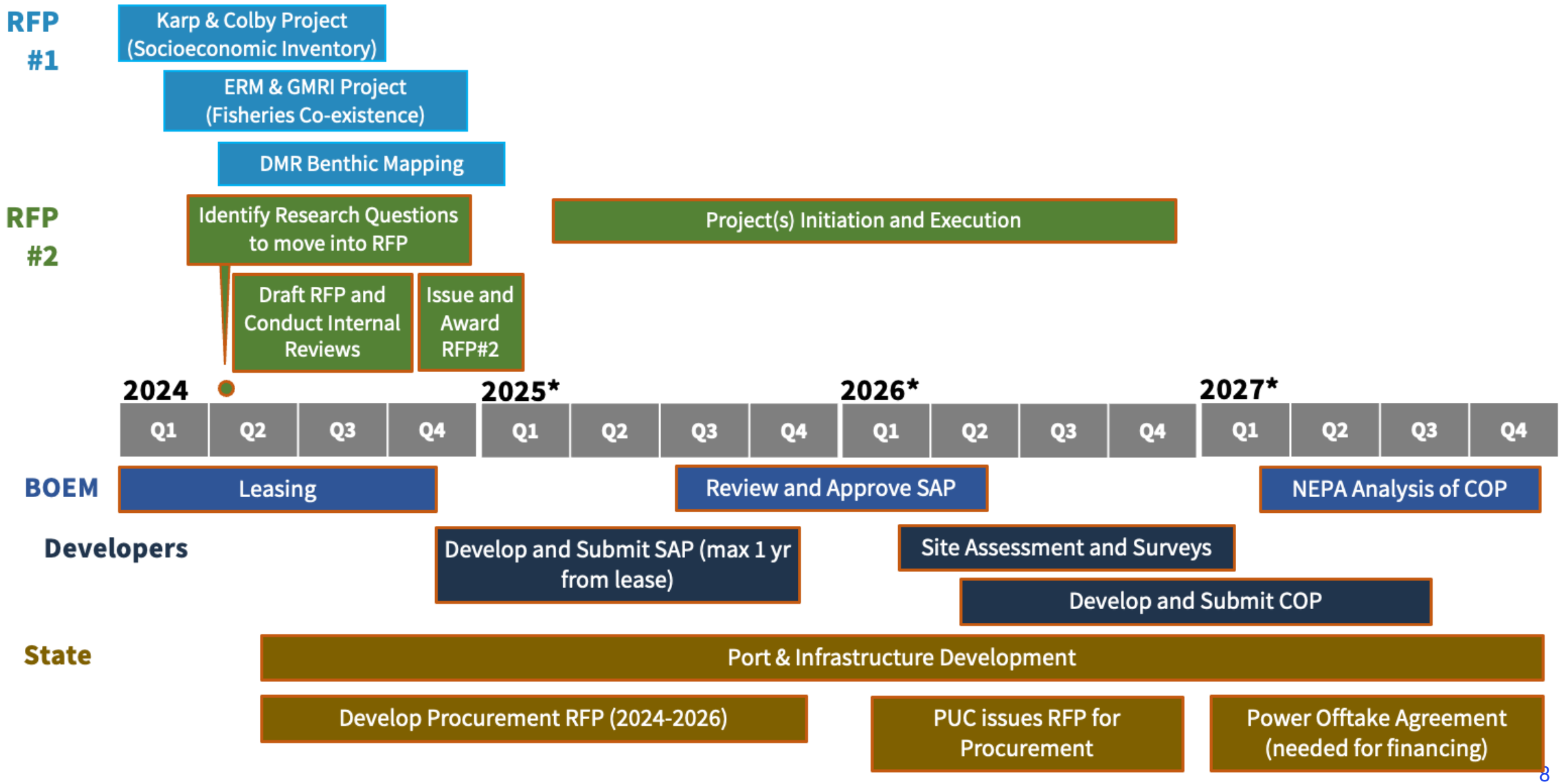
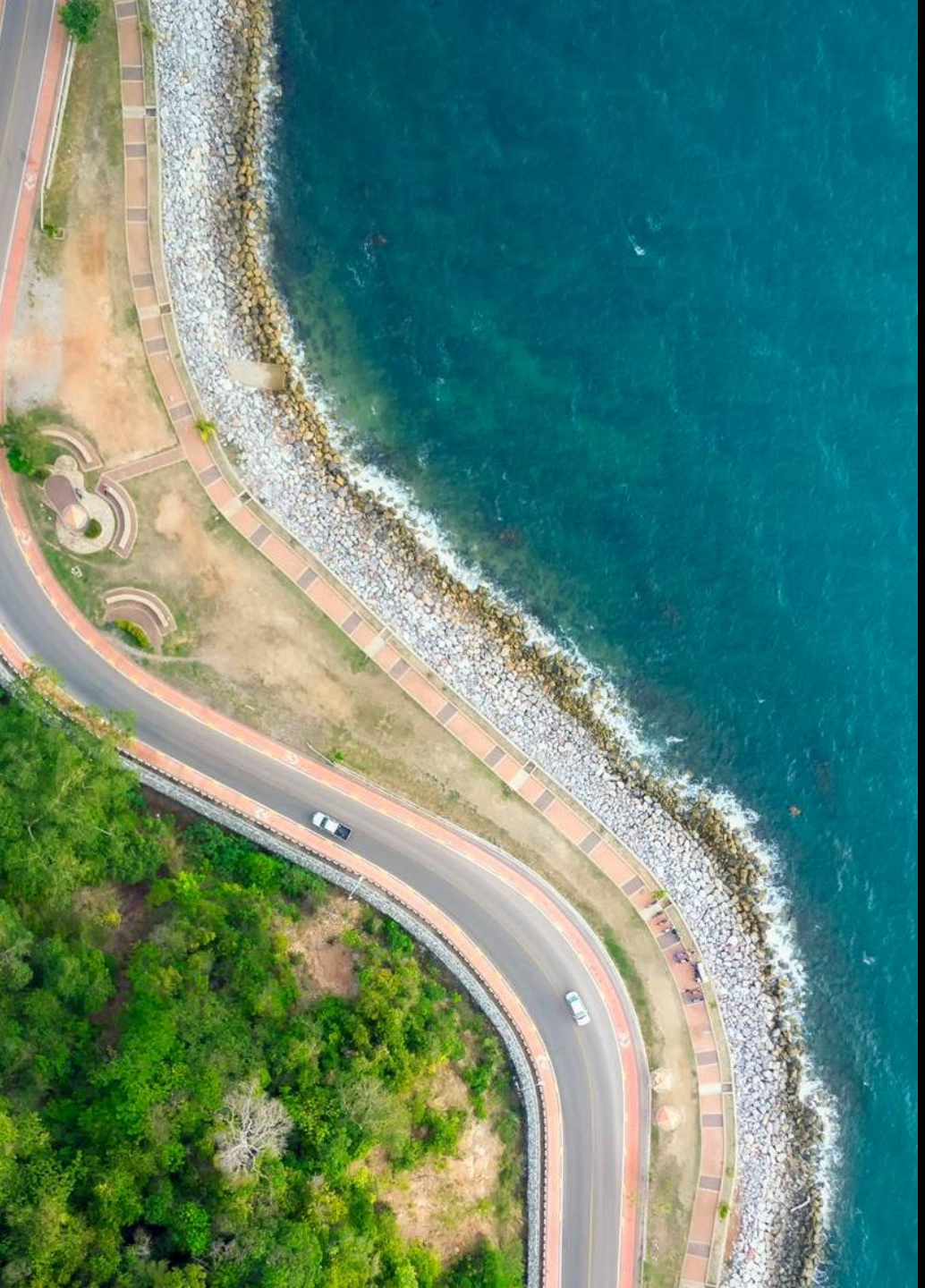




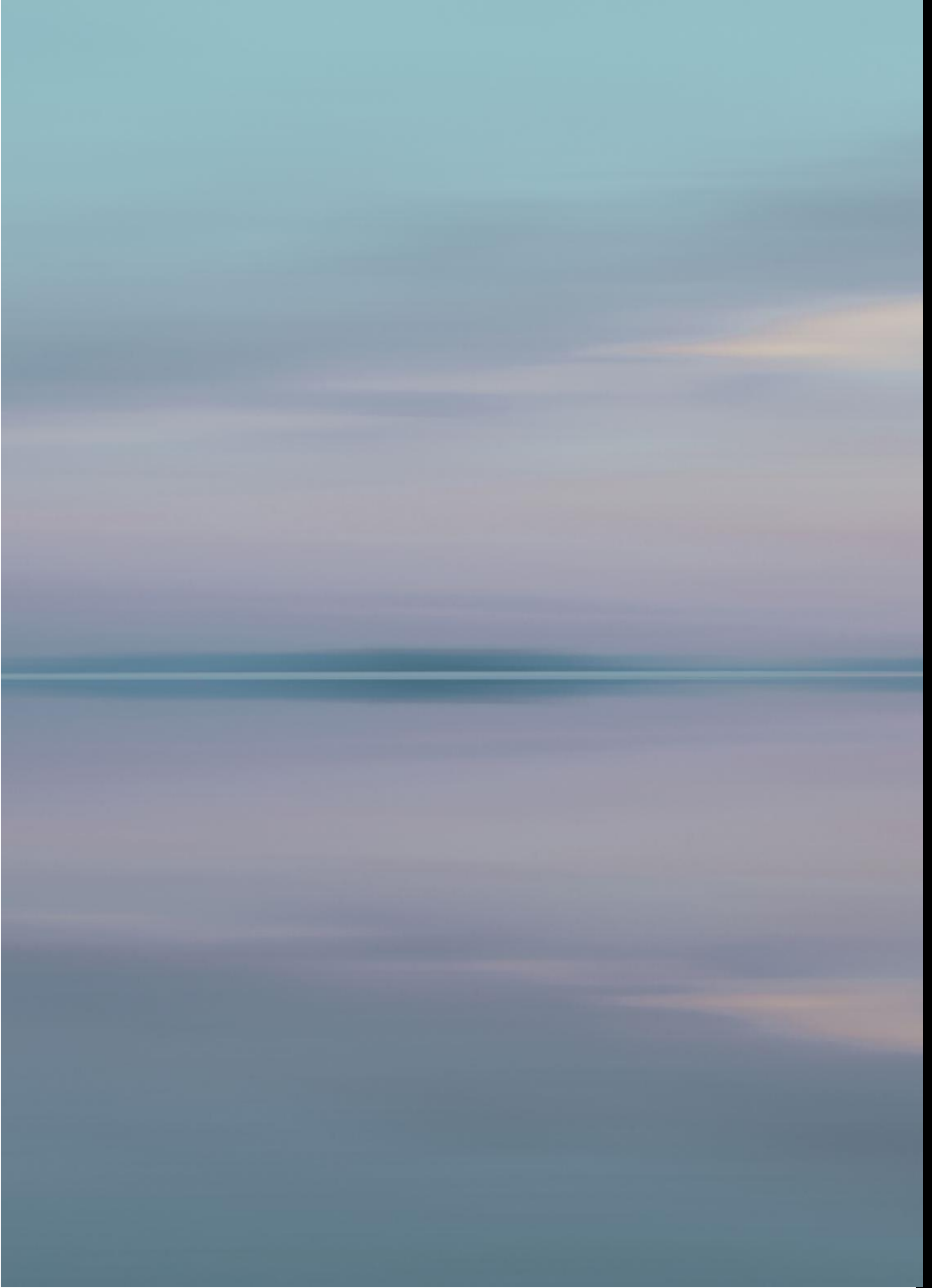
Programmatic & Research Updates

GEO Update

- BOEM update
  - Proposed Sale Notice, stakeholder meetings, comments due July 1st.
  - Visit BOEM's GoM webpage.
- State update
  - Request for Information open regarding future offshore wind energy procurement, comments due June 21st.
  - Research lease moving ahead
  - *Maine Energy Plan: Pathway to 2040* being finalized – significant new renewable energy needed
  - Clean Energy Partnership program open funding opportunity for workforce development – due May 24
  - DOE Notice of Intent to offer a funding opportunity late spring/early summer on offshore wind research topics of shared interest with the Consortium. Strategize with our upcoming RFP.
  - Update on Consortium-funded projects
  - Refreshed our website at maineoffshorewind.org

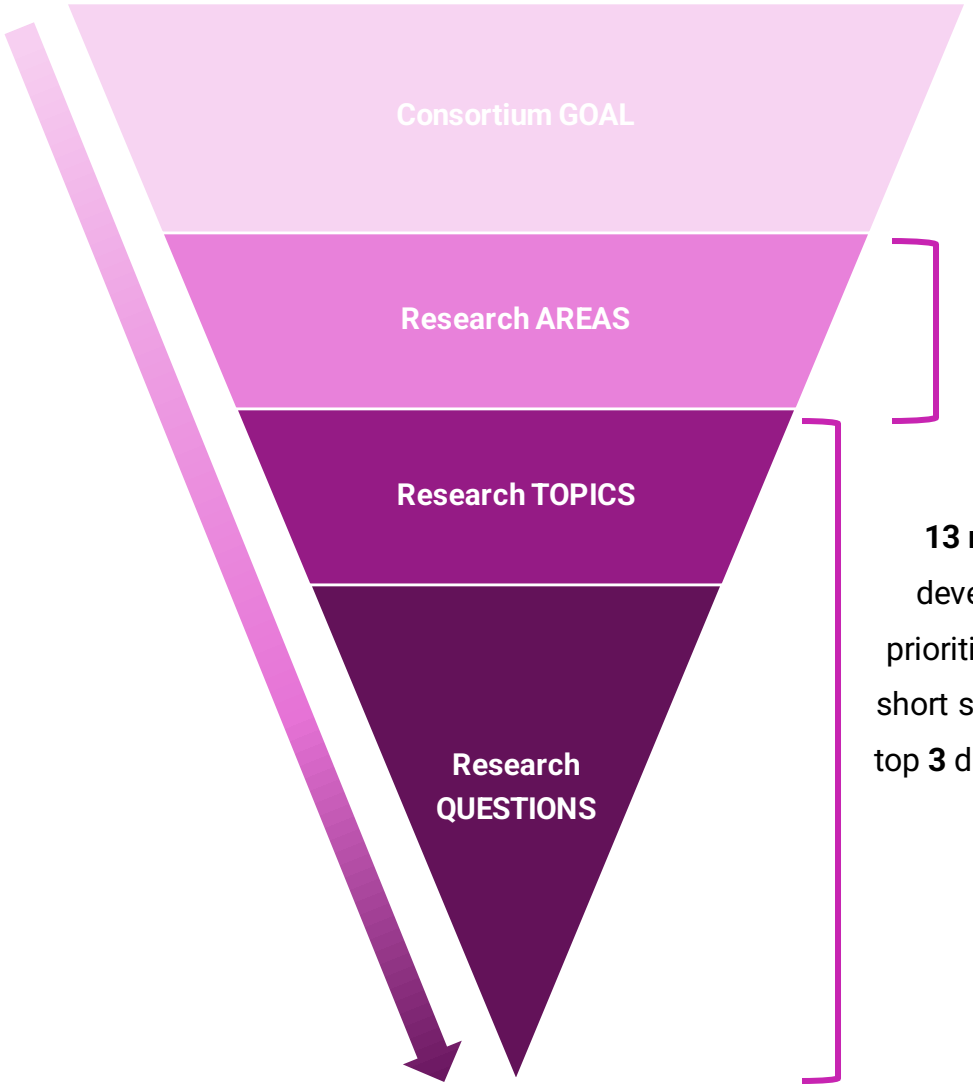
RFP#1

Research Area	Title	Project Team	Objective	Anticipated Outcome
Reduce co-use conflicts	**Co-Existence** Exploring approaches to fisheries' coexistence with floating offshore wind	ERM + GMRI	- Contribute to filling key data gaps that are not being addressed elsewhere. - Build on existing resources and data for greater efficiency and immediacy of results. - Allow the State to make sensible predictions for other regions/species/ applications/scales. - Provide collaborative research opportunities with community members.	Definition of coexistence and initial coexistence guidelines
Socioeconomic Impacts and Community Benefit	**Socioeconomic Data Inventory** Informing Responsible Offshore Wind Development in the Gulf of Maine	Karp + Colby	- Create a comprehensive inventory of existing socioeconomic data (jobs, industry data, supply chain) around fishing communities and the potential impacts of OSW - Identify gaps in data and best practices in order to develop recommendations on where and how GEO should prioritize future studies	Inventory of available socioeconomic data and gap analysis
Impact on ecosystems	**Benthic Mapping** Seafloor Mapping in the Gulf of Maine	DMR MCMI	- Rapidly fill data gaps relevant to potential offshore wind development	Habitat maps and seafloor classification



Research Questions Discussion

Research prioritization last year (2023)



*"The Consortium aims to create a common understanding of the local and regional impacts (positive and negative) of floating offshore wind in the Gulf of Maine. The consortium may prioritize, scope, commission, and/or find collaborative partners to implement scientific studies on the **ecological, technological, economic** and **social** impacts to achieve this goal."*

We established **4** cross cutting **research areas** which addresses the **goal**

Reduce co-use conflicts
Impact on ecosystems
Socio-economic impacts and community benefit
Technology development

13 research topics developed and were prioritized, resulting in **5** short summaries with the top **3** developed into **RfPs**

1	Collection of baseline data to inform siting and understanding of the impact on commercial and recreational fisheries and ecosystems currently and historically happening in areas where arrays and transmission are proposed or sited.
2	Investigate interactions of floating offshore wind at various stages (i.e. site assessment, construction, and operations and maintenance) in regards to developing an interdisciplinary understanding of change and impact over time and space on Gulf of Maine species (baseline data and site assessment to better understand species composition, distribution and cumulative effects).
3	Technology assessment/methods to reduce co-use conflicts
4	Develop techologies to monitor and minimise impacts to wildlife.
5	Socio-economic impacts of offshore wind industry development on Maine coastal communities
6	Examine potential sensory stressors (sound, vibration, EMF) on wildlife from OSW transmission infrastructure, including pre-deployment, construction and operation, and how they can be avoided or minimised.
7	Methods to integrate and advance wildlife deterrent and ecological monitoring technology with floating offshore wind projects to minimize impacts.
8	Consider methods to optimize integration of renewable energy into the grids.
9	Necessary preparation for Maine's supply chain and workforce to support floating offshore wind.
10	Assess shoreside infrastructure and other requirements to advance industrialization of the floating supply chain.
11	Explore advancements in mooring and anchoring concepts for floating foundations.
12	Autonomous systems and validation of new technology
13	Floating wind operations and maintenance approaches to reduce costs, improve safety and increase efficiency.

Project prioritization process this year (2024)

- **Step 1:** Small informal small group working sessions run in line with the four research areas, to develop project ideas aligning with the priority research topics (Feb-end of March)

- **Step 2:** Follow-up discussions and 1-2-1 calls held with Advisory Board members and Collaborators

- **Step 3:** Discussions from the calls have guided the development of more detailed one-pager summaries for potential projects in the areas of highest priority

Next steps:

- The more detailed one-pagers will be used to prioritize work for the next GEO RfP and/or as a starting point to get external funding. This gives flexibility to apply for funding or develop projects with external partners throughout the year.

Summary of the 1-pagers

Research Area	Title
Co-use and co-existence	**Evaluating variable access levels of offshore wind energy areas in the Gulf of Maine**
Impact on wildlife	**Assessing and minimizing risks to bat species in the Gulf of Maine in collaboration with the fishing industry**
Impact on wildlife	**Bird tracking study in the Gulf of Maine**
Impact on wildlife	**Modelling assessment of potential spatial and temporal changes to groundfish with the WEAs in the Gulf of Maine**
Socio-economic	**Socioeconomic Impact Assessment of Floating Offshore Wind Development**
Technology	**Understanding the risk and remote detection of secondary entanglement**
Technology	**Industrialization of the floating supply chain in Maine**
Technology	**Feasibility study on mussels farming in an offshore wind farm**

Evaluating variable access levels of offshore wind energy areas in the Gulf of Maine

Budget:	$300k-$400k
Duration:	12 months
Research area:	Co-use/co-existence

1 – Challenge trying to address:
Floating wind structures may make certain fishing technology (such as trawling) difficult to operate within the project and cause de facto "closed areas" unless or until further technology development facilitates these activities within the windfarm.

We do not have a comprehensive understanding of how closed areas due to offshore wind projects will impact fishery management plans in the in the Gulf of Maine and it is important to understand the strategic decisions fishermen make in response to OSW developments. For example, it can help to predict how fishermen may change their fishing locations, gear or strategies in response to planned developments.

This can ultimately inform better decision-making and policy development to mitigate potential conflicts and promote sustainable coexistence between the two industries.

2 - Objectives:

Employ a closed-area model approach to evaluate changes in habitat availability, locally increased biodiversity, displacement, productivity and redistribution of fish species within chosen sites in the WEAs.

Model fishing impacts that can be used when making fisheries management decisions in areas outside of the closures.

3 - Approach:

1. Spatial analysis of closed areas and intermediate closures (i.e. closures to certain gear types or during some seasons or under certain "bad" weather thresholds)
2. Analyse changes in fish stock recovery, displacement and redistribution.
3. Stakeholder engagement and consultation
4. Characterization and simulation of fishing practices in response to these closed areas
5. Communication of results and recommendations

4 - Output:

- Updated NOAA model for Maine sites
- Report summarising anticipated impacts on fishermen

5 - Expected Benefits:
Using the model, we can better understand the decision-making by fishermen in response to OSW development at all phases of development.

6 - Other Comments (urgency, synergy with existing initiatives)**:**

- Consider including a paid advisory board of fishing members to work on/assist in this aspect and/or getting more context from New England Fisheries Management Council and GARFO.
- Could update existing models by NOAA
- Does the model quantify or consider a number of scenarios around increasing/decreasing fish stock

Assessing and minimizing risks to bat species in the Gulf of Maine in collaboration with the fishing industry

Budget:	~$500k
Duration:	March 2025 onwards (Two-year campaign preferable but a trade off with the number of detectors for the budget. Single year and look for additional funding to extend the campaign or 2 year study and fewer detectors?)
Research area:	Impact on wildlife

1 – Challenge trying to address:
Bats activity has been detected in coastal areas of the Gulf of Maine, but little is known about bat use of the offshore environment, including species composition, temporal patterns, and influence of weather conditions. Without collecting baseline data, understanding the future potential impact of floating offshore wind will be limited.

As part of the Construction and Operation Plans (COPs), developers will submit bat risk assessments and monitoring plans for specific lease areas, but baseline data collection is needed to provide context for individual project risk assessments as well as an understanding of the species most at risk.

2 - Objectives:
Conduct acoustic data collection and analysis on bat species to further support an ecological/ environmental baseline understanding in the Gulf of Maine.

This study focus on yielding information on baseline bat activity rather than specifically collecting data within a location such as the proposed Wind Energy Areas (WEAs).

It is anticipated that the primary data collection activity will be bat acoustic detectors attached to fishing vessels, and other vessels of opportunity. However, there could be an opportunity to utilise the existing buoy networks, island weather stations, and coastal sites.

3 - Approach / Scope:
1. Establish detailed study plan including the survey area and procurement of detectors and agreement with vessels
2. Data collection
3. Quality control, data processing and data analysis
4. Report with a route to publication

Split campaign?
Phase 1: acoustics to understand what species are using the environment
Phase 2: Motus and tagging effort

4 - Output:
- Public report synthesizing the approach and results
- Anticipated journal publication
- Data submitted to NABat

5 - Expected Benefits:
- Significantly increase the understanding of bat use of the Gulf of Maine to inform permitting and conservation efforts.
- Collaboration between wildlife ecologists and fishing community
- Bat acoustic studies are relatively inexpensive but have the potential to yield high quality data

6 - Other Comments (urgency, synergy with existing initiatives)**:**
- If buoys are used, deployment should be for a minimum of 3 months, ideally 6-9 months
- https://rwsc.org/science-plan/
- Look to utilise existing network e.g. NOAA and NERACOOS
- Primary monitoring times are March–November, with greatest migratory use expected July–October.

Bird tracking study in the Gulf of Maine

Budget:	~$500k
Duration:	2 years
Research area:	Impact on wildlife

1 – Challenge trying to address:

Currently, researchers are tracking seabirds from breeding colonies in the Gulf of Maine, but there remains data gaps on the movement of some less studied colonial seabirds (e.g., Common Guillemots), terrestrial migrants, shorebirds, and non-breeding marine birds.

Based on BOEM's Avian Survey Guidelines, developers are likely to conduct site specific monitoring, but these surveys will not provide an ecosystem-wide perspective. This study would provide broader context relevant to the Gulf of Maine region, that could help contextualise individual site assessments.

2 - Objectives:
Conduct data collection and analysis on key bird species to further support an ecological/ environmental baseline in the Gulf of Maine and to support understanding the risk offshore wind poses to bird.

Ideally, over a minimum of a two-year period to account for variations in bird movement, data will be collected on prioritised (and identified by the RfP responder) bird species where there are data gaps.

Proposals may leverage existing assets or deployment of new technology within the total maximum budget. Projects should coordinate surveys that cover multiple lease areas.

3 - Approach / Scope:
1. Establish detailed study plan, including the species and tracking technology, and data gap to be filled
2. Procurement of tracking equipment, necessary permits and landowner permission for field work, and establishment of an experienced field team
3. Data collection
4. Quality control and data processing
5. Data analysis
6. Report with a route to publication

4 - Output:
- Public report synthesizing the approach and results
- Anticipated journal publication
- Data submitted to MoveBank

5 - Expected Benefits:
Support understanding of:
- bird exposure to the Gulf of Maine Wind Energy Area (WEA), including migratory pathways
- bird flight height (dependent on tag type)
- migratory connectivity

6 - Other Comments (urgency, synergy with existing initiatives)**:**
- Individual tracking complements surveys by providing data for rare species, nocturnal migrants, and species movement during inclement weathers
- Priority species and tagging method be determined in consultation with the RWSC Bird & Bat Subcommittee using the prioritization framework
- Tagging chosen may require deployment of MOTUS. If used, the tools developed by USFWS/BRI should be relied on for study design and data collection

https://rwsc.org/science-plan/

Modelling assessment of potential spatial and temporal changes to groundfish with the WEAs in the Gulf of Maine

Budget:	$200k
Duration:	6-8 months
Research area:	Impact on wildlife

1 – Challenge trying to address:

There are gaps in fisheries data in the Gulf of Maine which would help baseline the potential change in fish due to the construction of offshore wind. It is difficult to prioritize where extensive and thereby expensive primary data collection on fish stock would be useful so a modelling effort could collate current information.

Studies on cod show that there is likely to be most overlap between WEAs and groundfish fisheries but there is a gap in a detailed study that considers other groundfish species.

2 - Objectives:

This study will model the impact on groundfish in the WEAs exploring temporal and spatial trends. If necessary, it will provide a gap analysis and synthesis of what data is available to help prioritize where future primary data collection is needed on groundfish within the WEAs.

3 - Approach / Scope:

Data could be considered from vessel monitoring, ethnographic surveys as well as fishery independent surveys.

Modelling to exploring spatial and temporal trends of groundfish e.g. applying VAST (Vector Autoregressive Spatial Temporal)

Utilize multiple catch data sources (e.g., trawl survey and longline survey) coupled with habitat variables to fill in species distribution and abundance in areas not surveyed.

4 - Output:

- Modelling and report

5 - Expected Benefits:

6 - Other Comments (urgency, synergy with existing initiatives)**:**

This originally looked at a fisheries database but some work is already happening e.g. BOEM study. Suggest we engage with other parties including BOEM and ROSA for a gap analysis.

Socioeconomic Impact Assessment of Floating Offshore Wind Development

Budget:	~$200k (Phase 1 only)
Duration:	12-18 months
Research area:	Socio-economic

1 – Challenge:

We are currently undertaking a project (led by Karp Strategies) to develop a data inventory with initial results highlighting that there is quite a lot of data already available. We have also learned the designation of the Wind Energy Areas (WEAs) in the Gulf of Maine and can therefore start to understand which communities may be impacted.

No detailed assessment has taken place to understand who will be impacted by the OSW development in the Gulf of Maine. In addition, there is no common framework to assess the impact of offshore wind on communities.

2 - Objectives:

Phase 1

- Define and identify the communities that will be most likely to be significantly affected (positively or negatively) by offshore wind development (based on the WEAs). This could include impact in Fishing, from electrical infrastructure and construction activities.
- Assess how impacted communities may change over time (e.g. by the phase of development

Phase 2

- Develop a common framework to assess the socio-economic impact of offshore wind on affected communities.

3 - Approach:

- Phase 1: Define and identify communities that will likely be affected accounting for different phases of offshore wind development
- Phase 2: Develop a methodology and engagement plan for a commonly accepted socio-economic impact assessment framework that can be used in the Gulf of Maine

4 - Output:

- Framework to assess socio-economic impacts that can be used in the Gulf of Maine and wider
- Identification of who will be impacted by offshore wind in the GoM

5 - Expected Benefits:

- Better comprehension of both positive and negative impacts of floating offshore wind on communities.
- Generation of data to monitor socioeconomic impacts over time.
- Inform local and state efforts in preparing for and responding to floating offshore wind development.

6 - Other Comments (urgency, synergy with existing initiatives)**:**

- Potential to work (co-fund) with NYSERDA, MassCEC (?) to develop a commonly accepted framework
- BOEM will be undertaking a study – try to work directly with them to expand their scope/approach
- Decide the boundary of the scope e.g. fishing communities, broader coastal com munities, communities directly linked to the sites impacted by the electrical infrastructure

Understanding the risk and remote detection of secondary entanglement

Budget:	$400k (+ in-kind contribution of the use of the UMaine test tank)
Duration:	12 month for Phase 1&2. Assume launch of phase 3 competition ~April 2025
Research area:	Technology

1 – Challenge trying to address:
The extensive underwater mooring and cable system of commercial floating wind farms pose a potential risk of entanglement for marine wildlife.

Secondary entanglement refers to marine debris (such as lost fishing gear) becoming ensnared around mooring lines and/or cables, subsequently entangling marine wildlife. There has been qualitative assumptions about potential entanglement but it has not been studied in detail and there is no well described baseline for the risk.

Monitoring and mitigation efforts aim to reduce this risk and there has been work for deep water oil and gas but gaps remain on defining how applicable this is to floating wind developments.

2 - Objectives:
- Investigate the potential impact and likelihood of secondary entanglement in floating offshore wind moorings and cable systems.
- Understand the extent of fishing gear accumulation on the floating wind structures and leverage existing data, such as from the Gulf of Mexico
- Identify technologies that can minimize the risk of secondary entanglement and determine the most effective methods for automated detection.
- Test and validate relevant technologies.

3 - Approach / Scope:
Phase 1: Desk based risk assessment
- Literature review
- Data collation (ROV footage, log book data, marine mammal behavior) and risk analysis

Phase 2: Technology feasibility study
- Literature review

Phase 3: Technology test program (competition)
- Competition scope/evaluation criteria and launch
- Assess and agree technologies to test at Umaine
- Summary report including recommended practice

4 - Output:
- Report on the risk of secondary entanglement on floating wind technologies likely to be used in the Gulf of Maine
- Testing of the selected technology in UMaine's test tank to assess the effectiveness in detecting secondary entanglement

5 - Expected Benefits:
- A clearer understanding of the risk of secondary entanglement, including the likelihood and severity.
- Understanding of the potential technology options to detect secondary entanglement.

6 - Other Comments (urgency, synergy with existing initiatives)**:**

Specifically designed as a joint project between NOWRDC and this Consortium to utilize the UMaine test tank as part of Maine's in-kind contribution as a member of NOWRDC.

RfP approach:
- Offer the tank test as a resource and ask responders on a proposed project around the topic, or
- We run a JIP with UMaine and NOWRDC as key partners (likely cheaper option)

Industrialization of the floating supply chain in Maine

Budget:	~$250k?
Duration:	8 months
Research area:	Technology

1 – Challenge trying to address:

The industrialization of the floating offshore wind supply chain in Maine presents promising opportunities for economic growth, job creation, and regional development. To realize these opportunities, the supply chain needs to rapidly scale up in a cost-effective manner.

Currently, costs for floating offshore wind are still high, and significant cost reductions are needed within the supply chain. Advancements in technology, optimizations, and industrialization will be crucial in achieving the necessary cost reductions, and as a leader in floating wind, Maine is well placed to be at the cutting-edge.

2 - Objectives:

Explore innovative technology solutions for infrastructure development, industrialization, and cost reduction. Provide a comprehensive understanding of how to advance the floating supply chain industry in Maine through technology development, while maximizing economic benefits and minimizing costs. The study will analyze market potential, regulatory factors, and technological readiness. This research is crucial for identifying opportunities for growth and efficiency within the floating supply chain industry in Maine, and for developing strategies to leverage technological advancements to drive sustainable economic development.

3 - Approach / Scope:

- Infrastructure Assessment: Evaluate existing facilities and identify needs.
- Technology Evaluation: Assess innovative solutions and their feasibility.
- Regulatory Analysis: Review regulations and address compliance issues.
- Environmental Impact Assessment: Study potential environmental effects and propose mitigation.
- Economic Feasibility: Analyze costs, benefits, and funding options.

4 - Output:
- Published report

5 - Expected Benefits:

- Industry Innovation: Fostering innovation within the floating supply chain sector through technology evaluation and advancement.
- Increased Competitiveness: Enhancing the competitiveness of Maine's floating supply chain industry on a regional, national, and global scale.
- Infrastructure Resilience: Developing resilient shoreside infrastructure that will be relevant and needed for the future.
- Community Development: Creating job opportunities, fostering economic development, and supporting small businesses in local communities.

6 - Other Comments (urgency, synergy with existing initiatives)**:**

Feasibility study on mussels farming in an offshore wind farm

Budget:	$200k
Duration:	9 months
Research area:	Technology / co-use

1 – Challenge trying to address:

The integration of offshore wind developments and mussel farming presents an opportunity to utilize marine space and resources. This co-location offers significant economic advantages for both sectors, however, there are technical, logistical, and regulatory challenges that need to be addressed.

The installation and maintenance of offshore wind turbines may disrupt mussel farming activities, while the presence of mussel farming infrastructure could pose obstacles to offshore wind installation and maintenance operations. Coordination between regulatory agencies responsible for overseeing offshore wind development and aquaculture operations is essential to streamline the permitting process and address potential conflicts in licensing requirements.

2 - Objectives:

Explore the synergies between mussel farming and floating offshore wind development through a comprehensive feasibility study.

Analyse the operational and infrastructure requirements of each industry to develop conceptual designs that optimize spatial efficiency and operational synergy while mitigating potential conflicts.

Define the operational protocols and maintenance procedures necessary for the co-existence of mussel farming and offshore wind infrastructure to ensure long-term sustainability and success.

3 - Approach / Scope:

- Stakeholder engagement,
- Site consideration,
- Technical analysis,
- Cost benefit analysis,
- O&M analysis
- Environmental impact assessment,
- Regulatory and permitting analysis,
- Risk assessment,
- Conceptual design

4 - Output:

- Published report

5 - Expected Benefits:

- Optimized use of marine space
- Diversified revenue streams for offshore wind developers
- Improved resource efficiency
- Reduced environmental impacts by consolidating human activities
- Synergistic operations leading to cost savings and improved efficiency
- Promotion of innovation and collaboration between sectors

6 - Other Comments (urgency, synergy with existing initiatives)**:**

AB Member & Collaborator Updates

Regional Updates

- **NEFMC's** response to the BOEM NOI to prepare and Environmental Assessment can be found here: https://d23h0vhsm26o6d.cloudfront.net/240416-NEFMC-to-BOEM-re-GOM-EA.pdf

- **Responsible Offshore Science Alliance (ROSA)**
  - ROSA is a partner on a NOWRDC Funded project titled "Co-Design Solutions for U.S. Floating Offshore Wind Farms and Fishing Compatibility" with the following objectives:
    - Develop novel floating wind array design concepts for the U.S. through a co-design process in cooperation with U.S. commercial and recreational fishermen that optimizes the potential for floating wind farms to coexist with fishing activities.
    - The project will feature a participatory approach to designing solutions in which fishermen are equal collaborators in the design process, with application to scenarios in the **Gulf of Maine** and Central Atlantic, specifically the lobster fishery and pelagic longline and recreational gear fisheries, respectively. Barriers to co-existence will be addressed by involving fishermen as team members in the co-design process.
  - ROSA will hold their first Fisheries and Offshore Wind Funder Coordination Meeting at the end of May
  - ROSA has begun a Acoustic Telemetry Committee who is working toward data standards and to produce updated monitoring guidelines to include in our ROSA-Offshore-Wind-Project-Montioring-Framework-and-Guidelines

Regional Updates

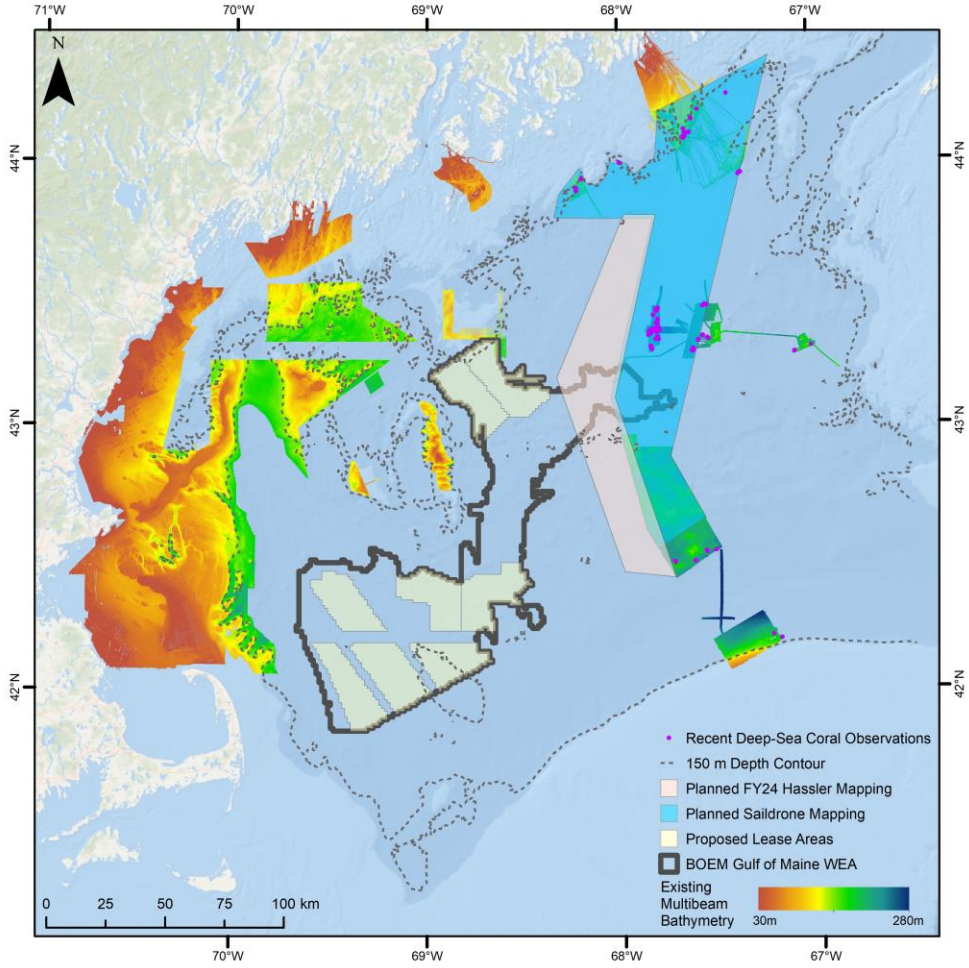
- **Massachusetts EEA**:
  - CZM is working with SBNMS and NOAA NCCOS to plan for cable corridors from GOM WEA to MA shore
  - CZM has been coordinating with NOAA, USGS, ME, and NH on mapping the seafloor in the GOM
  - EEA's Interagency Offshore Wind Council is drafting an Offshore Wind Strategic Plan to advance responsible development of offshore wind to meet MA climate goals
    - Draft document available in June
    - Public comment in summer w/ public meeting in August
    - Final document in October
- **MassCEC**:
  - In March, MassCEC released an Offshore Wind Science and Research Solicitation. The topical scope for the solicitation was broad, with the objective to support activities that: (1) advance science and applied research activities that are highly relevant to planning, deployment, and operations of offshore wind in the southern New England lease areas and in the Gulf of Maine, and (2) grow capacity in Massachusetts and the region to conduct such science and applied research. The solicitation advances these objectives through a two-step process by first inviting concept papers and subsequently full application. The solicitation closed in late April and MassCEC is currently reviewing the over 50 responses received to determine which proposals will be asked to submit full applications. Decisions are expected in late May.

Regional Updates

- **GARFO**
  - Gulf of Maine Integrated Ecosystem Assessment: We just finished a workshop synthesis report summarizing the discussions and suggested updates to the conceptual model coming from the workshops held with the fishing industry in December and with researchers in January. Next, we are working on developing a list of priority indicators and assessing data availability.
  - Hook and Line Pilot Study: We just finished leg 1 of the pilot sampling in the Gulf of Maine and Mid-Atlantic. We will be assessing results of Leg 1 and upcoming Leg 2, sampling Southern New England waters starting in May over the next few months.
  - Updated Socioeconomic Impact Reports: We've updated our offshore wind lease socioeconomic impact reports to include 2023 data, more detailed port-specific landings and revenue data, community profiles for most affected ports, and data for the Gulf of Maine proposed lease areas. The reports are available on our website: https://www.fisheries.noaa.gov/resource/data/socioeconomic-impacts-atlantic-offshore-wind-development?utm_medium=email&utm_source=govdelivery

Regional Updates

- **GARFO**
- Coral and Benthic Mapping Surveys:
  - Saildrone: In April, restarted mapping surveys along Hague Line where we left off at the end of 2023 (map: greenish area in southern section of blue "hatchet"). Heading north toward the Jordan Basin Coral Area (within blue). Improved swath width means we're covering more ground faster. Found new areas of topographic relief, implying hard bottom and potential for corals. Applied for more funding from OMAO for more Days-at-sea. [Tomorrow I should have the latest map of the Gulf of Maine with our new Saildrone bathymetry, the new wind leases, R/V Hassler mapping areas of interest, etc. Will provide it as soon as it's ready, that will help visualize the rest of the bullets too.]
  - Deep-sea GOM coral survey cruise, 5/31-6/8 aboard R/V Connecticut. Tentative targets include: Topographic highs [potential coral areas] mapped by Saildrone south of Jordan Basin coral area along Hague Line (greenish, blue), possibly new and previously surveyed coral areas in/around Jordan Basin coral areas, and previously surveyed areas in the Outer Schoodic Ridge Deep-sea Coral Protection Zone (top of blue, in red/yellow bathymetry).
  - Deep-sea coral transboundary coral survey, 7/18-8/1, U.S./Canada Gulf of Maine, canyons, and U.S. National Monument canyons. U.S. side GOM targets tentative, but in conjunction/overlap with the previous UConn cruise, may include Jordan Basin coral area, and the topographic highs south of there that were mapped by Saildrone.
  - R/V Hassler mapping cruises, GOM, Leg 1: 8/26-9/16; Leg 2: 9/9-9/20. (Dates have been revised). Targets are tentative (pink); a lot will depend on what Saildrone accomplishes. Will include some overlap of Saildrone areas to QA/QC Saildrone's efforts. May extend all the way west out to near Cashes Ledge -- which the State of Maine would love us to do as they are mapping east from Cashes, and we could all hook up, but suspect there may not be corals that way. Other option (pink) is to map just to the west of the Saildrone areas, north to south, extending south to Lindenkohl Knoll (green with 4 red dots) or more (preferred by us). Again, depending on Saildrone, hope to cover north all the way to the Outer Schoodic Ridge coral zone (top of blue).



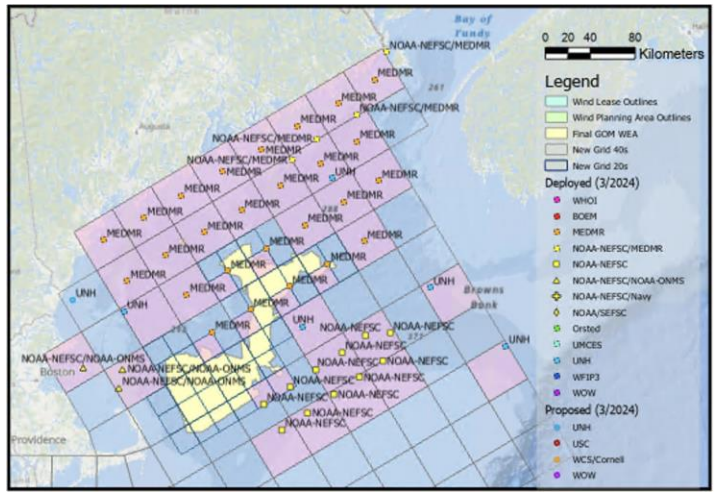
NYSERDA Updates

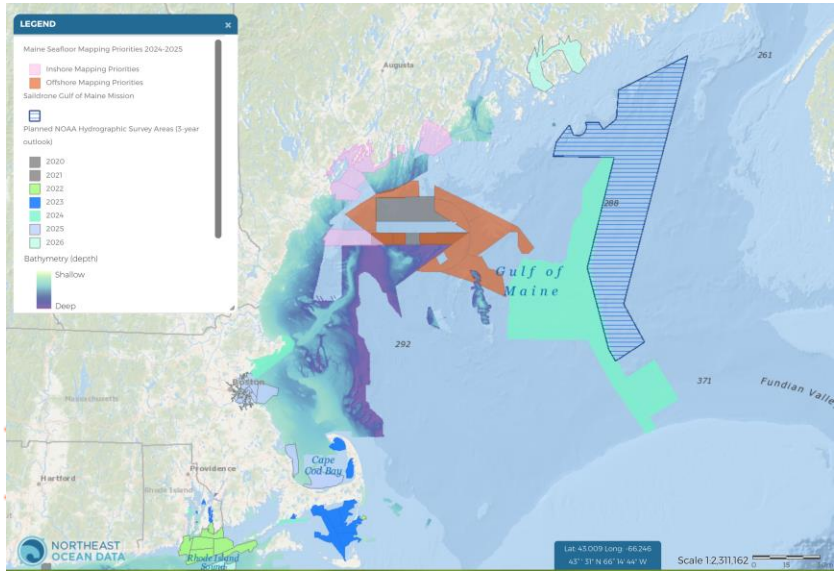
- RFP 5554 - Regional Fund Administrator for an Offshore Wind Fisheries Mitigation Fund
  - Proposal Review Ongoing, Contract Execution in Q3 2024
- NY MP 2.0 Update
  - Phase 1 Studies awaiting public release (Technical Considerations and Environmental Assessment Studies)
  - Phase 2 Cooling Water Use at Offshore Converter Stations and Characterizing Oceanographic Conditions and Analyzing Extreme Weather Risks
- Ongoing Research Projects
  - Rutgers - Juvenile Surfclam Survival and Growth to Support Enhancement of Sustainable Fisheries
  - Stony Brook University - Evaluating offshore wind farm impacts on Mid-Atlantic fisheries stock assessment
  - Commercial Fisheries Research Foundation - Mechanical jigs for resilience of sustainable fishing to wind farm development
- Offshore Wind, Fish, and Fisheries – Emerging Knowledge and Applications Symposium at the AFS Annual Meeting (September 15-19, 2024) in Honolulu, HI
- State of the Science Workshop – Stony Brook University, NY July 16 – 19, https://www.nyetwg.com/2024-workshop

RWSC
Regional Wildlife Science Collaborative for Offshore Wind

Relevant RWSC updates

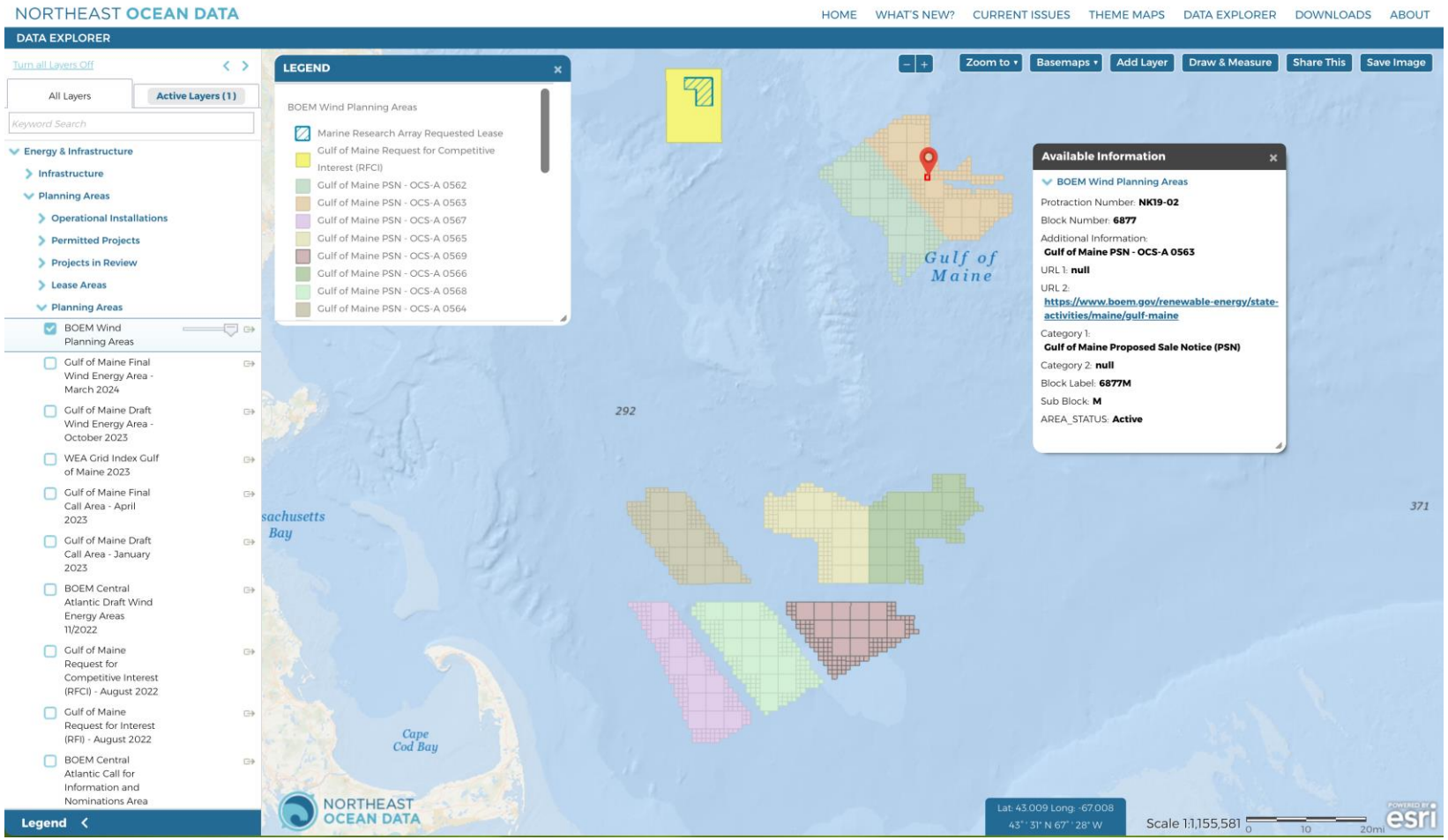
https://rwsc.org





- **Coordinating regional passive acoustic monitoring network** planning via Marine Mammal Subcommittee, including in Gulf of Maine. Shared map of PAM deployments (top left)
- Bird & Bat Subcommittee developing **bat acoustic monitoring guidance** – currently in Subcommittee review.
- **Atlantic coast-wide marine bird models and MDAT data products** just updated and added to Northeast Ocean Data Portal
- Collaboration with Atlantic Cooperative Telemetry Network and ROSA on sharing **locations of telemetry receivers that detect tagged fish, sea turtles, etc.** Shared map under development.
- Habitat & Ecosystem Subcommittee developed shared map of **planned seafloor mapping areas in the Gulf of Maine** on Northeast Ocean Data Portal (bottom left)
- Joint RWSC-MTS Technology Committee convened first of three workshops on **methods to evaluate performance of new technologies** – real-time whale detection as a case study. Visit https://rwsc.org/technology-workshops for more info

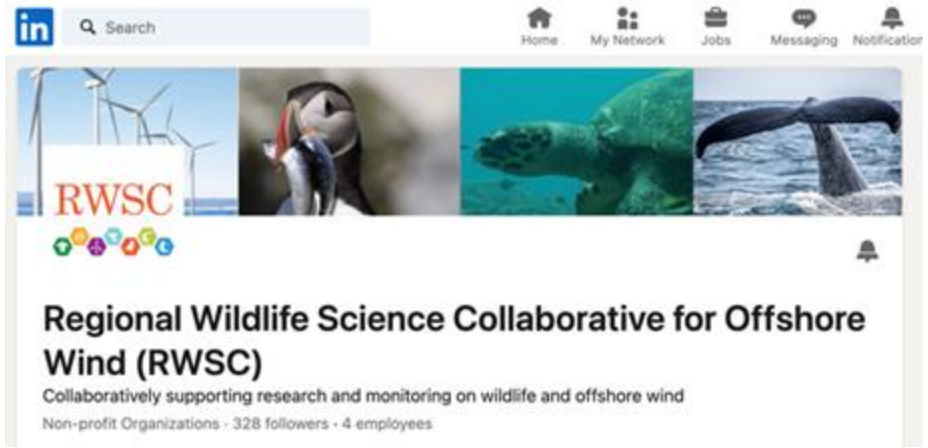
NROC update



- BOEM Gulf of Maine Proposed Sale Notice Areas accessible via Northeast Ocean Data Portal
- Can overlay with a variety of other layers depicting ocean uses, activities, marine wildlife, and habitat

https://www.northeastoceandata.org/yvUVwzED

How to connect with us



RWSC
Regional Wildlife Science Collaborative for Offshore Wind

All RWSC Subcommittee meetings are open to the public: visit https://rwsc.org/events

Monthly e-newsletter: meeting invites and other news

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NEXT STEPS

GOVERNOR'S Energy Office | Sea Grant MAINE | CARBON TRUST | SAMBAS Consulting LLC

Contact

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GEO contact: Stephanie Watson - Stephanie.Watson@maine.gov

Program advisor: Laura Singer - laura@SAMBASconsulting.com

Program advisor: Olivia Burke – Olivia.i.burke@carbontrust.com

https://www.maine.gov/energy/initiatives/offshorewind/researchconsortium

Regulatory Process for Offshore Wind in the United States

Figure from BOEM/BSEE
https://www.bsee.gov/about-bsee/renewable-energy

Bureau of Ocean Energy Management

Bureau of Safety and Environmental Enforcement

Offshore Wind Leasing Process – Key Decision Points and Timelines

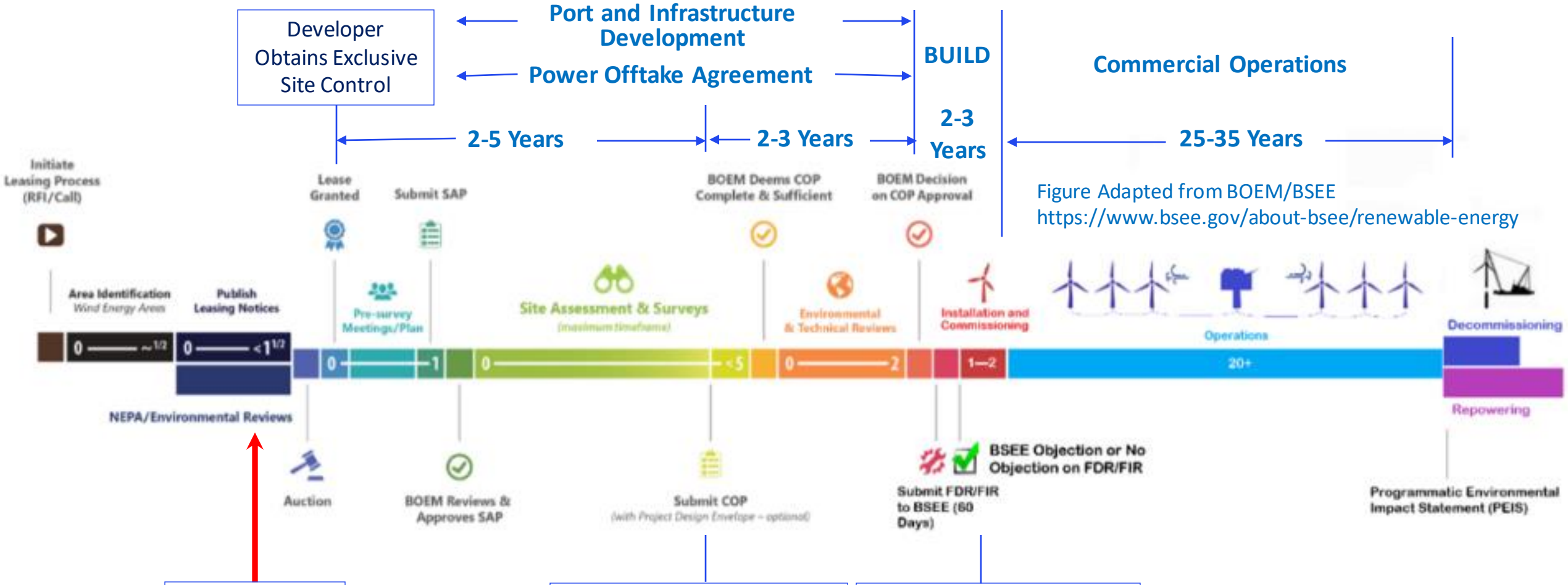

Figure Adapted from BOEM/BSEE
https://www.bsee.gov/about-bsee/renewable-energy

Gulf of Maine Leasing Process as of April 3, 2024

Construction and Operations Plan (COP) and Power Offtake contract lock in key variables like turbine size, turbine layout, projects size, foundation type, Safety Management System

FIR/FDR: Final design and installation details –: turbine type, anchor type and exact locations, installation plan. Power offtake agreement is needed to obtain financing