

Summary

Northeast Regional Planning Body Meeting

November 16-17, 2015

Portland, Maine

This document summarizes discussions and presentations at the seventh meeting of the Northeast Regional Planning Body. The meeting took place on November 16-17, 2015 in Portland, Maine. The summary was produced by Meridian Institute, which provides meeting planning and facilitation services for the Northeast Regional Planning Body.

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Executive Summary

The seventh meeting of the Northeast Regional Planning Body (NE RPB) took place on November 16-17, 2015 at the Westin Portland Harborview in Portland, Maine. The NE RPB meeting was attended by state, federal, New England Fishery Management Council (NEFMC) and tribal NE RPB appointed members or their alternates. Approximately 80 members of the public attended as observers and 19 total public comments were provided during three public comment sessions held over the course of the meeting. A list of NE RPB members and alternates and public participants is included in Appendix A.

Objectives of the meeting were to:

- Discuss updates on Northeast Regional Planning Body (NE RPB) activities and progress since June 2015, including progress on data and agency guidance (included in Chapter 3) and a review of updated draft Northeast Ocean Plan (Plan) outline and timeline.
- Review options and discuss next steps for Plan performance and ocean health indicators (Chapter 4, Section 3 of the draft Plan outline).
- Review options and discuss next steps for science and research priorities (Chapter 5 of the draft Plan outline).
- Review options and discuss future responsibilities and commitments (Chapter 4, Section 2 of the draft Plan outline).
- Provide opportunities for public input about the topics being considered by the NE RPB.

Meeting materials, including discussion documents and a summary from the recent stakeholder forum, are available on the [NE RPB web site](#)¹.

On the first day of the meeting, November 16, the NE RPB reviewed a draft outline for the Plan, discussed the progress of data (particularly related to marine life) and development of agency guidance on the use of plan information, which forms the core of Chapter 3 (*Regulatory Environment and Management Actions*). The NE RPB then heard updates on projects developing best practices for agency coordination and summarizing recent science of changing conditions in the region. The NE RPB also discussed and made a decision on an approach to developing content for Chapter 4, Section 3 of the Plan (*Monitoring and Evaluation*) for both plan performance and ecosystem health, following public comments.

On the second day of the meeting, November 17, the NE RPB discussed and made a decision on a framework for addressing science and research priorities in the Plan, discussed Plan implementation and the future of the NE RPB, deciding that in general the NE RPB should continue to be the general oversight body for the regional planning effort beyond 2016. Details such as updating the NE Data Portal still need to be addressed and RPB members agreed to continue those discussions. The RPB also heard additional public comments.

¹ <http://neoceanplanning.org/events/november-2015-rpb-meeting/>

About This Meeting

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The meeting was called by the NE RPB state, federal, and tribal Co-Leads. The state Co-Lead is Grover Fugate, Executive Director, Coastal Resources Management Council, State of Rhode Island; the federal Co-Lead is Betsy Nicholson, North Regional Director, Office for Coastal Management, National Oceanic and Atmospheric Administration (NOAA) Office for Coastal Management; the tribal Co-Lead is Richard Getchell, All Nations Consulting and Former Tribal Chief, Aroostook Band of Micmac Indians. The meeting was organized by the NE RPB ocean planning staff, and Meridian Institute staff, who provided meeting planning, facilitation services and developed this summary document.

Meeting Objectives

Objectives of the meeting were to:

- Discuss updates on Northeast Regional Planning Body (NE RPB) activities and progress since June 2015, including progress on data and agency guidance (included in Chapter 3) and a review of updated draft Northeast Ocean Plan (Plan) outline and timeline.
- Review options and discuss next steps for Plan performance and ocean health indicators (Chapter 4, Section 3 of the draft Plan outline).
- Review options and discuss next steps for science and research priorities (Chapter 5 of the draft Plan outline).
- Review options and discuss future responsibilities and commitments (Chapter 4, Section 2 of the draft Plan outline).
- Provide opportunities for public input about the topics being considered by the NE RPB

Meeting materials, including discussion documents and a summary from the recent stakeholder forum, are available on the [NE RPB web site](http://neoceanplanning.org/events/november-2015-rpb-meeting/)².

² <http://neoceanplanning.org/events/november-2015-rpb-meeting/>

Monday, November 16, 2015

On the first day of the meeting, November 16, the NE RPB reviewed an updated Draft Northeast Ocean Plan Outline, discussed the progress of data and agency guidance to be included in Chapter 3, *Regulatory Environment and Management Actions*, heard updates on recent activities and key projects, discussed and made a decision on an approach to monitoring and evaluation in the Plan, and heard public comments.

Tribal Blessing

Mr. Richard Getchell opened the meeting by offering a blessing for meeting participants.

Introductions and Agenda Review

Ms. Laura Cantral, Meridian Institute, facilitated a round of introductions. A list of attending NE RPB members, alternates, and public participants is included in Appendix A. Ms. Cantral explained that the meeting would be focused on the five objectives described above.

She informed the group that there would be three opportunities to receive public comment about the topics being considered by the NE RPB, two on the first day of discussion and one on the second, specifically related to monitoring and evaluation (Chapter 4, Section 3 of the draft Plan outline), science and research priorities (Chapter 5), and future responsibilities and commitments (Chapter 4, Section 2).

Welcome and remarks from National Ocean Council Director

Ms. Beth Kerttula, Director, National Ocean Council (NOC), offered brief remarks to the NE RPB. She expressed appreciation for the NE RPB's efforts to create the first regional marine plan in the United States and said it would be a guiding force for other regions that are at earlier stages of the planning process. She emphasized that the current Administration, including the NOC, supports and encourages the NE RPB as it finalizes the Northeast Ocean Plan and the NOC stands ready to assist with implementation.

Opening Remarks, Overview of NE RPB Progress, and Timeline

Ms. Betsy Nicholson provided an overview of topics to be discussed at this meeting. She shared the NE RPB's timeline, which is included in Appendix B, and thanked stakeholders and NE RPB members for their participation and contributions to the process. She emphasized that this meeting comes at an important time in the planning process, as the plan is drafted and reviewed in the coming months, and therefore this meeting was an opportunity to further refine Plan content and discuss important aspects of Plan implementation. She emphasized that there is important work to be done over the next few months in building support and commitments to implementing the Plan within the NE RPB entities. She also outlined potential opportunities for public input on the draft Plan from March through June 2016.

Mr. Grover Fugate welcomed the NE RPB and reiterated that the next few months will be important to building out how NE RPB entities will use the Plan. He emphasized the need for NE RPB members to work hard to contribute to the initial draft of the Plan, and stressed that

there will be time to address outstanding items and additional topics in future iterations of the Plan.

Mr. Getchell recognized contributions from the Tribes during the planning process and identified ways that the Tribes are providing input to the Plan. He mentioned the opportunity to collaborate with the Mid-Atlantic region on Tribal priorities that span the two regions and emphasized the importance from a tribal perspective of current efforts to set up long-term coordination between the two regions.

Review and Updates on Draft NE Ocean Plan Outline

Mr. Nick Napoli, ocean planning staff, reviewed the draft Northeast Ocean Plan outline and provided an overview of the five chapters of the Plan, noting that Chapters 3, 4, and 5 would be major topics of conversation throughout the meeting. The Northeast Ocean Plan outline is included in [meeting materials](#)³, see document 3.2. His presentation is in Appendix B.

Chapter 1: The New England Offshore Environment and the Need for Ocean Planning

Mr. Napoli indicated that the outline for this chapter incorporates input received during and since the June 2015 NE RPB meeting. The intent of this chapter would be to highlight the uniqueness and importance of the Northeast's oceans and coasts. The chapter will serve as an introduction to the Plan and draw from the baseline assessment, providing context for the regional planning process.

Chapter 2: Ocean Planning in New England

The second chapter will summarize the planning process in the Northeast, and describe how the Plan advances the Plan's three goals.

Chapter 3: The Regulatory Environment and Management Actions

This chapter will describe the existing Federal regulatory environment and outline how the Plan will be implemented within these existing regulatory authorities, particularly focused on the use of Plan data. It will also include descriptions of the intended management applications of Plan data and information. Finally, the chapter will include a section on progress towards charting an ecosystem based management (EBM) approach, including defining EBM in the context of regional ocean planning.

Chapter 4: Ocean Plan Implementation

This chapter will include a section on intergovernmental coordination including best practices for agency coordination, Federal-state coordination opportunities through the Coastal Zone Management Act (CZMA), and Tribal coordination. It will also include a section on responsibilities and commitments to conduct various Plan implementation activities, including

³ <http://neoceanplanning.org/events/november-2015-rpb-meeting/>

overall oversight of Plan implementation, and details such as the maintenance of the NE Ocean Data Portal. Finally, it will include a section on monitoring and evaluation, both of Plan performance and of ocean and ecosystem health.

Chapter 5: Science and Research Priorities

The last chapter of the Plan will outline the priority data, research, and science necessary to update and advance Plan information and management needs. It will be strongly tied to Chapters 3 and 4.

NE RPB members emphasized the importance of interregional coordination in the Plan (i.e. coordination between the Northeast and Mid-Atlantic RPBs). NE RPB members suggested including language in the Plan describing interregional coordination efforts undertaken during the ocean planning process, such as collaboration on data and working with industry sectors.

Update on the Development of Chapter 3: The Regulatory Environment and Management

Update on the Status of Chapter 3

Following the overview of the Northeast Ocean Plan outline, Mr. Napoli provided more specifics on Chapter 3, *The Regulatory Environment and Management*. His presentation can be found in Appendix B. He referred meeting participants to the document *Northeast Ocean Plan Outline Chapter 3 Addendum*, included in the additional meeting materials and available [online](#)⁴. This document focuses on the topics, data, and other information to be included in Chapter 3 Sections 2 and 3, which describe the management application and use of data regarding natural and cultural resources and human activities. Mr. Napoli then described the data and information that would be included in each section.

He said that while the final Marine Life Data & Analysis Team (MDAT) products are not yet available, the [Chapter 3 Addendum](#)⁵, lays out the structure for how they could be included in the Plan. For example, marine life related sections could include regulatory based species groups (e.g., species with special status under the Endangered Species Act), ecologically-based species groups (e.g., all forage fish), and individual species.

Mr. Napoli outlined the proposed structure for the data and information categories in Chapter 3 Section 2.4, *Habitat and Important Ecological Areas* (IEAs). This section will include discussion of areas deemed important through existing regulations (e.g., Magnuson-Stevens Act Essential Fish Habitat, Endangered Species Act critical habitat areas, and Clean Water Act Section 404 special aquatic sites) and EBM Work Group efforts to define and agree upon components of IEAs.

⁴ <http://neoceanplanning.org/events/november-2015-rpb-meeting/>

⁵ <http://neoceanplanning.org/wp-content/uploads/2015/11/Northeast-Ocean-Plan-Chapter-3-Addendum.pdf>

Chapter 3 Section 2.5, *Restoration*, will include locations of and discussion about the use of priority restoration sites identified by the NE RPB. Chapter 3 Section 2.6, *Historic and Cultural Resources* will include locations of historic and cultural resources and recognition of the cultural importance of marine life and habitat, restoration sites, and human activities identified in other sections. Mr. Napoli emphasized the importance of input from Tribes on these two sections.

Chapter 3 Section 3, *Human Activities* will characterize areas already managed under existing authorities, existing infrastructure, and the footprint of existing human activities (shipping, fishing, recreation, etc.). Mr. Napoli also mentioned that details on national security are being developed and related data from the U.S. Navy will be included in the Northeast Ocean Data Portal and in Chapter 3 Section 3.2, *Natural and Cultural Resources*.

Mr. Napoli then described examples of how Chapter 3 Section 2.2 and 3 might look in the Plan. Each subsection could include an overview of each human activity, natural or cultural resource, Plan maps and data associated with that activity or resources, a description of how data would be used under existing authorities, additional information sources and existing management programs, long-term maintenance of Plan maps and data, and other related NE RPB initiatives and coordination activities.

Federal NE RPB members provided examples of what agency guidance might include by describing the status of discussions within their own agencies. Ms. Nicholson started providing several examples, including how the Data Portal and Plan might be used in writing biological opinions under the Endangered Species Act (e.g., by using listed species' data) as part of the nomination process for national marine sanctuaries under the National Marine Sanctuary Act, and to support efficiencies in the CZMA process. She emphasized that these examples are based on initial discussions and NOAA is still discussing specific mandates and other considerations for Plan guidance.

Mr. Bob LaBelle, Bureau of Ocean Energy Management (BOEM), then discussed examples of how his agency intends to use the Plan. His presentation is available in Appendix C. BOEM will be coordinating with other Department of the Interior federal agencies, including the U.S. Fish and Wildlife Service and the National Park Service to ensure they contribute to the ocean planning process. He emphasized that for practicality and efficiency reasons, most federal agencies will have guidance that applies across both the Northeast and the Mid-Atlantic regions, but with opportunities for regional tailoring. Mr. LaBelle described several examples of how BOEM is considering agency guidance and data use for the Plan and Data Portal, including as part of the public input periods, agency involvement, and regulatory processes for offshore wind leasing. He also described an example of how BOEM is sharing ocean science information that may be incorporated into both the Northeast and Mid-Atlantic Data Portals.

The NE RPB then discussed Chapter 3 content. NE RPB members offered the following questions and comments:

- Reference the work of the Mid-Atlantic Fishery Management Council in the Plan because some New England fisheries are Mid-Atlantic managed species.

- Oil and gas development should be referenced in the Plan. It was clarified that there are no Northeast oil and gas lease blocks included in BOEM's current 5-year plan. The Plan should include a description of the current status of offshore oil and gas in the Northeast.
- Elevate the importance of restoration in the plan, perhaps by including in Chapter 3 Section 4, *Ecosystem Based Management*.
- Extend the public comment period for review of the draft Plan to 90 days.
- Emphasize the importance of linking NE RPB efforts on EBM to the NEFMC efforts in the area of Ecosystem Based Fishery Management.
- Revise fish species groupings. Helpful additional groupings could include such factors as distribution in the water column, mobile versus migratory versus sedentary species, and demersal versus pelagic species.
- Clarify implications for agency use of data in areas with limited data, such as Long Island Sound. Consider how data gaps and areas of limited data are identified in the Plan.
- Share draft federal agency guidance, including how federal agencies interpret and use EBM, as soon as possible and build in adequate RPB member internal review time.
- Recognize that there may be gaps in human use and fish data sets. Caution to either fill those gaps or allow flexibility in the Plan to accommodate those gaps.
- Emphasize the importance of clearly explaining caveats and limitations of the data in the Plan, perhaps as an appendix.
- Recognize the distinct difference between IEAs and EBM. Support for the current approach of separating by including IEA in Chapter 3 Section 2.4 and EBM in Chapter 3 Section 4.
- Consider further distinction between natural and cultural resources (Chapter 3, Section 2) and human activities (Chapter 3, Section 3), since there are complex linkages between natural resources and human activities. Suggestion that Section 2 include resources like wind, sand, and oil and gas, while Section 3 focus on the human activities associated with those resources. Additionally, Section 3 should include historic and cultural resources and perhaps restoration.

Marine Life Characterization Update

Dr. Pat Halpin, Duke University, provided an update on products underway by the Marine Life Data & Analysis Team (MDAT). The team includes NOAA National Center for Coast and Ocean Research, the NOAA National Marine Fisheries Service (NMFS) Northeast Fisheries Science Center, and Loyola University. His presentation is available in Appendix D.

Dr. Halpin began with an overview of the base level products, which are a collection of over 3600 species abundance maps for marine mammals, seabirds, and fish. Dr. Halpin then described the next level of synthesis products being developed to allow quick access to biological, management, or sensitivity groups of species. He reminded NE RPB members that additional groups can always be developed through queries on the single species database. Dr. Halpin also described efforts to identify core areas of importance; these maps will help inform the EBM Work Group as they discuss the concept of IEAs.

The MDAT team is also working on methodologies for products that could help inform the identification of IEAs. Examples of such products include combined species richness visualizations for mammals, fish, and avian species to show “hotspots” for biodiversity; another example is the development of characterizations of unique benthic habitat types. All the single species-focused data products from the project is incorporated into Duke’s database, enabling further discussion and refinement of methodologies.

EBM Work Group Update

Dr. Emily Shumchenia provided an overview of the EBM Work Group discussions to date. Her presentation is available in Appendix E. The EBM Work Group is currently considering a framework for defining IEA components and their relationship to existing data. Next steps include further refinement of this framework, approaches to mapping (e.g., where and how to incorporate existing data), and in general continuing the discussion about potential short- and long-term needs and applicability of implementing this framework.

Dr. Shumchenia then provided a summary of the first EBM Work Group meeting in September 2015. The meeting summary is [available here](#)⁶. At that meeting, the Work Group reviewed their terms of reference, received an update on marine life data development, discussed benthic and pelagic habitat data development, and considered options for defining IEAs by discussing potential components. Derived from existing literature, such components could include areas of high productivity; areas of high biodiversity; habitat areas and distribution of species critical to ecosystem function and resilience; areas of functionally vulnerable marine resources; areas of spawning, breeding, feeding, and migratory routes; and areas of rare marine resources. Data exist to address many of these components but not all of them. Additionally, methods, thresholds and criteria need to be developed and applied by the MDAT team in order to use existing data to produce products describing these components. If there are components or methodologies which ultimately need further data or scientific inquiry, such topics can be incorporated into the Plan in Chapter 5, *Science and Research Priorities*.

The EBM Work Group will meet in January 2016 to continue its work, specifically to: finalize components of IEAs to recommend to the NE RPB and to discuss spatial data available, potential methodologies, and longer-term needs.

In the ensuing NE RPB discussion, NE RPB members of the EBM Work Group emphasized that the discussion about IEAs is only one element of EBM, and that other elements of EBM would be integrated throughout the Plan. They emphasized the importance of identifying EBM component data gaps in Chapter 5. EBM Work Group members also mentioned the need to manage expectations of what the Work Group will be able to accomplish prior to the release of

⁶ <http://neoceanplanning.org/events/inaugural-ebm-working-group-meeting>

the draft Plan.

Other NE RPB members then asked questions and provided comments about the EBM Work Group:

- Consider the connection between regulatory or management needs and EBM when identifying science and research priorities for the Plan.
- Work closely with the NEFMC to make sure RPB work is not duplicative with fishery management-focused efforts.
- Reflect the progress of the EBM Work Group in the Plan and indicate that many of its discussions and responsibilities may continue in the long-term during implementation.

Public Comment

Ms. Cantral opened the first public comment session. Six individuals provided comments during this session. Major themes from the comments included:

Stakeholder Engagement

- Request to extend the public comment period on the draft Northeast Ocean Plan from 45 to 90 days.
- Appreciation for the NE RPB's public process and public engagement opportunities.
- Request for one more stakeholder workshop prior to the release of the draft Plan.
- Request to involve stakeholders in the development of Chapter 1, The New England Offshore Environment and the Need for Ocean Planning.
- Suggestion for the NE RPB to create and maintain a comprehensive database of all public comments submitted during the public comment period.

Chapter 3, Regulatory Environment and Management Actions Content

- Request that Chapter 3 Section 1, *Regulatory Context and Primary Legal Authorities* include how Plan actions relevant to each legal authority will be carried out instead of just descriptions of those legal authorities.
- Request that the use of data and information developed through this process be voluntary; therefore, Chapter 3 Sections 2 and 3 should not include descriptions of how agencies intend to use the Plan in their regulatory programs.
- Support for including a reference to oil and gas in the Plan.
- Support for elevating the topic of restoration in the Plan.
- Request that individual, non-consumptive ocean recreational use should be included in Chapter 3.

IEAs and EBM

- Request that NE RPB work on EBM should proceed with a transparent and public process for defining EBM goals and objectives and address data quality concerns.
- Opposition to the identification of IEAs and the use of IEAs in regulatory management programs.

- Request that Chapter 3 Section 4, *Ecosystem Based Management* remove all reference to requirements or commitments for agency actions.
- Support for continuing the conversation about IEAs.
- Suggestion to include species persistence as a component of IEAs.
- Recognition that components put forth by the RPB will have strong effects on components that will be included in sub-regional planning efforts such as the one underway in Long Island Sound.

Data and Information

- Concern about the lack of lobster data in the Plan and Data Portal and request to include information from a current project underway to characterize lobster industry issues relevant to ocean planning.
- Concern that only some uses and resources will be included in the Plan and that there is limited information associated with many.
- Appreciation for the NE RPB working to address the data gap of low impact, non-motorized, non-consumptive ocean and coastal recreation.

General Comments

- Appreciation for the hard work of the NE RPB.
- Concern that the Plan would be too weighted toward the effective decision-making goal, and that the ocean health goal should be more greatly emphasized.
- The Plan should describe the desires and needs of the region. Although federal agencies will need to use the Northeast and Mid-Atlantic plans in similar ways to ensure consistency across the two regions, the Plan should focus on the Northeast region's distinct identity and desires.
- Request for more detailed information about how federal agencies will use the data and information products in the Plan.

In addition to comment provided during this session, a summary of public comment received during Fall of 2015 is available online by [clicking here](#)⁷.

Other Updates on Recent Activities and Projects

Following lunch, the NE RPB heard updates on activities related to best practices for agency coordination and climate change impacts on the ocean environment. NE RPB discussion followed each presentation.

⁷ <http://neoceanplanning.org/wp-content/uploads/2015/12/Public-Comment-Letters-Fall-2015.pdf>

Best Practices for Agency Coordination

Mr. Deerin Babb-Brott, SeaPlan, provided an update on NE RPB activities to develop best practices for agency coordination, referencing the draft working paper included in the meeting materials and available [here](#)⁸ on the NE RPB website. His presentation can be found in Appendix F.

He emphasized that the draft document is intended to generate NE RPB and stakeholder discussion and recommendations for revisions. He noted that while initially framed as best practices for pre-application review, this concept has been broadened to best practices for agency coordination in response to stakeholder input and to capture a range of applicability. He said best practices address the application of materials described in Chapter 3, *The Regulatory Environment and Management Actions*, including existing authorities, natural and cultural resources, and human activities. Mr. Babb-Brott noted that there will also be coordination with tribes to develop best practices for Federal-tribal coordination.

Mr. Babb-Brott described five categories of best practices developed to date: 1) participation in early coordination, 2) use of data and information, 3) coordination with stakeholders, 4) coordination with states, and 5) coordination with tribes. Further details about these best practices are in the draft working paper.

NE RPB members then asked questions and provided comments, raising the following points:

- In response to a question about whether best practices are designed to only apply to large projects, Mr. Babb-Brott clarified that they could be considered for all kinds of projects and authorities, but for the purposes of the Plan they are intended specifically to inform coordination associated with large projects. After this clarification, another RPB member expressed concern over small projects not being included.
- Identify a recommended sequence for best practices (e.g., engage in early coordination with states and tribes before coordination with stakeholders).
- Question about how the NEFMC fits into the best practices framework.
- Request for more information about how federal agencies intend to incorporate these Best Practices into their agency guidance.
- Relationship building is an outcomes from application of the best practices or use of the Data Portal.
- Emphasize the importance of a rigorous consultation process for potential projects and potential use of the Data Portal as a communication tool.
- Question about whether the Plan could include the notion of signing cooperative agreements to jointly review projects.

⁸ http://neoceanplanning.org/wp-content/uploads/2015/11/Draft-Section-4-1-1_Best-Practices-for-Agency-Coordination.pdf

- Consider forming a work group composed of state and federal consistency agencies to discuss potential CZMA coordination activities to incorporate into the Plan.

Climate Change Impacts on the Ocean Environment

Dr. Kathy Mills of the Gulf of Maine Research Institute, presented the results of her compilation of research on climate variability and change on the Northeast marine ecosystem. Her presentation can be found in Appendix G.

Dr. Mills shared observed and predicted changes in the Northeast's physical, biological, and social systems and how they are linked. She then described changes in recent years to temperature, salinity, and pH within the physical system. General scientific models indicate a future where Northeast waters are warmer, waters are fresher in the north and saltier in the south, and pH levels increase.

Dr. Mills described how these physical changes are already affecting fish stocks by changing spatial distribution, phenology, community interactions, and population productivity. She then described how all these changes affect the social system, including changing species availability and catch patterns, habitat suitability, timing of use, management effectiveness, and health and safety risks.

Finally, Dr. Mills outlined implications for these changes on ocean planning, including:

- Ecosystem change may affect location and timing of species, activities, and ecosystem processes.
- Decision-making and planning for different activities occur on different time scales than ecological or other ecosystem changes.
- Different time scales mean different views of uncertainty.

She said the work the NE RPB is doing to assess human and ecosystem activity and provide data to decision-makers and stakeholders is essential for effective adaptation to ecosystem change. Effective adaptation to ecosystem change will benefit from data and information access, developing future scenarios, establishing processes and tools for assessing outcomes of different management options under those scenarios, and proactive adaptive planning. Dr. Mills said her paper is still in draft form and welcomed feedback from RPB members.

NE RPB members then discussed how this research connects to the Northeast Ocean Plan. The following points were raised in this discussion:

- Dr. Mill's paper could include information about which parts of the system may benefit the most from the changing environment. Funding could then be directed toward efforts that have greatest potential for success, rather than those most negatively impacted by a changing climate.
- There is value to linking the NE RPB's EBM approach with climatic changes and trends. The NE RPB has an opportunity to make the Northeast Ocean Plan a vehicle by which NE RPB entities and the public can track and make decisions while accounting for these changes.

- Request for clarification about the assumed greenhouse gas emission levels behind the climate scenarios in the presentation. It was clarified that the research used the latest climate projections from the latest Intergovernmental Panel on Climate Change assessment. The predictive maps in the presentation were based on the Representative Concentration Pathway 8.5, which is a greenhouse gas concentration trajectory that assumes emissions continue to rise into the future. There is an ensemble of models behind those projections so that they capture the average of those models. Some higher resolution models for the Northeast region are currently in development.
- The NE RPB should consider how to incorporate concepts of climate change into the Data Portal. Much of the information in the Portal is static, and the NE RPB may want to consider how it could incorporate new information.

NE RPB Discussion on Chapter 4 Section 3: Monitoring and Evaluation

Mr. Weber then provided the NE RPB with an overview of the proposed approach for Northeast Ocean Plan Chapter 4 Section 3, *Monitoring and Evaluation*. He directed the RPB to the meeting material entitled *Approaches to Plan Content for Chapters 4 (Sections 2 + 3) and 5* (Included as part of Additional Meeting Materials, available online [here](#)⁹). His presentation can be found in Appendix H.

Mr. Weber described the objective in the NE RPB Framework to periodically assess progress toward achieving ocean planning goals and broke this objective down into two distinct components: 1) Plan performance monitoring and 2) ecosystem health monitoring. He mentioned that members of the public and RPB members discussed this topic at the October 20, 2015 Stakeholder Forum, and that those discussions have informed the proposed approach.

Mr. Weber then described the proposed approach to Plan performance monitoring. Because the final content of the Plan is needed to build out the final details of a Plan performance monitoring strategy, Section 4.3, *Monitoring and Evaluation* will describe a framework for Plan performance monitoring which will be finalized and implemented during Plan implementation. This framework would include three steps for assessment: 1) identify a particular objective to address, 2) identify particular indicators to use in the assessment and analyze the results and, 3) through public discussion, identify Plan revisions.

Mr. Weber then described the proposed approach to monitoring ecosystem health. He identified two tools that could help inform how the NE RPB engages with this topic. The first is the Integrated Sentinel Monitoring Network (ISMN) currently under development in the Northeast; it provides a long-term strategy for monitoring benthic, pelagic, and coastal components of the ecosystem that are management priorities. However, the ISMN does not directly include human uses or socio-economic considerations. The second tool is the Ocean

⁹ <http://neoceanplanning.org/events/november-2015-rpb-meeting/>

Health Index (OHI). It provides a strategy for combining ecological, socio-economic, and cultural considerations to provide context for ocean management and is a quantitative tool to inform decision-making by measuring multiple metrics of ecosystem condition building on existing data and information. The proposed approach for Chapter 4 Section 3, *Monitoring and Evaluation* is to start framing out how these tools could be used and applied as part of Plan implementation and to help inform an adaptive management approach to the Plan.

A NE RPB member involved in the ISMN project added that the ISMN team is currently integrating public comment into their draft and hope to have the final strategy out in early 2016. Another NE RPB member involved in that effort added the caveat that the ISMN plan currently has no dedicated funding. Finally, another NE RPB member emphasized the need to incorporate the importance of non-measurable (i.e. qualitative) indicators in the monitoring and evaluation sections.

Public Comment

During the second of three public comment sessions, four individuals provided comments. Major themes from the comments included:

Best Practices

- Appreciation for including cross-entity coordination in the Plan, but emphasis that Best Practices should be voluntary.
- Concern that IEAs will create obstacles for project proposals during pre-application review.
- Request to make it clearer when the NE RPB's Best Practices will be triggered and how project proponents will be notified or penalized for not engaging in pre-application review.
- Appreciation for the Best Practices section of the Plan, but encouragement to include more definitive actions in the Plan (e.g., prioritize projects that advance healthy ocean and coastal ecosystems).
- Caution that NE RPB documents summarizing existing policies and regulations (e.g., the Best Practices for Agency Coordination document) should be carefully vetted to make sure those policies and regulations are fully and accurately described.
- Caution to make sure NE RPB Best Practices for Agency Coordination do not take away the benefits of existing regulatory programs.

Monitoring and Evaluation

- Recommendation to include assessment of how commercial and recreational activities are impacted by Plan implementation when monitoring Plan performance.
- Suggestion that socio-economic indicators be included and the application of ocean health indicators be considered by individual agencies.
- Request that any indicator used to evaluate ecosystem health should be subject to minimum requirements that ensure compliance with data quality laws, and any data and information reflected in indicators should be based on sound science and frequently updated.
- Ensure the approach to monitoring ecosystem health balances the ISMN and OHI tools, and that one does not overshadow the other.

General Comments

- Encouragement to use the *Ocean Frontiers* film series to engage stakeholders in the regional ocean planning process.
- Emphasis that all RPB products should address all existing and potential future uses.
- Request to provide opportunities for public input on components of the draft Northeast Ocean Plan prior to March 2016.
- Encouragement for the EBM workgroup to identify IEAs.

RPB Decision on Content for Chapter 4 Section 3: Monitoring and Evaluation

After the conclusion of the public comment session, the NE RPB continued its discussion on Chapter 4 Section 3, *Monitoring and Evaluation*. The goal for this session was to make a decision about whether or not to pursue the proposed approach for Chapter 4 Section 3 laid out in *Approaches to Plan Content for Chapters 4 (Sections 2 + 3) and 5*. Major themes from the ensuing discussion included:

Integrated Sentinel Monitoring Network and Ocean Health Index

- Clarification that the application of the ISMN would focus on areas where that effort overlaps with the Northeast Ocean Plan. The ISMN team will be involved in developing practical steps forward.
- Clarification that the ISMN effort is a collection of existing efforts in the region to track indicators, some of which do have funding in place. The NE RPB could identify and leverage those efforts included in ISMN that are likely to continue.
- ISMN does not include human uses or socio-economic considerations as OHI does.
- Request to incorporate flexibility into this section of the Plan so that if ISMN or OHI prove to be impractical, other options can be pursued.
- Include further details on how the NE RPB intends to implement the concept of OHI.

Resources for Monitoring and Evaluation

- The NE RPB should be practical and focus on leveraging other entities' existing work on monitoring and evaluation rather than pursuing a new independent approach.
- Keep cost and practicality in mind when developing approaches to monitoring and evaluation.
- Include recognition of resource constraints and the need to work with other partners on acquiring funding and implementing the RPB's monitoring and evaluation efforts.

General Comments on Chapter 4 Section 3

- Request that the draft Plan will include a more detailed framework of the approaches to Plan performance monitoring and ecosystem health monitoring and that further details will need to be developed during Plan implementation. Question about whether there will be an overarching system of agency coordination to make sure these details are implemented consistently.

- Consider high-level goal evaluations in this section of the Plan (e.g., do we have a healthy coastal and ocean ecosystem?)
- Include only a simple set of measures for Plan performance monitoring and ecosystem health monitoring (e.g., the number of research projects that have been formulated and funded or a difference in regulatory approval times).
- Consider the difference between ecosystem health and ecosystem condition when drafting this part of the Plan.
- Concerns were raised about the methodology being centered around baselines when these do not exist for many activities.
- Clarification that the Plan will include a baseline assessment. There should be metrics for aspects of the Plan besides just natural resources (e.g., physical, social, economic).
- Request for clarification that the NE RPB will be engaged in the process of further developing these approaches before the draft Plan is released in March 2016.
- Incorporate Dr. Mike Fogarty's work evaluating ecosystem health into this section of the Plan.

After the discussion, NE RPB members decided to pursue the proposed approach for Chapter 4 Section 3 laid out in *Approaches to Plan Content for Chapters 4 (Sections 2 + 3) and 5*. Following a brief summary of the next day, the NE RPB then adjourned.

Tuesday, November 17, 2015

On the second day of the meeting, November 17, the NE RPB discussed and made a decision on a framework for addressing science and research priorities in the Plan, discussed Plan implementation and the future of the NE RPB, deciding that in general the NE RPB should continue to be the general oversight body for the regional planning effort beyond 2016. Details such as updating the NE Data Portal still need to be addressed and RPB members agreed to continue those discussions. The RPB also heard additional public comments.

NE RPB Discussion on a Framework for Chapter 5: Science and Research Priorities

Mr. Nick Napoli outlined the proposed approach for Chapter 5, *Science and Research Priorities* in the Northeast Ocean Plan and his presentation can be found in Appendix I. He also referenced the *Northeast ocean plan outline Chapter 5 addendum*, which were included in additional meeting materials available online [here](#)¹⁰.

Mr. Napoli explained that one objective is to produce a Regional Ocean Science Plan that prioritizes ocean science and data needs for the region for the next five years. This would build

¹⁰ <http://neoplaning.org/wp-content/uploads/2015/11/Northeast-Ocean-Plan-Chapter-5-Addendum.pdf>

on the many science and research priorities that have been identified throughout the planning process, including suggestions from the October 2015 Stakeholder Forum.

He then outlined the proposed approach to Chapter 5, *Science and Research Priorities*.

Recognizing the many existing regional science plans and the need to not duplicate efforts, the Plan will focus on Chapters 3, *The Regulatory Environment and Management Actions* and 4, *Ocean Plan Implementation*. Thus, for each Plan topic, there are generally two categories of science and research priorities: 1) updates to Plan data and information products, which are typically short-term; and 2) new research to fill important knowledge gaps, which are typically longer-term.

The Plan will also identify potential partners, and seek to leverage existing efforts. As with other aspects of the plan, previous public discussion has led to this approach, and further public comment will be incorporated through the review of the draft plan.

Mr. Napoli said Section 1, *Natural and Cultural Resources*, and Section 2, *Human Activities*, of Chapter 5 will likely replicate the structure of Chapter 3, *The Regulatory Environment and Management*, to ensure priority Plan topics and products are advanced. Section 3, *Ecosystem Based Management* and Section 4, *Changing Conditions*, capture science and research priorities for overarching and emerging issues, and the EBM Work Group will also be discussing Section 3 as part of its work. Finally, changing conditions are an overarching theme through many aspects of the Plan and thus research and science priorities related to understanding the ramifications of climate change, for example, will be included in Section 4, *Changing Conditions*.

Dr. Shumchenia and Mr. Weber then walked the NE RPB through a series of examples of content for this chapter of the Plan. Specific details of these examples can be found in the presentation in Appendix I.

The NE RPB was then invited to provide feedback and pose questions about the proposed approach to Chapter 5. Major themes of the ensuing discussion included:

- Emphasize the importance of science and research priorities critical for or directly related to Plan implementation. Suggestion that these priorities should be flagged and include updates to Plan products.
- Leverage industry studies around marine energy areas to feed into research and science priorities, but caution to be respectful of developer's proprietary information.
- Make it clear that fishery research priorities will include cooperative projects with fishermen.
- Question was raised about whether Chapter 5 can include specific state research and mapping priorities.
- Emphasize the need to make a plan for the long-term sustainability of the Data Portal.
- Recognize that IEAs are included under Chapter 5, Section 1.4 and suggest to delete it from Chapter 5, Section 3, *Ecosystem Based Management*.
- Move "develop and implement a regional habitat classification" from Chapter 5, Section 3, *Ecosystem Based Management* to Chapter 5, Section 1, *Natural and Cultural Resources*.
- Include OHI as a new research priority in Section 5.3.

- Reconsider options for identifying changing conditions research priorities in the Plan. Suggestions that it might fit better under Section 5.1.4.
- Include more priorities related to social research on management, planning, and decision-making under the RPB's "effective decision-making" goal.
- Support for the structure and approach to Chapter 5. Particular appreciation for using the chapter to pull together existing science and research priorities from multiple locations under one umbrella.
- Consider prioritizing data gaps identified by the NE RPB, ensure the marine life and human uses survey efforts are completed and utilized, and improving the resolution of the data on the Portal.
- Identify and potentially prioritize topics that are also identified in other state ocean management plans as key needs.
- Build out the linkages between Chapter 4, *Ocean Plan Implementation* and Chapter 5, *Science and Research Priorities* that help the NE RPB identify data priority needs in Chapter 5 that will aid in implementation.
- In order to maximize the potential for funding, consider identifying a limited number (i.e. 2-5) of urgent regional research needs.
- Having a chapter on science and research priorities is a signal that the Plan will guide and inform federal agencies on in their funding decisions. This chapter is an opportunity for federal agencies to develop a joint strategy.
- Include reference to "applied" research because regulatory agencies tend to fund research that is focused on a particular problem or opportunity.
- Provide more clarity on how the NE RPB expects entities to pursue its science and research priorities.
- The NE RPB has the opportunity to present specific research ideas to the National Oceanographic Partnership Program.
- Continue to build upon other data prioritization efforts, such as USDA Natural Resource Conservation Service and the USFWS Landscape Conservation Cooperatives.

NE RPB Discussion on Chapter 4 Section 2: Plan Implementation Responsibilities and Commitments

The NE RPB had a preliminary discussion focused on implementation of the Northeast Ocean Plan and the role of the NE RPB, following the finalization of the Plan in 2016. To frame the conversation, Ms. Betsy Nicholson provided an overview of Chapter 4 Section 2 *Plan Implementation Responsibilities and Commitments*, which is described in the *Approaches to Plan Content for Chapters 4 (Sections 2+3) and 5* available online [here](http://neoceanplanning.org/wp-content/uploads/2015/11/Content-Approaches-Chapters-4-5.pdf)¹¹. Her presentation can be found in Appendix J.

¹¹ <http://neoceanplanning.org/wp-content/uploads/2015/11/Content-Approaches-Chapters-4-5.pdf>

Ms. Nicholson shared some initial assumptions about the future of the NE RPB's work:

- The NOC will approve the regional plan in Fall 2016
- There will be limited resources for staff capacity through 2016.
- Day-to-day implementation will fall to agencies but there are coordination needs that must be continued.

She then described two main aspects of plan implementation as including overall oversight of Plan implementation and maintaining the Data Portal. Ms. Nicholson encouraged the NE RPB to be smart and practical on these topics since they are necessary to ensure Plan implementation success.

The NE RPB discussed the future role of the Northeast Regional Ocean Council (NROC) in plan implementation. In response to questions by NE RPB members, Mr. Brian Thompson, in his role as State Co-Chair of NROC, clarified the history and mission of NROC. He described it as a voluntary state and federal partnership that works to address regional ocean and coastal issues. It was formed in 2005 by the Governors of New England states and was later expanded to include federal agencies. An Ocean Planning Committee is one of three standing committees currently supporting the NE RPB.

NE RPB members then discussed strategies for maintaining the Data Portal into the future and oversight of overall Plan implementation. General themes from the session included:

Oversight of Overall Plan Implementation

- NE RPB members were concerned about challenges associated with Plan implementation, the associated timeline and activities beyond 2016, and the role of the NE RPB going forward. Specifically, NE RPB members felt that the success of the Plan will require long term engagement and commitment from the entities involved in the NE RPB process and the Plan needs to articulate support for implementation and a process for long-term oversight.
- The group considered various scenarios for long-term Plan oversight, including updates and amendments to the plan. Some of the key points of discussion include:
 - There was a recognition of the value that the NE RPB would have in a long-term policy oversight role, with several members suggesting the NE RPB should consider options to continue convening.
 - Another option proposed was for the NROC Ocean Planning Committee to serve an oversight function similar to the current NE RPB. Committee membership could be expanded to include tribal members and fisheries managers.
 - The New England Federal Partners was identified as another group to potentially leverage. This group could share some implementation responsibilities with NROC—namely, those activities that would be appropriate for a federal agencies' focus.
- A unique and valuable contribution of the NE RPB process has been bringing together

federal agencies, states, tribes, and the NEFMC to the same table to discuss ocean management and policy issues. There was strong support by NE RPB members to maintain this composition by continuing the NE RPB as a first choice in the short-term, even if it does not prove feasible in the long-term. Other members said this could be accomplished by reconfiguring the NROC Ocean Planning Committee to mirror membership structure.

- Some NE RPB members expressed concern that many components of the Plan are being left to the implementation phase largely because of future funding uncertainty.
- There will be an ongoing need for staff to support the planning process, including day-to-day implementation. There was a recognition that the current arrangement works well, with the NE RPB providing oversight for ocean planning staff.

Funding

- Funding necessary for plan implementation is a core challenge.
- NE RPB members recognized the importance of having congressional support for the Plan to ensure its long-term sustainability.
- The idea of rotating lead federal agencies for heading up the NE RPB does not work from a long-term budgeting standpoint. It would be ideal to have one federal agency in charge to ensure sustained funding and consistency.

Inclusion in the Plan

- Emphasize that regardless of the institutional arrangement for coordination, a detailed strategy of that option should be included in the draft Plan.
- Concern about the Plan sign-off process—that federal agencies can choose to have the Plan signed at the regional level rather than the national level.
- Consider multiple strategies for sustaining the efforts of the NE RPB and include back-up plans in those discussions. Support for including the NE RPB's ideal strategy -maintaining the NE RPB in an oversight role and NROC staff support - as the recommended first-choice plan, even if it does not prove feasible in the long-run. Consider NROC or other organizations for oversight as an alternative.

Data Portal

- Because of its critical role in Plan implementation, NE RPB members identified the importance of maintaining the Data Portal.
- A commitment by federal agencies to update and maintain their data streams that feed into the Data Portal is an important component of Plan implementation.
- Discussion of a potential approach including federal agencies entering into a cross-agency agreement to make sure data streams are maintained and updated into the future.
- Challenges associated with federal agency access to the Data Portal need to be addressed, as cyber security and other restrictions on information technology increase.

Public Comment

During the third and last public comment session, nine individuals provided comments. Major themes from the comments included:

Chapter 5, Science and Research Priorities

- Support for the proposed approach to identifying science and research priorities in the Plan.
- Support for the idea that the NE RPB will aggregate science and research priorities highlighted by other entities.
- Concerns about the development of the offshore wind industry and how it relates to the fishing industry. Economic and environmental concerns of the fishing industry need to be addressed. There were some specific concerns about potential use of data, including:
 - Concern about the input data into the economic analysis of offshore wind. Need for greater stakeholder input from the fishing industry into related data and products.
 - Trawl fisheries need to be separated out in the economic analysis process.
 - Concern about lack of studies on environmental impact, including impacts of wind arrays on many species. The lifecycles and habits of each species in the New England region and Mid-Atlantic species that live in New England should be considered as part of siting of offshore wind.
- Suggestions for specific actions regarding science and research priorities in the Plan development stage, or as priorities for future work, including:
 - Conducting a gap analysis of human activities not addressed in the Plan and an analysis of their existing and future potential economic contributions.
 - Conducting a regulatory and legal assessment of impacts of implementing EBM, including impacts of identifying IEAs.
 - Undertaking an analysis of the current state of science for implementing EBM.
 - Creating a report that shows how resources and uses contribute to economic and societal needs.
- Inclusion of non-governmental science and research priorities in Chapter 5.
- Recommendation to include cultural and social values when identifying research and science priorities.
- Recommendation to include individual, non-consumptive ocean recreational use in Chapter 5, *Science and Research Priorities* as well as Chapter 3, *Regulatory Environment and Management Actions*. Appreciation for aligning the topics in each of those chapters.
- Recommendation to include in the Plan a framework for using modeling (social, economic, ecological, etc.) to further the NE RPB's goals and objectives.
- The NE RPB should emphasize applied and collaborative research (e.g., engaging fishermen in developing research and science priorities).

Chapter 4 Section 2, Ocean Plan Implementation Responsibilities and Commitments

- Support for the idea that all regional ocean planning activities should return to the purview of NROC.
- Support for detailing options for Plan implementation oversight post-2016 and making sure to include the NE RPB's top choice of continuing to provide oversight for the Plan.

- Offer for the NE RPB to leverage the Northeastern Regional Association of Coastal and Ocean Observing Systems (NERACCOOS) to support and implement aspects of the Plan, specifically through the ISMN and providing observations and modeling efforts that are integrated into the Data Portal.
- Emphasis on the importance of keeping the Data Portal updated in the future with a suggestion that the NE RPB should prioritize updates of datasets that are likely to change significantly in the short-term as compared to other, more static datasets.

General Comments

- Reiteration of the request for the public review and comment on the draft Plan to be extended to 90 days
- The NE RPB should work hard to include all stakeholder input on Chapters 1 and 5.
- Reiteration of the need for stakeholders to understand how agencies intend to use the Plan and allow sufficient time to review and comment on that guidance.
- Suggestion that all agencies intending to use the Plan should initiate their own public review periods through public notice.
- Concern about including actions related to CZMA in the Plan. If these actions are pursued, efforts should be made to ensure these actions are consistent with all state policies and programs.
- Request to give stakeholders access to the raw data and summary products, the baseline economic and ecological assessment, and any Plan content related to climate change impacts on the ocean environment before the draft Plan is released.
- Recommendation that the NE RPB should devise a stakeholder outreach plan to engage the public with components of the Plan (e.g., the baseline assessment, the climate change paper, and agency guidance in Chapter 3) prior to the release of the draft Plan in March.

Continue NE RPB Discussion and Decision on Content for Science and Research Priorities and Plan Implementation

After lunch, the NE RPB continued its discussion on science and research priorities and Plan implementation. The goals of the session was to make a decision on whether or not to pursue the proposed approach to Chapter 5 and to continue the discussion regarding plan implementation and oversight. The following discussion points were raised.

Science and Research Priorities

- One NE RPB member reiterated the importance of including social and collaborative decision-making research in the Plan.
- After this comment, NE RPB members agreed to pursue the proposed approach to Chapter 5 as informed by the day's discussions and public comment.

Plan Implementation

Data Portal

The NE RPB continued discussion about the future maintenance of the Data Portal. Major themes from this discussion included:

- Clarification that this discussion includes the following components: maintaining data streams, maintaining Plan products, maintaining the Data Portal itself, and maintaining the engagement needed with some of the products.
- A suggestion that the NE RPB move forward with a cross federal agency commitment (e.g., Memorandum of Agreement) to ensure agencies update data streams for which they are responsible. The draft Plan needs to include details about these commitments.
- When discussing the long-term maintenance of the Data Portal with high-level agency representatives, NE RPB members should emphasize the need for federal agencies to assimilate and apply data to decision making in addition to maintaining the raw data they provide to the Data Portal. These conversations should also emphasize the importance of maintaining the Data Portal itself, and data gaps and how those could be filled.
- One NE PRB member raised a concern about restrictions on federal agency access to the Data Portal. This was followed by general support for maintaining the current Data Portal platform and working to ensure agency employees can access it.
- The NE RPB should work with NERACOOS to see what role that organization could play in Data Portal maintenance.
- The NE RPB should create a roadmap of data updates and portal maintenance needs because such a roadmap could be more easily incorporated into one agency's budget. This could include identifying specific data streams and identifying the funds needed to assimilate them into data products.

Oversight of Overall Plan Implementation

- The Mid-Atlantic RPB is also working on this topic and ideas need to be shared across regions. The Mid-Atlantic RPB is considering an option where a group would be in charge of monitoring Plan implementation and provide annual updates to the RPB. In the Northeast, this monitoring group could be NROC or it could be a work group of the NE RPB.
- Work to demonstrate the value of the Plan to maintain support beyond 2016.
- Maintain the relationships built within the NE RPB in the long-term while recognizing associated institutional, political, and resource challenges.
- Articulate the best-case scenario in terms of what organization(s) will oversee implementation of the Plan but also provide back-up scenarios if the best-case scenario is not feasible; need to choose a flexible approach to ensuring Plan implementation instead of crafting a perfect solution.
 - Support for including details about these scenarios in the Plan (e.g., agency lead, partners, and approximate costs, measures of success).
 - Include a "sunsetting" framework in the Plan in case the planning effort cannot be

adequately sustained.

- Recommend the continuation of the NE RPB as the best-case scenario, but also recognize the need to clarify what the NE RPB's structure would look like and the importance of managing expectations.

General comments about draft Plan process

Because this is the last public RPB meeting before the release of the draft Plan, several NE RPB members also provided the following comments related to the draft Plan and its public review process.

- Extend the NE RPB and public review periods for the draft Plan, if feasible. The NE RPB recognized the public comments and NE RPB discussion emphasizing the importance of adequate time to review the draft Plan.
- Emphasized the importance of delivering a high-quality draft Plan while also recognizing challenges associated with the short timeline.
- Recommended creating a version of the Plan that is easily consumable and could be used to engage stakeholders unfamiliar with regional ocean planning.

Review Timeline and Closing Remarks

Mr. John Weber provided summary comments and reviewed stakeholder engagement opportunities over the next few months. Addressing a common theme heard during the public comment sessions, he stressed that the NE RPB is eager to share important components of the draft Plan with the public and will do so as soon as these components are completed and reviewed by the NE RPB. He also emphasized the need for NE RPB members to work with staff and deliver content on data and agency guidance for Chapter 3, *The Regulatory Environment and Management*.

Summary and Next Steps

Ms. Nicholson then acknowledged Mr. Doug Grout, New Hampshire Fish and Game and RPB New England Fishery Management Council representative, for his service on the NE RPB as this was his last meeting.

Ms. Nicholson, Mr. Fugate, and Ms. Kerttula offered some brief closing remarks before the meeting adjourned.

Appendix A: Regional Planning Body Meeting Participant List

November 16-17, 2015 • Westin Portland Harborview, Portland, Maine

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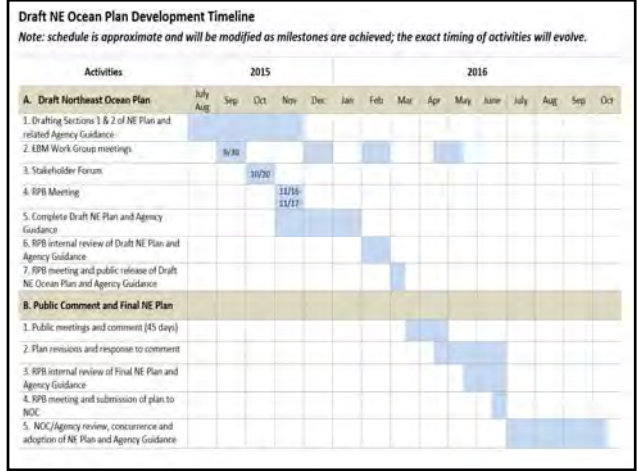
John Weber
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Appendix B: Regional Planning Body

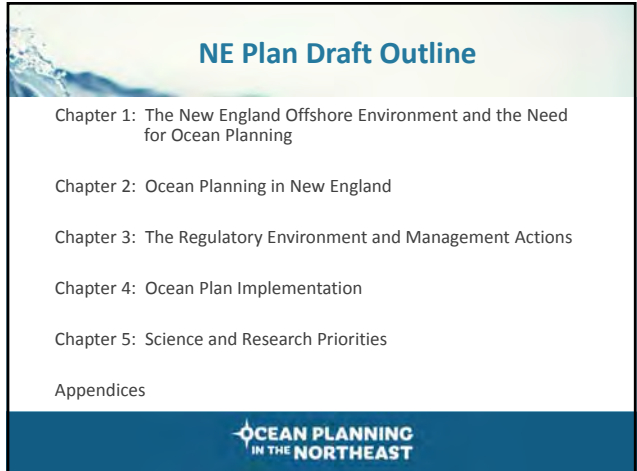
Portland, ME
November 16-17, 2015







Northeast Ocean Plan Draft Outline





NE Plan Draft Outline

- Chapter 1: The New England Offshore Environment and the Need for Ocean Planning
- Chapter 2: Ocean Planning in New England
- Chapter 3: The Regulatory Environment and Management Actions
- Chapter 4: Ocean Plan Implementation
- Chapter 5: Science and Research Priorities
- Appendices



NE Plan Draft Outline – Chapter 2

Chapter 1. The New England Offshore Environment and the Need for Ocean Planning

This chapter will highlight the uniqueness and importance of New England's coast and ocean, summarize related social, economic and environmental conditions and trends (derived from the baseline assessment), and describe important regional issues. It will also briefly describe current planning and management programs and the need for regional ocean planning.

Chapter 2. Ocean Planning in New England

2.1 Ocean Planning Process

This will be a summary of the ocean planning process, including science integration, public engagement and other RPB related activities in each phase of the process. It will include references to documents in the appendix and/or www.necooplanning.org for more information.

2.1.1 National Ocean Policy

2.1.2 Initial Outreach and Establishment of the Northeast Regional Planning Body

2.1.3 Goal Setting and Work Plan Development

2.1.4 Draft and Final Plan

2.2 Ocean Planning Goals and the Ocean Plan

This section will describe how the Northeast Ocean Plan will address key themes from public input and will advance the three goals of Healthy Ocean and Coastal Ecosystems, Effective Decision Making, and Compatibility among Past, Current and Future Ocean Uses by guiding and informing agency decision making. It will also include a brief description of how the rest of the plan is organized and how it will be used.



NE Plan Draft Outline – Chapter 3

3. The Regulatory Environment and Management Actions

3.1 Regulatory Context and Primary Legal Authorities

3.2 Natural and Cultural Resources

3.3 Human Activities

3.4 Ecosystem Based Management



NE Plan Draft Outline – Sections 3.2 & 3.3

3.2 Natural and Cultural Resources

- 3.2.1 Marine Mammals and Sea Turtles
- 3.2.2 Birds
- 3.2.3 Fish
- 3.2.4 Habitat and Important Ecological Areas
- 3.2.5 Restoration
- 3.2.6 Historic and Cultural Resources

3.3 Human Activities

- 3.3.1 Marine Transportation
- 3.3.2 National Security
- 3.3.3 Commercial Fishing
- 3.3.4 Recreational Fishing
- 3.3.5 Recreation
- 3.3.6 Energy and Infrastructure
- 3.3.7 Aquaculture
- 3.3.8 Sand and Gravel

For each section:

- A. Overview
- B. Ocean Plan Maps and Data
- C. Description of how relevant agencies intend to use ocean plan data in existing regulatory and management programs
- D. Additional information sources and existing management programs
- E. Long term maintenance of ocean plan maps and data, including brief mention of science priorities to be further detailed in Section 5
- F. Other related RPB agency initiatives and coordination activities



NE Plan Draft Outline – Sections 3.2 & 3.3

3.2 Natural and Cultural Resources

- 3.2.1 Marine Mammals and Sea Turtles
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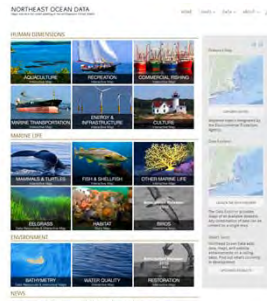
Northeast Ocean Plan Outline Chapter 3 Addendum November 2015 Draft					
This addendum to the Northeast Ocean Plan Outline focuses on the human and data and information categories to be included in Sections 3.2 and 3.3. It provides a framework for describing your activities about the use of data and information to manage natural and cultural resources and human activities under existing authorities.					
3.2 Natural and Cultural Resources					
3.2.1 Marine Mammals and Sea Turtles	<table border="1"> <tr> <td>1. REGULATORY AND INFORMATION SOURCE</td> <td> <ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity </td> </tr> <tr> <td>2. DATA</td> <td> <ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed </td> </tr> </table>	1. REGULATORY AND INFORMATION SOURCE	<ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity 	2. DATA	<ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed
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3.2.2 Birds	<table border="1"> <tr> <td>1. REGULATORY AND INFORMATION SOURCE</td> <td> <ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity </td> </tr> <tr> <td>2. DATA</td> <td> <ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed </td> </tr> </table>	1. REGULATORY AND INFORMATION SOURCE	<ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity 	2. DATA	<ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed
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3.2.4 Habitat and Important Ecological Areas	<table border="1"> <tr> <td>1. REGULATORY AND INFORMATION SOURCE</td> <td> <ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity </td> </tr> <tr> <td>2. DATA</td> <td> <ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed </td> </tr> </table>	1. REGULATORY AND INFORMATION SOURCE	<ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity 	2. DATA	<ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed
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2. DATA	<ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed 				
3.2.5 Restoration	<table border="1"> <tr> <td>1. REGULATORY AND INFORMATION SOURCE</td> <td> <ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity </td> </tr> <tr> <td>2. DATA</td> <td> <ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed </td> </tr> </table>	1. REGULATORY AND INFORMATION SOURCE	<ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity 	2. DATA	<ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed
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2. DATA	<ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed 				
3.2.6 Historic and Cultural Resources	<table border="1"> <tr> <td>1. REGULATORY AND INFORMATION SOURCE</td> <td> <ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity </td> </tr> <tr> <td>2. DATA</td> <td> <ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed </td> </tr> </table>	1. REGULATORY AND INFORMATION SOURCE	<ul style="list-style-type: none"> - Abundance - Species Recovery - Distribution - Core Area - Turbidity 	2. DATA	<ul style="list-style-type: none"> - All Categories - Designated Species Act - Listed
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NE Plan Draft Outline – Sections 3.2 & 3.3

3.2 Natural and Cultural Resources

- 3.2.1 Marine Mammals and Sea Turtles
- 3.2.2 Birds
- 3.2.3 Fish
- 3.2.4 Habitat and Important Ecological Areas
- 3.2.5 Restoration
- 3.2.6 Historic and Cultural Resources



3.3 Human Activities

- 3.3.1 Marine Transportation
- 3.3.2 National Security
- 3.3.3 Commercial Fishing
- 3.3.4 Recreational Fishing
- 3.3.5 Recreation
- 3.3.6 Energy and Infrastructure
- 3.3.7 Aquaculture
- 3.3.8 Sand and Gravel



NE Plan Draft Outline – Section 3.4

3.4 Ecosystem Based Management

This section will describe progress towards charting an ecosystem based approach to management, including agency use of plan information and analyses into decision making under existing authorities and the actions the agencies will take to advance EBM and related science. Potential outline:

- A. Overview
- B. Definition of Ecosystem Based Management
- C. Ecosystem Based Management Work Group
- D. Progress defining and identifying important ecological areas
- E. Agency use of information in Sections 3.2 and 3.3 to advance EBM under existing authorities
- F. Progress and future priorities associated with other aspects of EBM
 - Mapping stressors associated with human activities
 - Assessing vulnerability of ecosystem components to different stressors
 - Determining cumulative impacts
 - Monitoring ecosystem components



NE Plan Draft Outline – Chapter 4

Chapter 4. Ocean Plan Implementation

This chapter will describe how the RPB intends to implement the ocean plan, including enhancements to agency practices, other responsibilities and commitments, and plan evaluation.

4.1 Intergovernmental Coordination

This section will describe the specific coordination activities that will be undertaken to implement the ocean plan.

- 4.1.1 Best Practices for Agency Coordination
- 4.1.2 Coastal Zone Management Act
- 4.1.3 Tribal Coordination

4.2 Responsibilities and Commitments

This section will describe RPB organization commitments to implementing the following additional responsibilities for ocean plan implementation.

- 4.2.1 Forum for Federal, Tribal, and State Coordination
- 4.2.2 Plan Updates
- 4.2.3 Public Engagement
- 4.2.4 Northeast Ocean Data Portal
- 4.2.5 Implementation of a Monitoring and Evaluation Plan and Science Priorities

4.3 Monitoring and Evaluation

- 4.3.1 Plan Performance
- 4.3.2 Ocean and Ecosystem Health

NE Plan Draft Outline – Chapter 5

Chapter 5. Science and Research Priorities

This chapter will describe priority data, research, and science necessary to update and advance ocean plan information and analyses. *Note: The organization of this section is likely to change as priorities are refined and earlier plan sections are developed.*

- 5.1 Natural and Cultural Resources
- 5.2 Human Activities
- 5.3 Ecosystem Based Management
- 5.4 Changing Conditions



NE Plan Draft Outline – Public Engagement

- Public engagement and input will be a prominent component of every section of the plan
- Section 2: Public engagement in the planning process, formation of the goals, and the development and review of the plan to ensure it advances planning goals
- Section 3: Public engagement in the regulatory process, both as an important data and information provider and with a critical role informing regulatory actions
- Section 4: Public engagement in implementation, including agency coordination to identify potentially affected stakeholders, continued participation in regional planning activities after 2016, and monitoring and evaluation of the final plan.
- Section 5: Public engagement as a partner in the advancement of science and research priorities both for plan updates and longer term initiatives



Update on NE Ocean Plan Chapter 3. Regulatory Environment and Management Actions



Chapter 3 Update

3.2 Natural and Cultural Resources

- 3.2.1 Marine Mammals and Sea Turtles
- 3.2.2 Birds
- 3.2.3 Fish
- 3.2.4 Habitat and Important Ecological Areas
- 3.2.5 Restoration
- 3.2.6 Historic and Cultural Resources

3.3 Human Activities

- 3.3.1 Marine Transportation
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For each section:

- Overview
- Ocean Plan Maps and Data
- Description of how relevant agencies intend to use ocean plan data in existing regulatory and management programs
- Additional information sources and existing management programs
- Long term maintenance of ocean plan maps and data, including brief mention of science priorities to be further detailed in Section 5
- Other related RPB agency initiatives and coordination activities



Sections 3.2.1 Marine Mammals, 3.2.2 Birds, 3.3.3 Fish

1. Regulatory and Conservation Based Species Groups (e.g. ESA Listed Whales)	– Abundance – Species Richness – Diversity – Core Area Synthesis	
2. Ecologically-Based Species Groups (e.g. Benthic Foraging Birds)	– Abundance – Species Richness – Diversity – Core Area Synthesis	
3. Individual Species (including some species groupings) (e.g. Atlantic Cod)	3.2.1: Predicted density of marine mammals 3.2.2: Predicted relative abundance of avian species 3.2.3: Biomass of fish species	



Section 3.2.4 Habitat and Important Ecological Areas

1. Regulated Habitat Areas

- Habitats of Particular Concern and Essential Fish Habitat (Magnuson-Stevens Act)
- Critical Habitat (Endangered Species Act)
- Physical/Biological Aquatic Ecosystem Characteristics and Special Aquatic Sites (Clean Water Act)



2. Important Ecological Areas and Ecosystem Considerations

- Temporary, pending outcome of EBM WG and RPB discussion about IEAs
- Obvious relationship to and overlap with marine life distributions and regulated habitat in previous sections
- Potential for some map products integrating multiple taxa and habitats, but also recognition that merging IEA components may be impractical and not as useful



Sections 3.2.5 Restoration and 3.2.6 Historic and Cultural Resources

3.2.5 Restoration	Locations of and discussion about the use of priority sites identified by the joint subcommittee of NE RPB and NROC
3.2.6 Historic and Cultural Resources	Maps of identified historic and cultural resources – National Register, National Parks, National Marine Sanctuary, and other local sites Recognition of the cultural importance of marine life and habitat, restoration sites, and human activities identified in other sections



Section 3.3 Human Activities

3.3.1 Marine Transportation	1. Navigation and Regulated Marine Transportation Areas 2. Commercial Traffic Density
3.3.2 National Security	In development
3.3.3 Commercial Fishing	1. Fishing Vessel Activity 2. Federal Fishery Management Areas
3.3.4 Recreational Fishing	Some information may be available from a pilot project with charter captains, but this topic will likely refer to existing sources that could be limited



Section 3.3 Human Activities

3.3.5 Recreation	1. Boating 2. Whale Watching 3. SCUBA 4. Coastal Recreation
3.3.6 Energy and Infrastructure	1. Existing Infrastructure 2. Renewable Energy Planning Areas
3.3.7 Aquaculture	1. Existing Aquaculture 2. Shellfish Management Areas
3.3.8 Sand and Gravel	To Be Determined



Section 3.2 & 3.3 (Example)

A. Overview

For each *natural or cultural resource* articulated in the Chap. 3 addendum, describe:

- Relevant authorities, agencies, and programs
- Current distribution, trends and potential future changes (reference to baseline)

B. Ocean Plan Maps and Data

- Reference to maps of species groups, habitat areas, or cultural resources on NE Ocean Data
- Reference to maps of individual species or habitat characteristics on NE Ocean Data

C. Description of how data will be used in programs referenced above

- Describe existing conditions
- Identify conflicts and potentially affected resources and stakeholders
- Determine where additional information is needed
- Refer to more site specific data; develop additional studies



Section 3.2 & 3.3 (Example)

A. Overview

For each *human activity* articulated in the Chap. 3 addendum, describe:

- Relevant authorities and agencies
- Current footprint/technology and reasonably foreseeable potential changes

B. Ocean Plan Maps and Data

- Reference to the current footprint map for the activity on NE Ocean Data
- Reference to maps of other activities and marine resources on NE Ocean Data

C. Description of how data will be used in programs referenced above

- Describe existing conditions
- Identify conflicts and potentially affected resources and stakeholders
- Determine where additional information is needed
- Refer to more site specific data; develop additional studies



Section 3.2 & 3.3 (Example)

D. Additional information sources and existing management programs

- Additional data and information sources – data, guidelines, BMPs
- Existing or potential government partnerships and public forums


E. Long term maintenance of ocean plan maps and data

- Continued data gathering (including reference to Monitoring in Chapter 4)
- Product updates and long term research (reference to Chapter 5)



F. Other related RPB initiatives and coordination activities

- Other partnerships and relevant actions
- Relevant emerging actions from Mid-Atlantic RPB







Appendix C


Offshore Wind IJC Stakeholder Outreach

- BOEM requesting public feedback on the state of offshore renewable energy efforts -- *Federal Register* notice published Sept. 30, input due by Dec. 29
- White House establishing interagency offshore wind working group – BOEM role to implement
- Offshore wind IJC -- Creating a chart of leasing, environmental review, and regulatory processes showing agencies involved, how intersect and when in the process

Using Geospatial and Information Science to Facilitate the Discovery and Access of Ocean Science Data

**IJC Link
GEO-ESPIS to Data Portal**




Background - Environmental Studies Program

Applied Science for Informed Decisions



Mission:
Provide the information needed to predict, assess, and manage impacts from offshore energy and marine mineral exploration, development, and production activities on human, marine, and coastal environments.




- Program more than 40 years old.
- Over 1,700 studies.
- \$1 Billion invested in research.

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BUREAU OF OCEAN ENERGY MANAGEMENT

The Challenge


Applying science to make informed decisions depends on the ability to readily discover scientific information.

- U.S. Government has made significant efforts to improve the discovery and access of ocean science information.
- "be held accountable for managing its own information resources by keeping them current, easily accessible and consistent with Federal standards."¹
- "Must pursue a strategy for improving the public's ability to locate and access digital data resulting from federally funded research"²



1. E.O. 13547 "Stewardship of the Ocean, Our Coasts, and the Great Lakes". Federal Register Citation: 75 FR 43021, July 19, 2010.

2. Whitehouse Office of Science and Technology Memorandum "Expanding Public Access to the Results of Federally Funded Research". February 22, 2013.




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BUREAU OF OCEAN ENERGY MANAGEMENT

Environmental Studies Program Information System

The "Old" Environmental Studies Program Information System (ESPIS)

- Historically contained only access to .pdf reports and limited metadata.
- Simple search for reports using text.



Query for ESPIS

ESPIS Documents are in Adobe PDF format. Some files may contain attachments and/or comments and are best viewed with Adobe Reader Version 7.0 or higher which can be downloaded from Adobe Reader.

The Bureau of Ocean Energy Management, Regulation and Enforcement strives to make all public data and as soon as it is available. If you do not find the data you are looking for, please check again for next time as your criteria combination may bring the posting of data, the selection for the maintenance.

Data last updated on 4/20/2011 (EST) and will be updated when new ESPIS documents become available.

Select Options Using the Checkboxes
(Click the Links for Help on Each Selection)

National Summary
 Technical Summary Only

Full/Partial Results
 Complete Results

Location:
 All Quality: [dropdown]
 All Quantity: [dropdown]
 All Priority: [dropdown]

Report Title:
 Study Title:
 Date:
 Author:
 Status:
 Date Issued: [dropdown] from: [dropdown] to: [dropdown]
 Updated Date: [dropdown] from: [dropdown] to: [dropdown]
 Last Search:
 Search Results for: [input] Publications Number: [input]

Order: [dropdown] Results Per Page: [input]

[Submit Query] [New]

Return to Environmental Studies Program Home Screen

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The New Approach

Goal: To enhance the ability of BOEM and its partners to search, discover, and retrieve Environmental Studies information and data.

- Develop interactive search tools and data products that can be integrated with other systems (e.g. Web Mapping Services).
- Discover related data and publications.
- Leverage MarineCadastre.gov (maps, tools, and over a 150 authoritative datasets).



An Ocean of Information
A place for the world's leading ocean energy information. Access world's leading ocean energy information in a central location.




BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

Desired Functionality

- Conducted 6 – 9 months of end user engagement to determine desired functionality.


Geographic Searches:	Text Searches:	Filters:
-By county	- Make as Google like as possible	- discipline
-By state	- Keyword and wildcards	- date
-By planning areas	- ID literature sources	- region
-By blocks	- ID data sources	- Sort by start and completion
-By user defined polygon and points	- Search by date	
-Ability to draw resulting polygons on map	- Coast per study and cumulatively	
-Ability to save searches	- Search by institution	
	- Searching ESPIS pdfs	



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Database Attributes (fields)

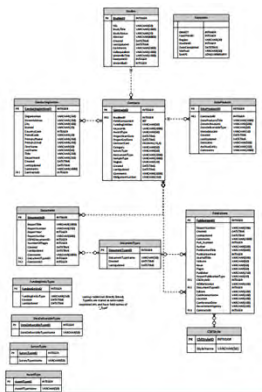
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BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

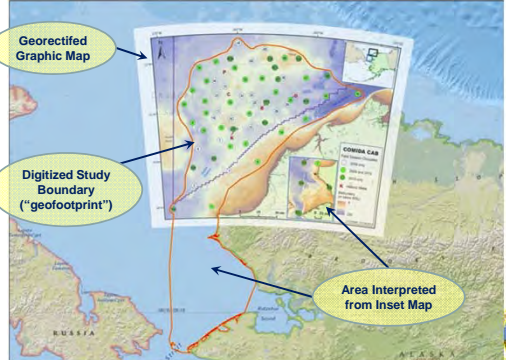
Data Model

- Significantly enhanced attribution for studies
- Hierarchical data model to capture variety of relationships in scheme




BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

Study Footprints




- Georectified Graphic Map
- Digitized Study Boundary ("geofootprint")
- Area Interpreted from Inset Map



BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

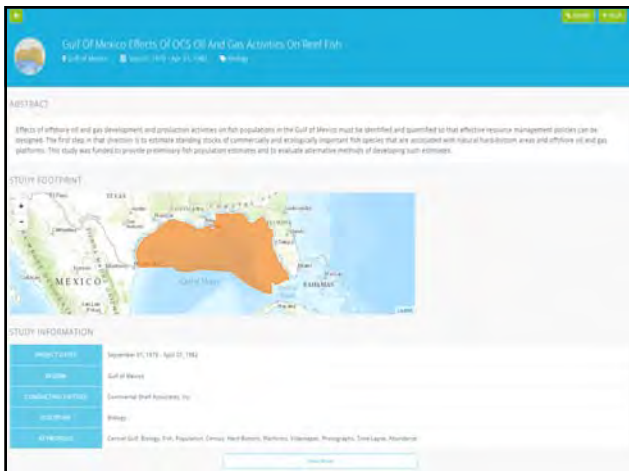
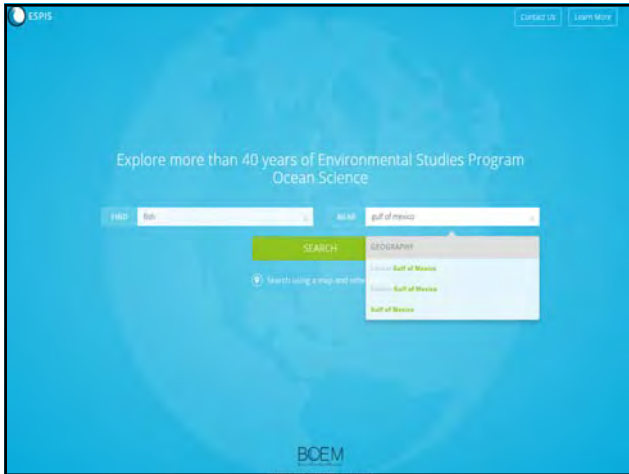
Results

- 1,712 Studies with geographic footprints
- 4,364 Publications resulting from these studies (e.g. peer reviewed publications, conference proceedings)
- 1,591 Data Products (e.g. datasets, websites)



Seabird survey sampling effort
Total number of 5 minute equivalent transects

0-250	251-500
501-750	751-1000
1001-1250	1251-1500
1501-1750	1751-2000



Appendix D: Marine-life Data & Analysis



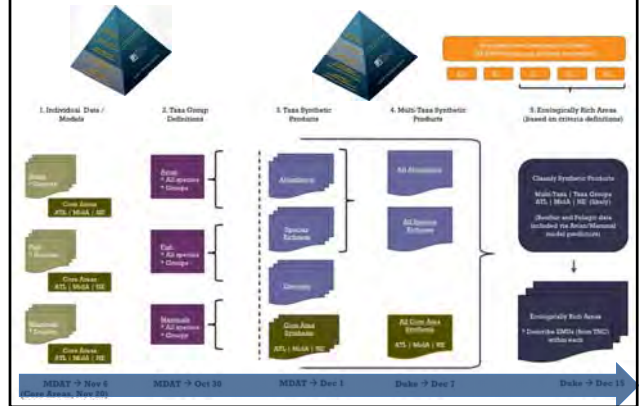
Patrick N. Halpin

Marine Geospatial Ecology Lab, Duke University
 Marine Life Data & Analysis Team (MDAT) Principal Investigator
 Brian Kinlan (Co-I), Earvin Balderama (Co-I), Mike Fogarty (Co-I)
 Jason Roberts, Arliss Winship, Corrie Curtice, Jesse Cleary, Emily Shumchenia, Charles Perretti

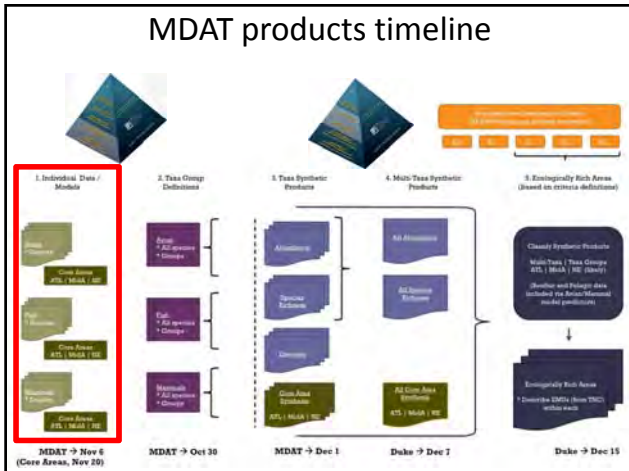
Northeast RPB meeting
 November 16, 2015



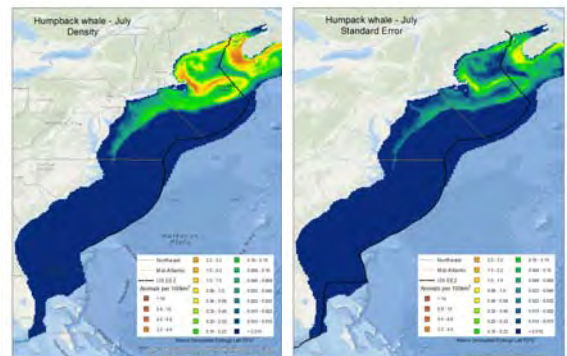
MDAT products timeline

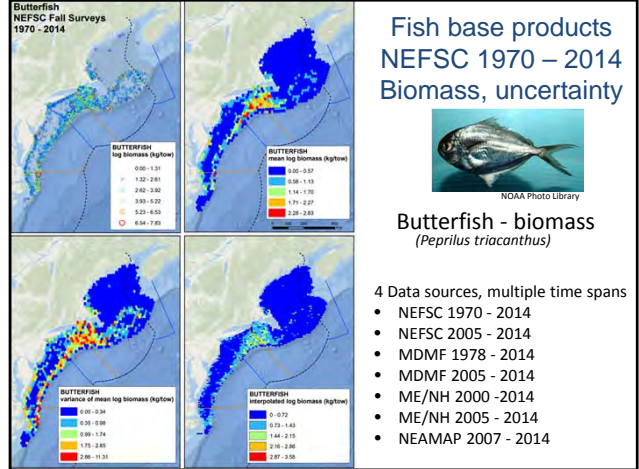
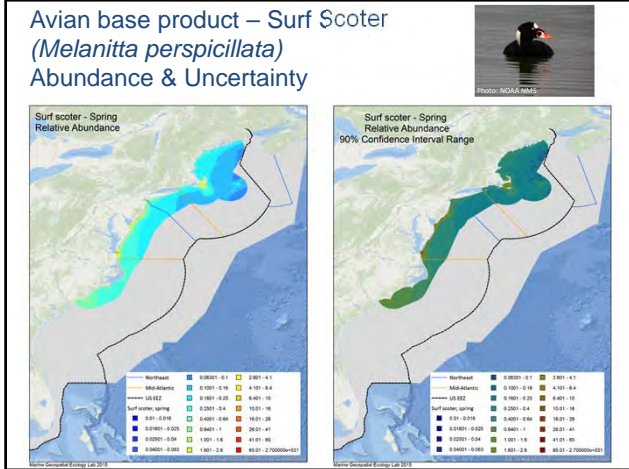


MDAT products timeline



Mammal base product – Humpback whale (*Megaptera novaeanglia*) density & uncertainty



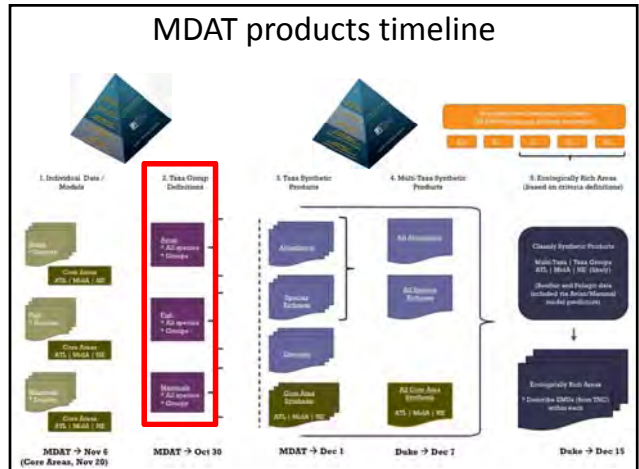



Species abundance products:

~740 mammal layers, + ~1308 avian layers, + ~1620 fish layers = **~3668 layers**

Delivered as web services to the portal...

Think of this as a reference library. You don't need to read all the volumes, you just need to know it is there when you need to do detailed research.





Species groups:


Species groups are being developed to allow quick access to potential biological, management or sensitivity groups of potential interest.

Additional groups could always be developed through simple queries on the single species database.

Marine mammal species groups

Taxonomic / ecological:

- Baleen whales
- Small delphinoids
- Large delphinoids
- Sperm and beaked whales



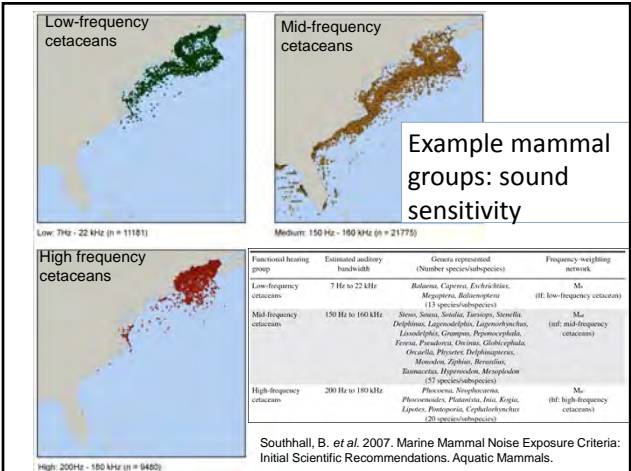
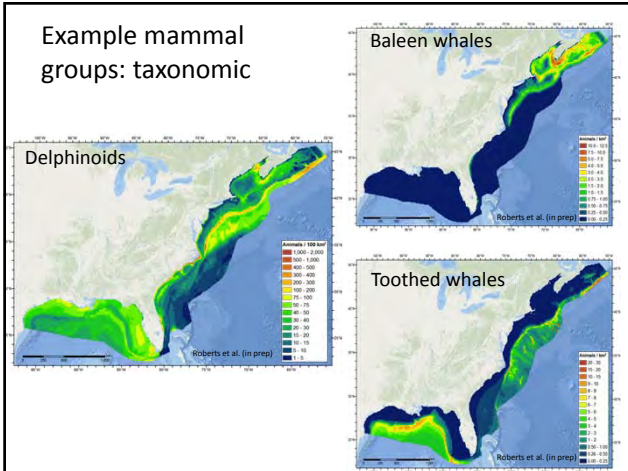
(Note: major taxonomic groupings of cetaceans also distinguish ecological and geographic differences)

Managed species:

- ESA listed species

Sensitivity:

- Sound sensitivity - Low freq
- Sound sensitivity - Mid freq
- Sound sensitivity - High freq



Fish species groups

Taxonomic / Ecological

- Diadromous
- Elasmobranch
- Flatfish
- Forage
- Gadoid
- Pelagic
- Shallow water habitat-dependent



Managed species

- EFH Species
- Highly Migratory Species
- NEFMC multispecies
- MAFMC FMPs
- ASMFC FMPs

Avian species groups

Taxonomic / Ecological

Taxonomic

- Terns
- Alcids
- Gulls & gannets

Life History

- Breeding
- Nonbreeding
- Migrant
- Resident



Foraging Guild

- Divers and pursuit plungers
- Benthic
- Surface feeders
- Surface plungers

Prey items

- Fish
- Squid
- Crustaceans
- Bivalves

Avian species groups

(continued)

Managed species:

- State listed
- ESA listed
- BCR30 priority (highest, high and moderate)
- AMBCC high
- AMBCC medium
- AMBCC low



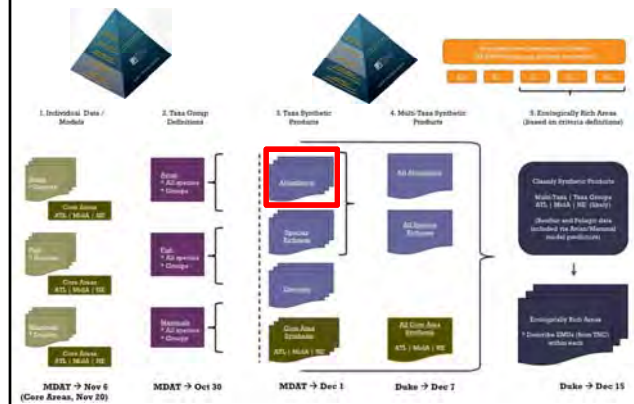
Spatial

- Nearshore
- Offshore/Pelagic
- Coastal waterfowl

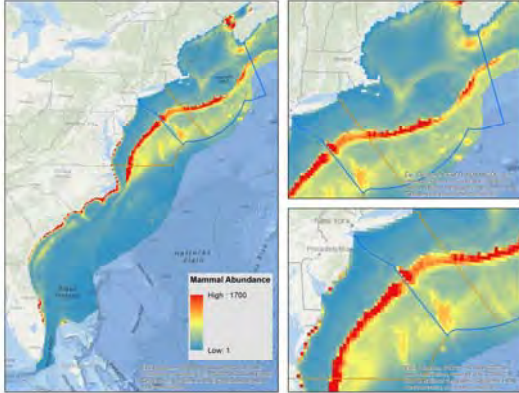
Sensitivity:

- Higher collision sensitivity
- Higher displacement sensitivity

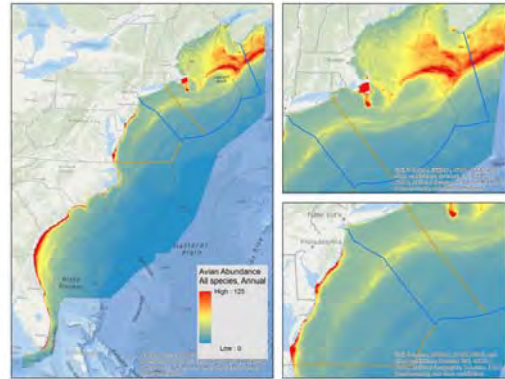
MDAT products timeline



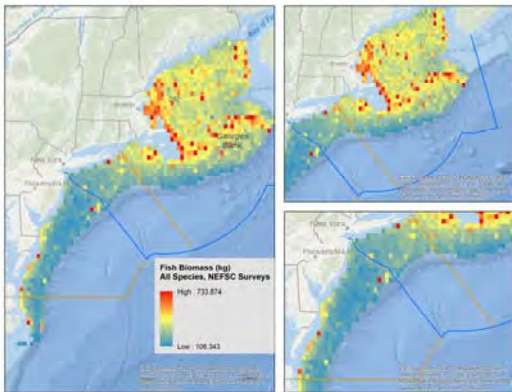
Taxa synthesis: Marine mammal abundance



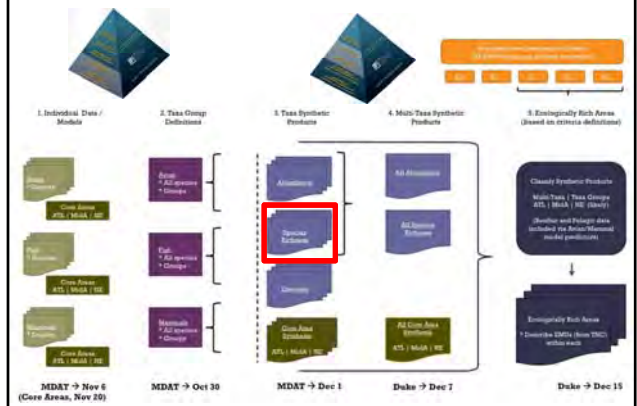
Taxa synthesis: avian abundance



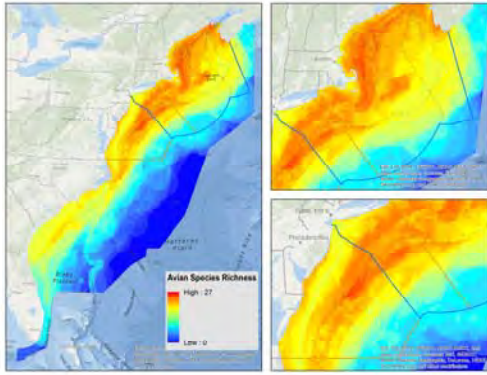
Taxa synthesis: fish biomass



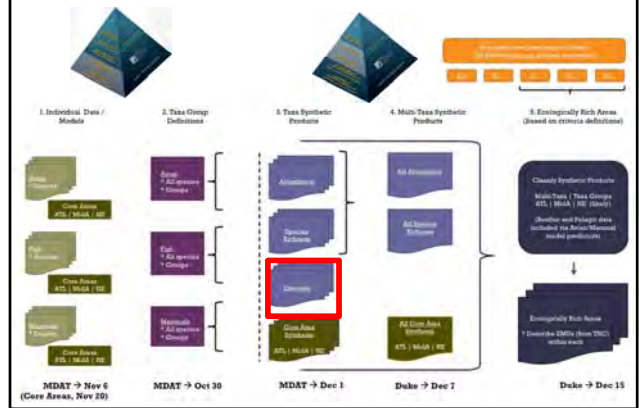
MDAT products timeline



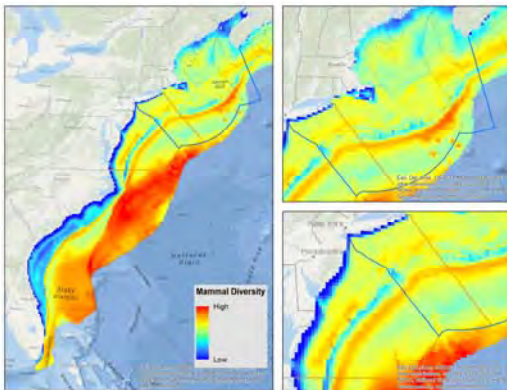
Taxa synthesis: avian richness



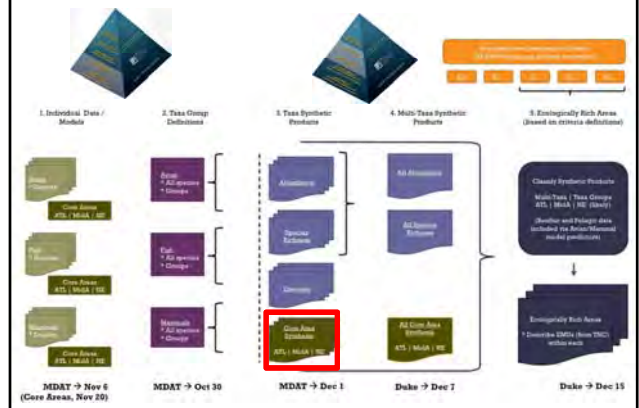
MDAT products timeline



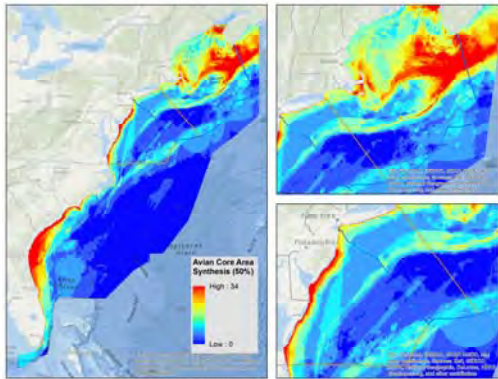
Taxa synthesis: marine mammal diversity



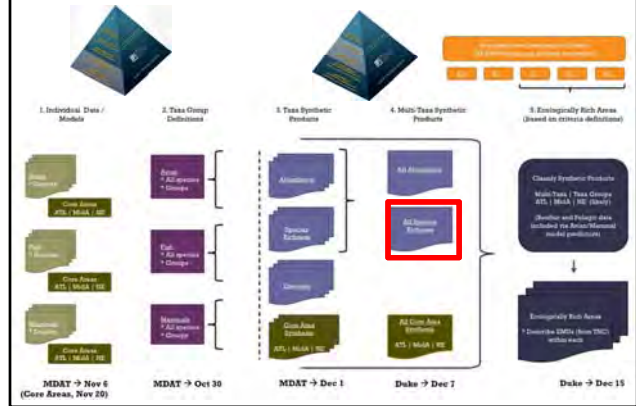
MDAT products timeline



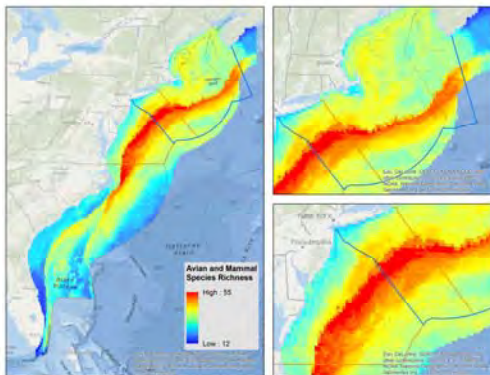
Avian core area synthesis



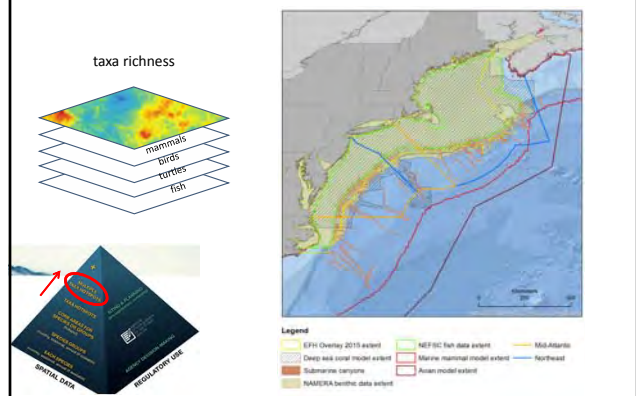
MDAT products timeline



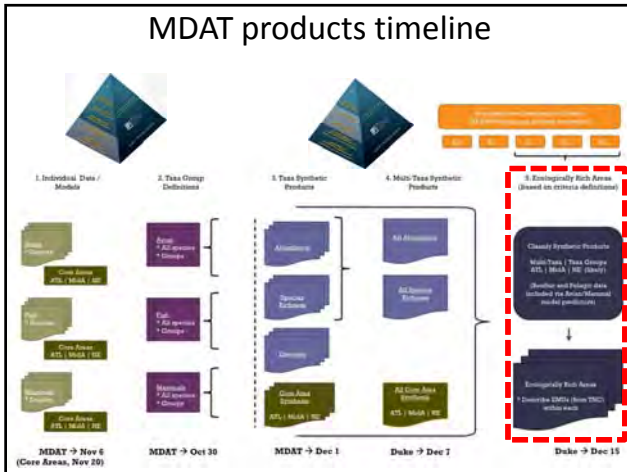
Multi-taxa synthesis: avian & mammal species richness



Synthetic Products Multi-taxa hotspots between taxonomic groups

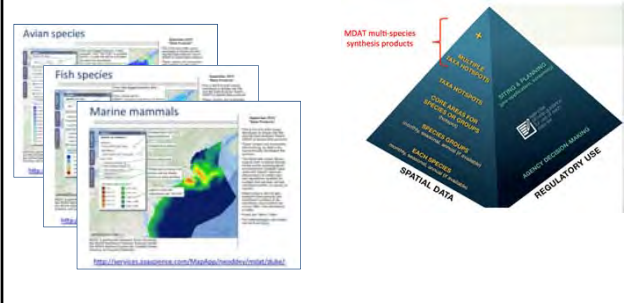


MDAT products timeline



Synthetic Product Options

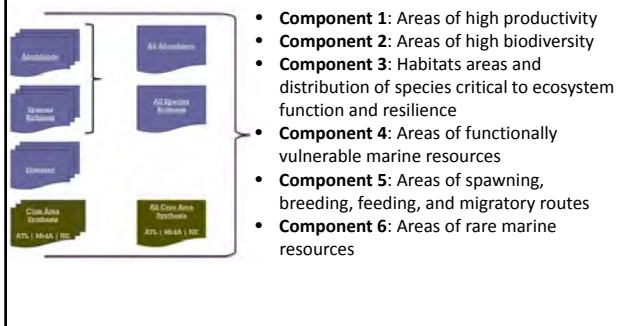
Identification of **Important Ecological Areas (IEAs)** is focused on the development of synthesis products to supplement core data products.



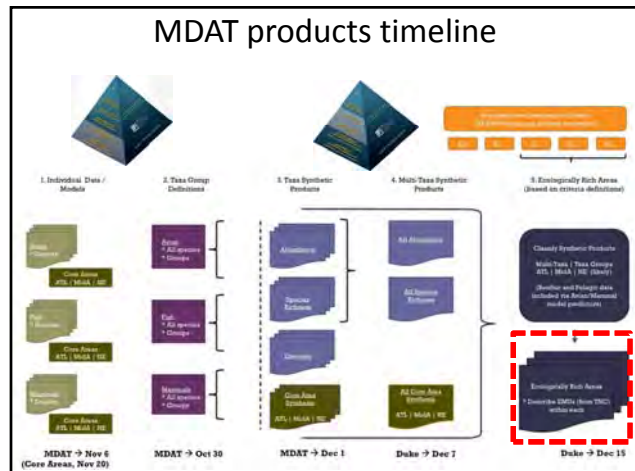
Important Ecological Areas

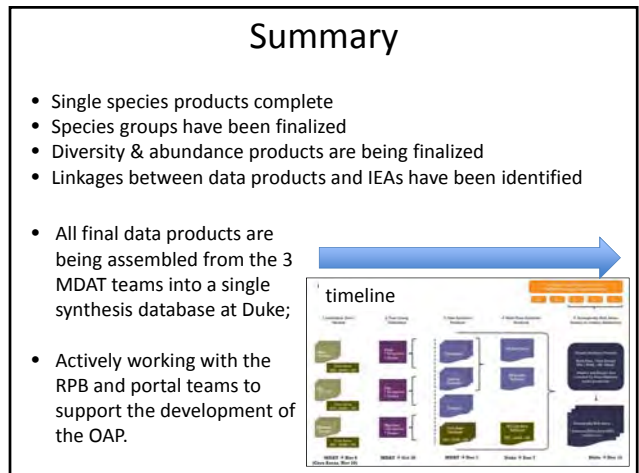
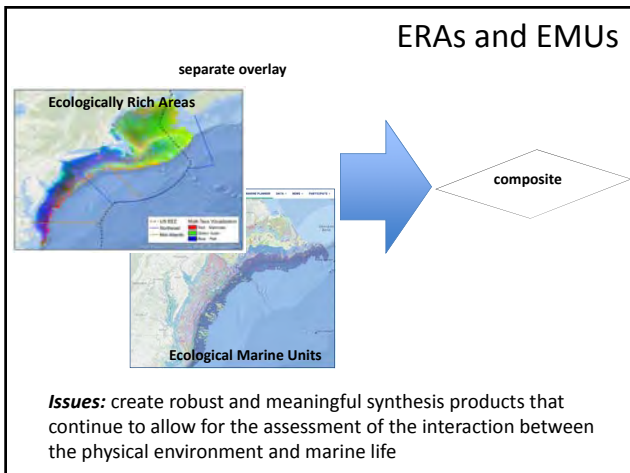
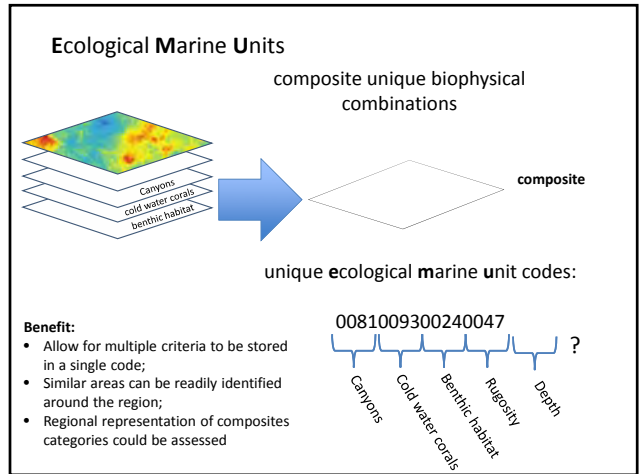
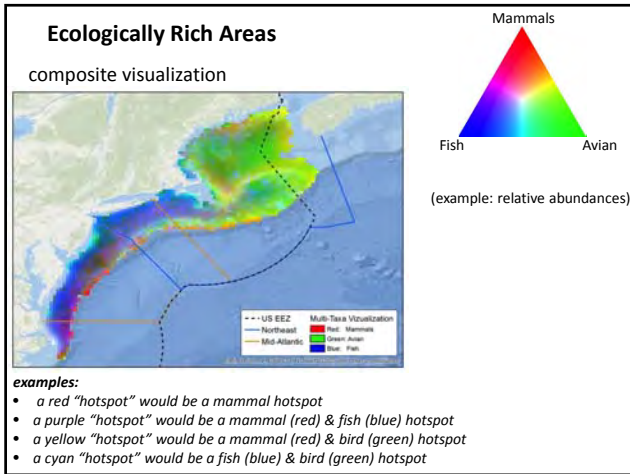
Core MDAT products inform IEA component criteria

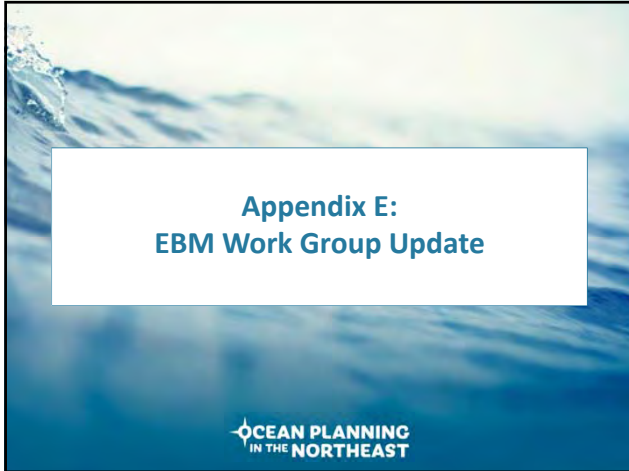
(Emily Shumchenia will be presenting on the EBM workgroup findings and IEA components next.)



MDAT products timeline







EBM Work Group Context

- **Now** – definition of IEA Components, relationship to existing data
- **Short-term (2016)** – how to derive importance for each IEA Component, approaches to mapping, potential uses for ocean planning (including monitoring)
- **Longer-term** – new data development to support IEA components; classification methods; cumulative impacts, ecosystem services

OCEAN PLANNING
IN THE NORTHEAST

EBM Work Group Meeting #1

Meeting Summary & Slides: neocceanplanning.org > Events

September 30, 2015 – Portsmouth, NH

- Open to the public (in person and webinar)

Agenda

- Reviewed EBMWG Terms of Reference
- Marine life data development update
- Discussion of benthic and pelagic habitat data development
- Options for defining Important Ecological Areas (IEAs)

OCEAN PLANNING
IN THE NORTHEAST

EBM Work Group Recommendation

- Define IEAs in terms of the various contributing components
 - e.g., diversity, productivity, migratory corridors
- Consult existing definitions, especially from the National Ocean Policy

OCEAN PLANNING
IN THE NORTHEAST

Six draft IEA components under consideration

Data available in the short-term vs. Long-term data needs

1. Areas of high productivity
1. Areas of high biodiversity
1. Habitat areas and distribution of species critical to ecosystem function and resilience
1. Areas of functionally vulnerable marine resources
1. Areas of spawning, breeding, feeding, and migratory routes
1. Areas of rare marine resources



Six draft IEA components under consideration

Data available in the short-term vs. Long-term data needs

1. Areas of high productivity
such as satellite-derived primary productivity hotspots
1. Areas of high biodiversity
such as MDAT diversity and species richness products
1. Habitat areas and distribution of species critical to ecosystem function and resilience
such as corals or shellfish habitat
1. Areas of functionally vulnerable marine resources
such as MDAT distribution/abundance products for species with low fecundity
1. Areas of spawning, breeding, feeding, and migratory routes
such as Essential Fish Habitat
1. Areas of rare marine resources
such as habitats that occurs in less than x % of the region

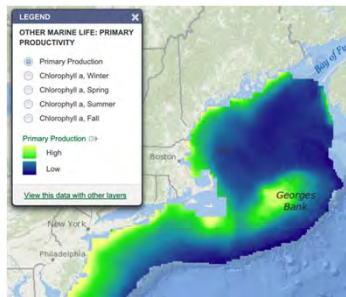


EXAMPLE: Areas of high productivity

Spatial data available

Primary productivity (1998-2007, satellite)

- Rate of photosynthesis
- Chlorophyll a



EXAMPLE: Areas of high productivity

Long-term needs

- High productivity areas for benthos, SAV, and macroalgae
- Incorporate biotic (above) and abiotic (upwelling areas, frontal boundaries) into an index of high productivity

NE Plan Draft Outline

1. New England Offshore Environment and the Need for Ocean Planning
2. Ocean Planning in New England
3. The Regulatory Environment and Management Actions
4. Ocean Plan Implementation
5. Science and Research Priorities



EXAMPLE: Areas of high productivity

Marine life	Benthic habitat	Pelagic habitat	Living habitat
High productivity areas for marine life	Incorporate biotic and abiotic (upwelling areas, frontal boundaries, canyons, seamounts) into an index of productivity	Primary productivity (rate of photosynthesis, chlorophyll a)	High productivity areas for eelgrass, macroalgae, cold-water corals
Method, threshold, criteria to extract important areas			

LEGEND
spatial data are available in short term
longer-term science and research needs

OCEAN PLANNING IN THE NORTHEAST

EXAMPLE: Areas of high biodiversity

Spatial data available

MDAT Taxa Synthetic Products

Figure 4.39. Modified (Shannon diversity) index, habitat type

OCEAN PLANNING IN THE NORTHEAST

EXAMPLE: Areas of high biodiversity

Long-term needs

A more complete assessment of biodiversity that incorporates additional taxa including:

- Corals
- Large-bodied fishes
- Macroalgae
- SAV
- Benthic infauna and epifauna

NE Plan Draft Outline	
1. New England Offshore Environment and the Need for Ocean Planning	
2. Ocean Planning in New England	
3. The Regulatory Environment and Management Actions	
4. Ocean Plan Implementation	
5. <u>Science and Research Priorities</u>	

OCEAN PLANNING IN THE NORTHEAST

EXAMPLE: Areas of high biodiversity

Marine life	Benthic habitat	Pelagic habitat	Living habitat
MDAT Marine mammals, Birds, Fish products (Abundance, Richness, Diversity)	Proxy: seafloor heterogeneity or topographic complexity	Proxy: fronts or convergence zones	Observations of cold-water coral communities
Method, threshold, criteria to extract important areas			
assessment of diversity of large-bodied fishes (e.g., sharks)	A more complete and epifaunal diversity		A more complete assessment of diversity

LEGEND
spatial data are available in short term
longer-term science and research needs

OCEAN PLANNING IN THE NORTHEAST



Next steps for EBM Work Group

Next meeting December 2015

- Finalize components of IEAs to recommend to RPB
- Discussion of spatial data available, longer-term needs and how these relate to Science & Research Priorities
- Discussion of how to “extract importance” from the data (for each of the 6 components for IEAs); common application approaches and challenges such as ranking, scoring, and overlay mapping

Appendix F: Best Practices for Agency Coordination



Background

- Regulatory Work Group identified early coordination and use of Portal data/Plan information as key benefits
- Options for Effective Decision-Making report identified and RPB concurred that Best Practices could be developed; outline reviewed in June
- Initial vetting by and comments received from EPA, NMFS, BOEM, DoD, USN, USACE, and USCG; will be coordinating with tribes to address similar issues
- Review draft is a working report intended to generate RPB and stakeholder discussion and recommendations for revisions
- Originally described narrowly as best practices for pre-application review; has been broadened as "best practices for agency coordination" to capture range of applicability



Purpose

- Best practices address the application of materials described in Section 3, including Existing Authorities, Natural and Cultural Resources, and Human Activities
- Agency action consistent with best practices will advance:
 - The use of relevant information from the data portal, the Plan, stakeholders, and other sources;
 - A common initial understanding of the proposed action;
 - Clear and efficient direction for the applicant or lead agency;
 - Informed stakeholder engagement in the planning, review, and/or regulatory process; and
 - Coordinated federal, state, and tribal review as appropriate.



Category and summary

- **Participation in early coordination**
 - Federal agencies should engage in early coordination as a general practice, and should do so consistent with best practices
 - Agencies should convene early coordination meetings
 - Lead agency should ensure all relevant agencies are notified
 - Lead agencies/applicants should develop reasonably complete initial characterization and identify gaps/issues
 - Participating agencies and tribes should provide clear direction about measures to avoid and minimize adverse impacts to resources and uses and process and information requirements



Category and summary

- **Use of data and information**

- Federal agencies should use Plan and Data Portal data as a primary initial source of information to inform agency coordination
- Lead agencies/applicants should coordinate with federal and state agencies for guidance about potential additional data sources:
 - Existing regulatory guidance
 - State ocean plans
 - Other data portals
 - Agencies and tribes
 - Stakeholders



Category and summary

- **Coordination with stakeholders**

- Agencies and applicant should discuss how stakeholder interests are addressed by applicable authorities and identify provisions that require characterization of stakeholder interests
- Agencies should identify known stakeholders
- Lead agencies/applicants should identify and seek to engage potentially affected stakeholders
- Lead agencies/applicants should identify and seek to engage coastal communities to address potential community-level impacts
- Lead agencies/applicants should seek to include initial stakeholder information early in any process to help inform subsequent review



Category and summary

- **Coordination with states**

- Lead agency should coordinate with a state(s) that has state jurisdiction or management interest to consider coordinated NEPA and other regulatory or management review, including:
 - Pre-application review
 - Scoping
 - Joint or coordinated review
- Federal agencies should engage in early coordination as a general practice
- Federal agencies should seek to address the substantive objectives of state-specific pre-application requirements, consistent with existing authorities





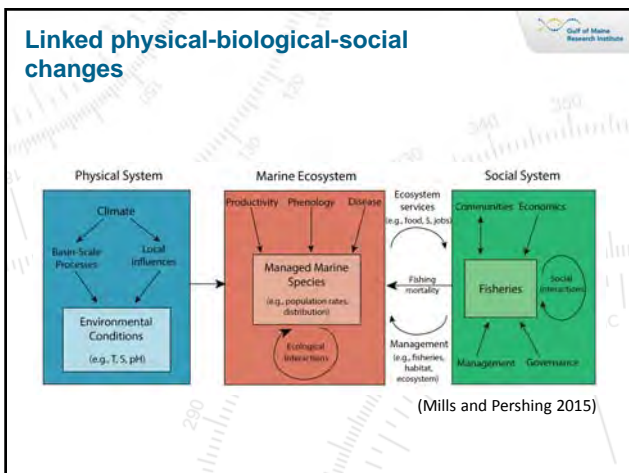
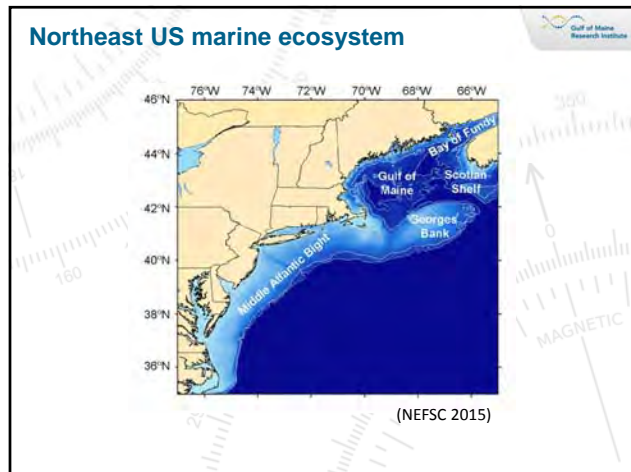
Category and summary

- **Coordination with tribes**

- Will be working with tribes to incorporate best practices for intergovernmental coordination

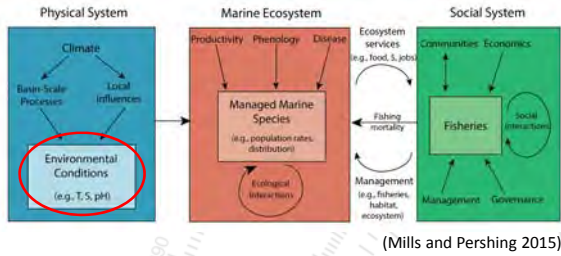



Appendix G:
Impacts of climate variability and change on the
Northeast United States marine ecosystem
 Katherine E. Mills
 Gulf of Maine Research Institute
 Northeast Regional Planning Body
 November 16, 2015


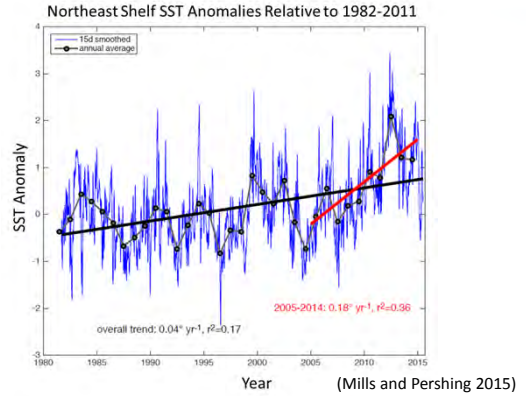


- Outline**
- Observed and predicted changes in Northeast US marine ecosystem
 - Physical
 - Biological
 - Social
 - Implications for spatial planning

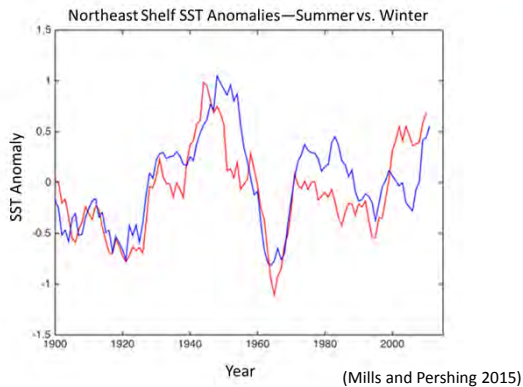
Linked physical-biological-social changes



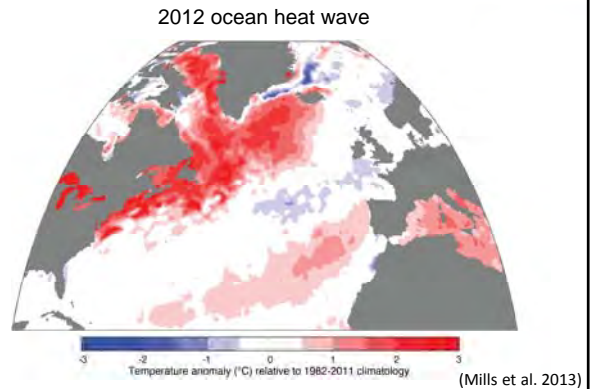
Temperature—trends

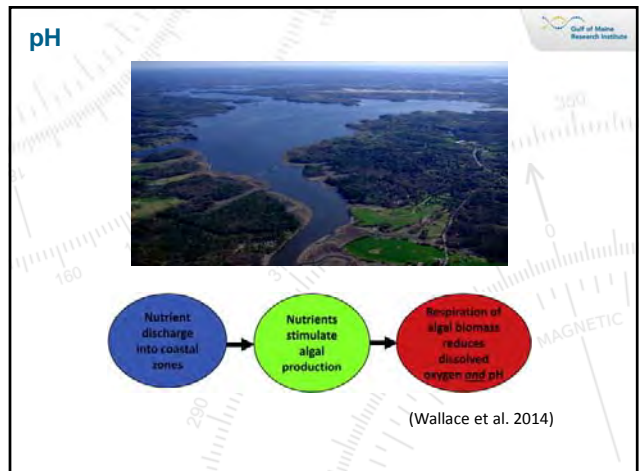
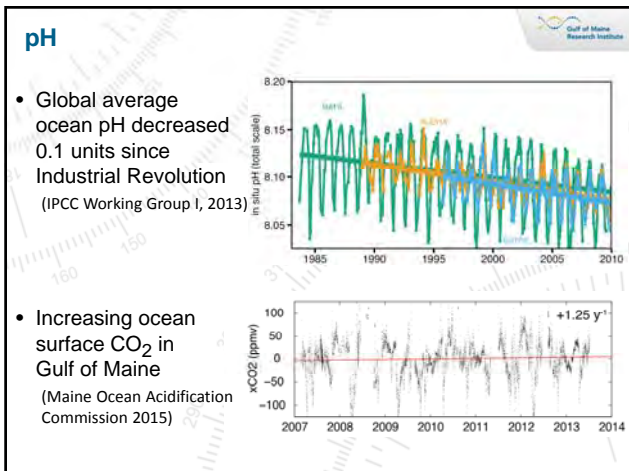
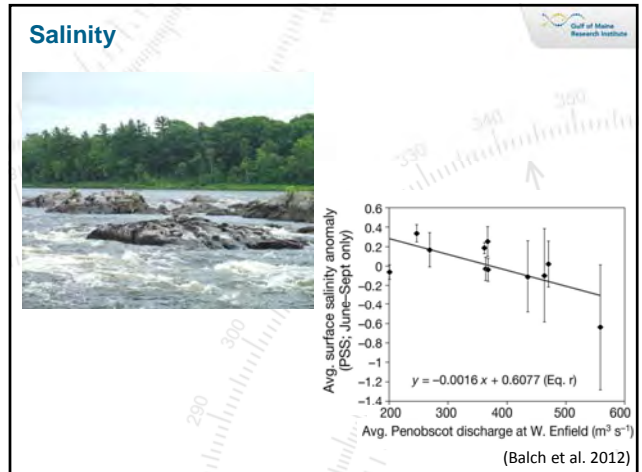
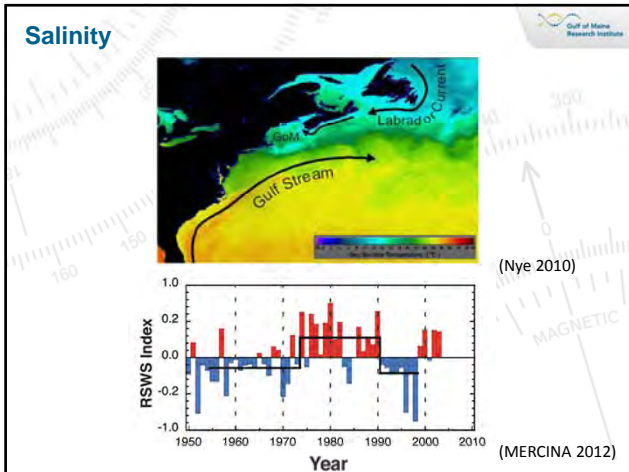


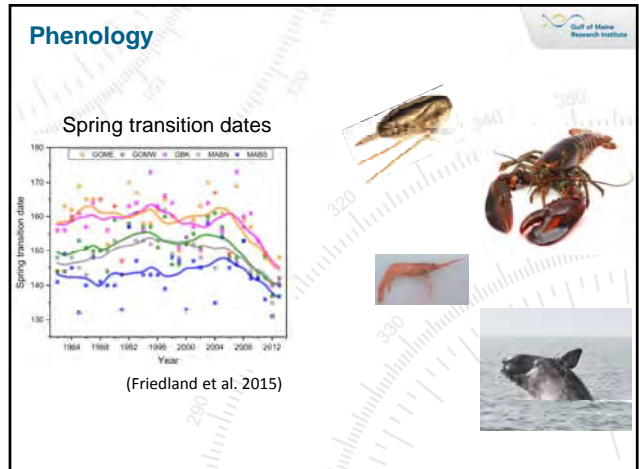
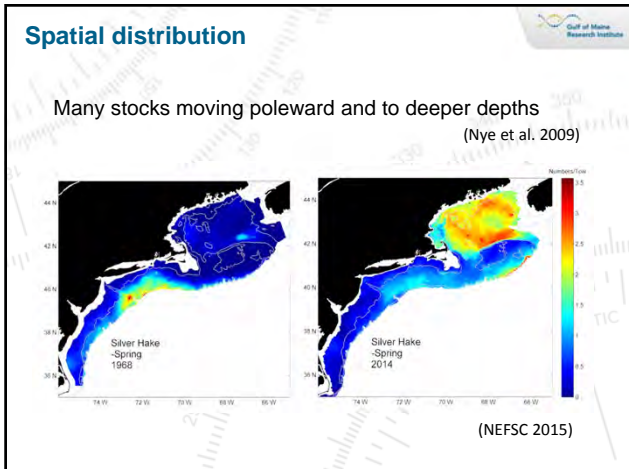
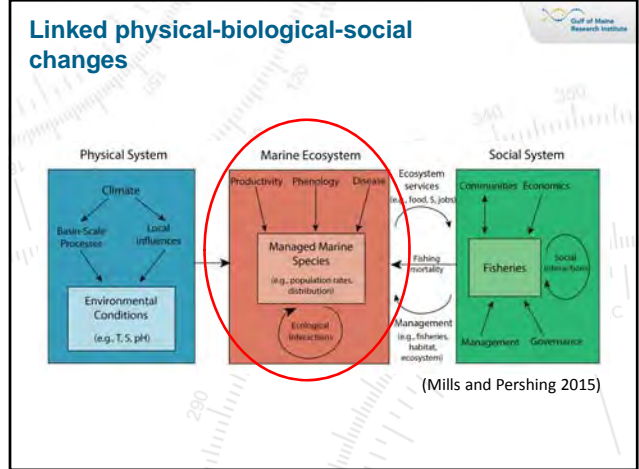
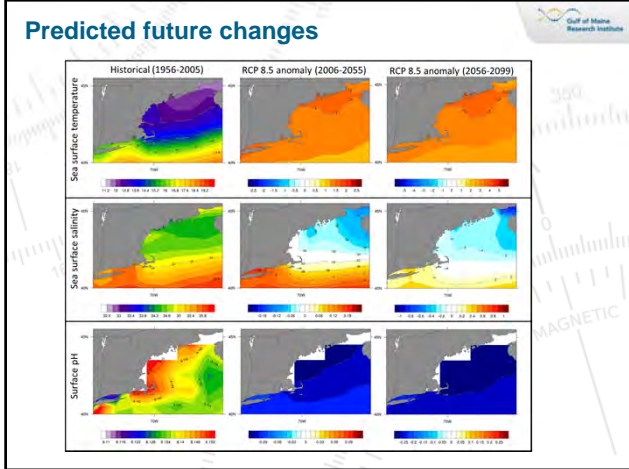
Temperature—seasonal patterns

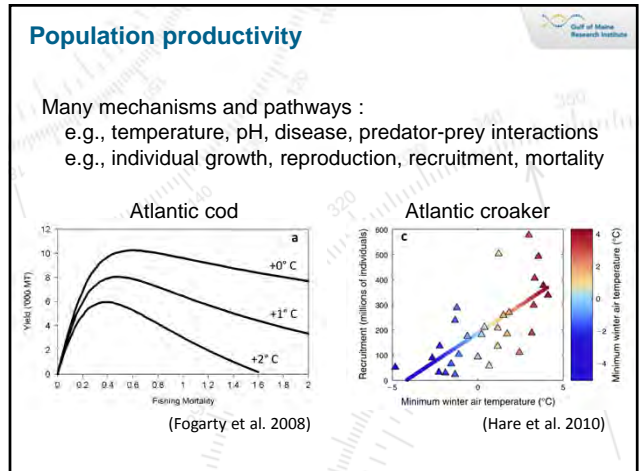
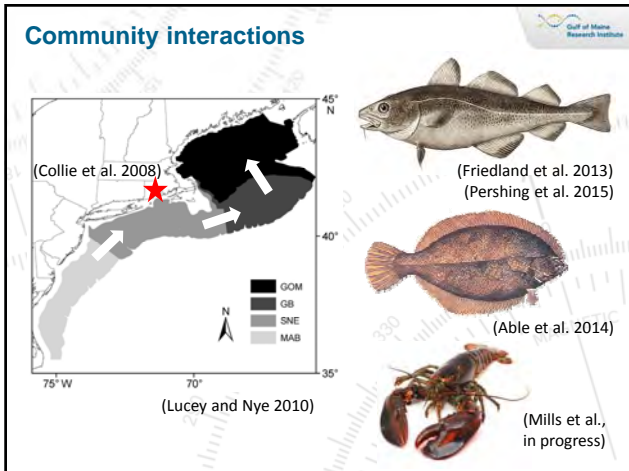
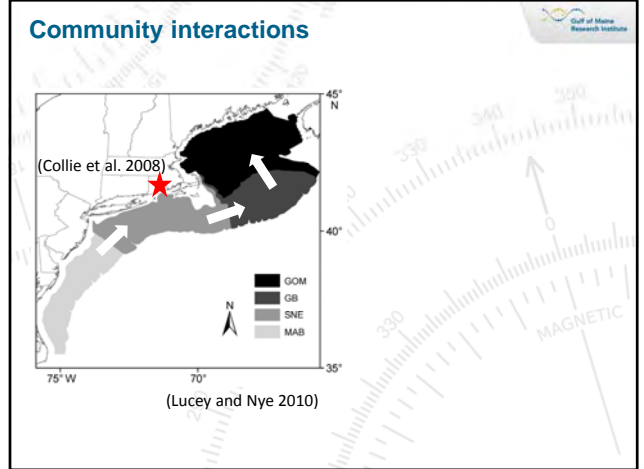
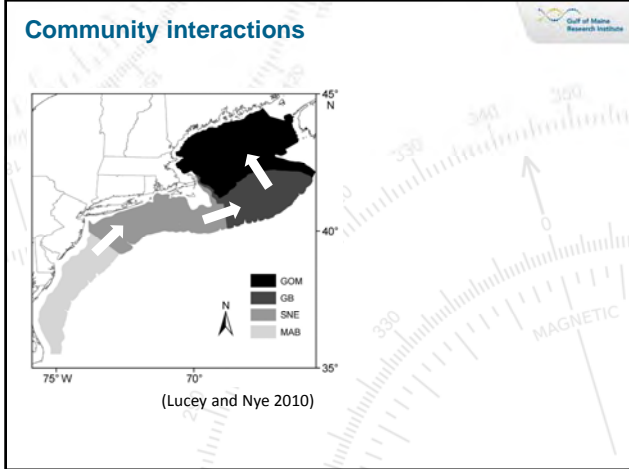


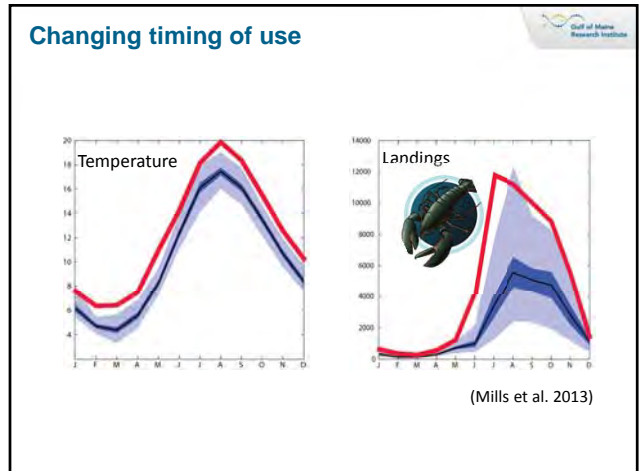
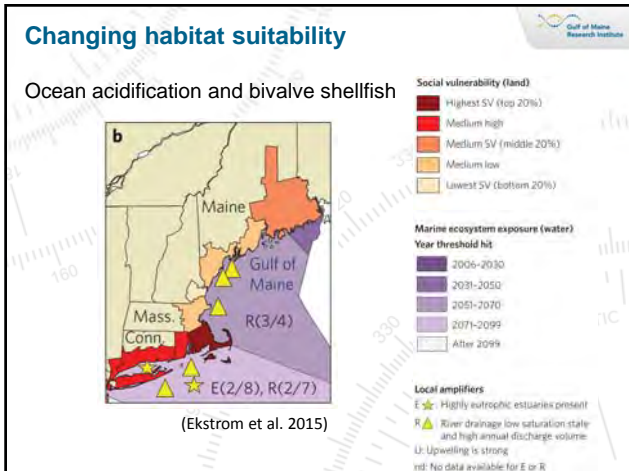
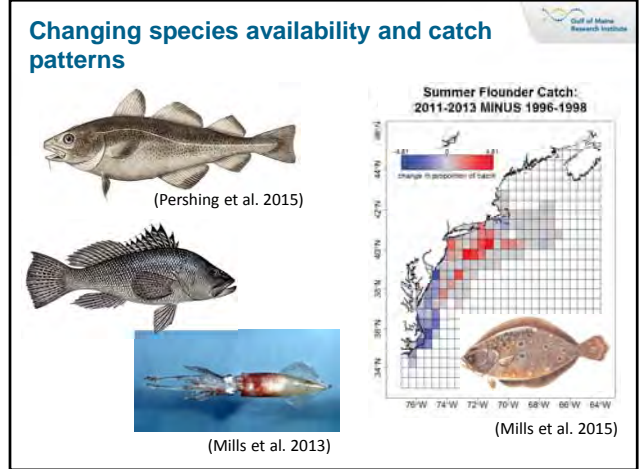
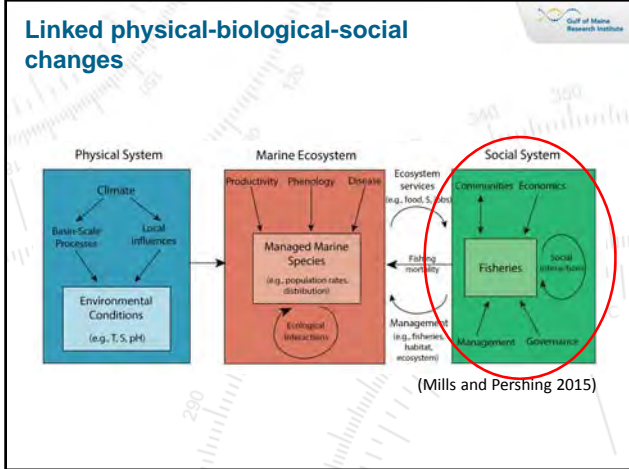
Temperature—extreme events







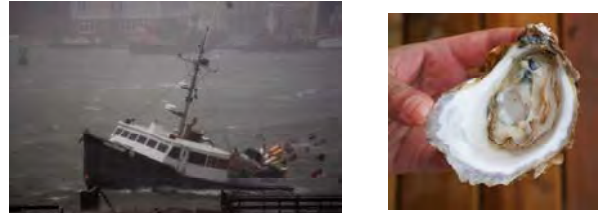




Changing management effectiveness



Changing health and safety risks



(Photo: Petri Tuohimaa, GMRI)

Considerations for spatial planning

- Ecosystem change may affect location and timing of species, activities, and ecosystem processes (*space x time*)
- Decision-making / planning occur on different time scales for different activities
 - Fisheries vs. aquaculture vs. energy
- Different time scales = different views of uncertainty



Considerations for spatial planning

- Effective adaptation to ecosystem change will benefit from:
 - Monitoring ecosystem conditions and human interactions
 - Data and information access
 - Process for stakeholder input into objectives and priorities
 - Development of future scenarios—climate, ecosystem, human response, economic trajectories
 - Processes and tools for assessing multifaceted outcomes of different management options under future scenarios
 - Proactive adaptive planning (e.g., defining thresholds at which management responses will happen and elements of modified governance structure / management process)

Appendix H: Proposed Approach for NE Ocean Plan Chapter 4 Section 3. Monitoring and Evaluation



Monitoring and Evaluation: Background

- Overall objective in *Framework*: “Periodically assess progress toward achieving regional ocean planning goals”
- Two components:
 - **Plan performance monitoring**, which assesses progress toward achieving plan’s goals and objectives
 - **Ecosystem health monitoring**, which focuses on those components of the ecosystem that the ocean plan addresses (through human use and natural resource elements of Chapter 3, e.g.) and related topics
- Don’t need to replicate what others are doing, do need to be practical in approach
- Topics discussed at October 20 Stakeholder Forum



4.3. Plan performance monitoring: Proposed Approach

- Section 4.3 will describe framework for plan performance monitoring which will be finalized and implemented during plan implementation. Framework will include principles such as the:
 - Need to relate performance metrics (outputs) to plan outcomes (goals and objectives, management measures in ch 3 and 4, etc.) and their implementation
 - Importance of setting a baseline, recognizing other factors/contextual issues that could affect plan performance
 - Need to hone indicators to help measure progress toward achieving goals and objectives, enable learning, and test assumptions. Balance specificity with the availability of data/resources for data collection/ analysis. Qualitative approaches should be considered for some topics.
 - Need to ensure that data development or compilation supports indicators in practice
 - Enable public discussion of plan performance throughout the process: identification of indicators, review of indicator results, and discussion of resulting need for plan revisions
 - Ensure that overall approach and results inform discussion of need for changes to the plan, recognizing the need for context and assessing cause-and-effect factors



4.3. Plan Performance Monitoring: Conceptual Example

Step 1: Identify particular objective to assess

Example: Under the Healthy Coasts and Ocean Ecosystems goal, there is an objective to produce and implement a regional ocean science plan

Step 2: Identify particular indicators to use in assessment

Example: some indicators could be simple (“Does the ocean plan include a regional ocean science plan?”), while others would require analysis, investigation:

- Does the science plan appropriately identify specific needs to meet plan goals and objectives?
- Are there emerging issues, appropriate for the regional ocean plan, that are not included in the science plan?
- Are topics in the science plan being appropriately addressed? If not, what are the barriers to doing so? If yes, are there broad lessons to be learned?

Step 3: Analyze the results of step 2 and, through public discussion, identify plan revisions

Example: updates to the regional ocean science plan, identification and implementation of opportunities to achieve new or existing elements



4.3. Monitoring Ecosystem Health: background

- Integrated Sentinel Monitoring Network (ISMN)
 - Provides long-term strategy for monitoring benthic, pelagic, and coastal components of the ecosystem that are management priorities
 - Does not directly include human uses/socio-economic considerations
- Ocean Health Index (OHI)
 - Provides strategy for combining ecological, socio-economic, and cultural considerations to provide context for ocean management
 - Quantitative, repeatable, comprehensive tool to inform decision making by measuring multiple metrics of ecosystem condition building on existing data and information



4.3 Monitoring Ecosystem Health: ISMN

- ISMN Science and Implementation Plan is a joint NROC and NERACOS effort
- Input from over 60 scientists and managers from 45 state and federal agencies, universities, NGOs, and Canada DFO
- Long Island Sound to the Canadian border
- Inventories present monitoring activities

Integrated Sentinel Monitoring Network for Change in Northeast U.S. Ocean and Coastal Ecosystems

ISMN Science and Implementation Plan - August 6, 2013
 A Project of the State, Northeast Regional Ocean Council and Northeast Regional Association of Coastal and Ocean Observing Systems Ocean and Coastal Ecosystems Health Committee



ABSTRACT
 The Northeast U.S. region spans a range of ocean and coastal environments from Long Island Sound to the Canadian border. The eastern Gulf of Maine, and includes ecologically and economically rich ecosystems. Climate change, rising sea level, and increasing human pressures are altering the structure and function of these ecosystems. Ecosystems change are not only threatening the sustainability of marine and human communities, but also challenging changes to meet demands about marine resources under local conditions with high degrees of uncertainty. In response to these changes and challenges, ISMN document describes a plan to create an adaptive sentinel monitoring program that watches for key changes, informs researchers, managers, and the public about ecosystem status and sustainability, and supports an integrated, ecosystem-based management framework for adaptive responses to changes in ecosystem status.



4.3 Monitoring Ecosystem Health: ISMN

- Recommends benthic, pelagic and coastal/estuarine sentinel indicators of ecosystem change (many that coincide with key marine life and habitat data components in Section 3)
- Recommends enhancements to present observing activities
- Considers implementation of the ISMN, including new infrastructure needs
- Identifies needs, challenges and recommendation for data product management and dissemination

Acknowledgements
 The Integrated Sentinel Monitoring Network is a multi-agency, university and research organization effort led by the Northeast Regional Ocean Council and the Northeast Regional Association of Coastal and Ocean Observing Systems.

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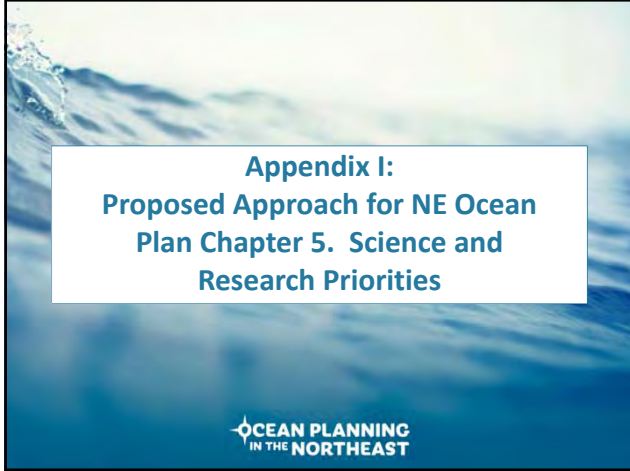
4.3 Monitoring Ecosystem Health: OHI

- Recognizes humans and human activities as part of the ecosystem
- Establishes ten human goals to be tracked – these could be closely tied to ocean planning goals and objectives
- Establishes reference points for each goal, allowing it to be tracked over time or to evaluate potential consequences of actions
- Can use best available regional data and indicators established through the NE Ocean Plan, NE Ocean Data Portal, and other regional efforts (ISMN?)




4.3. Ecosystem Health Monitoring: Proposed Approach

- During early phase of plan implementation, finalize methodology for OHI approach in New England and plan for utilizing ISMN
- Ensure both OHI and ISMN inform adaptive management approach by relating to plan goals, objectives, management measures, and associated data products in chapters 3 and 4
- Work with ISMN effort to identify areas where existing ISMN framework overlaps with suitable components of the plan, to develop practical steps to implement monitoring protocols and assess results to inform need for potential plan updates
- Ensure public participation in both aspects
- Recognize that both OHI and ISMN provide opportunities to incorporate recent science and data for management efforts, with the caveat that context and cause-and-effect considerations are critical



Appendix I: Proposed Approach for NE Ocean Plan Chapter 5. Science and Research Priorities





5. Science and Research Priorities: Background

- Objective 3 under Healthy Ocean and Coastal Ecosystems Goal: “Produce a Regional Ocean Science Plan that Prioritizes Ocean Science and Data Needs for the Region for the Next Five Years.”
- Agency science priorities and regional science plans already exist
- Science and research priorities for plan topics have been identified through the last three years of public outreach, science/technical input, and data development
- We presented an initial framework for this chapter at the Stakeholder Forum and participants recommended many specific science and research priorities to consider within that framework





5. Science and Research Priorities: Proposed Approach

- Science and research opportunities will be prioritized based on potential to advance specific components of the plan and will be tied closely to Chapters 3 and 4
- Generally two categories of science and research priorities for each plan topic:
 - Updates to ocean plan data and information products, typically short-term (roughly 1-3 years)
 - New research to fill important knowledge gaps, typically longer-term (roughly 3-5 years)
- The plan will identify potential partners, programs and existing efforts to leverage
- Public input will come from previous outreach, upcoming meetings and comments we receive through the draft plan





5. Science and Research Priorities: Framework and Examples

<ul style="list-style-type: none"> 5.1 Natural and Cultural Resources 5.2 Human Activities 5.3 Ecosystem Based Management 5.4 Changing Conditions 	<ul style="list-style-type: none"> • Sections 5.1 and 5.2 will likely replicate the structure of Chapter 3 to ensure priority plan topics and products are advanced • Sections 5.3 and 5.4 can capture science and research priorities for overarching and emerging issues
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5. Science and Research Priorities: Marine Mammals Example

A. Updates to Ocean Plan Data Products	Incorporate additional survey data into the model and update plan products
B. New Research	Using existing model outputs and observations not included in the models, identify geographies and times requiring additional observations and provide model criteria for use in designing any new survey to ensure data are used
C. Programs and Efforts to Leverage	<ul style="list-style-type: none"> • Atlantic Marine Assessment Program for Protected Species (AMAPPS) • Massachusetts Clean Energy Center surveys • North Atlantic Right Whale Consortium database • Center for Coastal Studies Humpback whale database • NMFS stranding data • NMFS passive acoustic monitoring data



5. Science and Research Priorities: Commercial Fishing Example

A. Updates to Ocean Plan Data Products	Update VMS vessel density products annually
B. New Research	Develop a method to characterize fishing efforts for different fisheries using a combination of VMS, VTR, state permits, and other sources, including direct outreach to fishing communities
C. Programs and Efforts to Leverage	<ul style="list-style-type: none"> • NOAA NMFS • New England Fishery Management Council • State fishery agencies • Fishing associations and other NGOs (e.g. Maine Lobstermen's Association, Island Institute, Cape Cod Commercial Fishermen's Alliance, Massachusetts Lobstermen's Association, etc.)



5. Science and Research Priorities: EBM Example

A. Updates to Ocean Plan Data Products	Update existing data that comprise IEA components
B. New Research	<ul style="list-style-type: none"> • Develop and implement a regional habitat classification • Advance methods to quantify cumulative impacts
C. Programs and Efforts to Leverage	<ul style="list-style-type: none"> • NROC Habitat Classification and Ocean Mapping Subcommittee • NOAA Coastal and Marine Ecological Classification Standard (CMECS) • NOAA Integrated Coastal and Ocean Mapping • New England Fishery Management Council • EPA Office of Research and Development, Atlantic Ecology Div. • The Nature Conservancy's Northwest Atlantic Marine Ecoregional Assessment • Ocean Health Index



5. Science and Research Priorities: Changing Conditions Example

A. Updates to Ocean Plan Data Products	Update oceanography/hydrography products as data become available
B. New Research	Identify and map species and habitats vulnerable to warming waters and acidification – see IEA Component "Areas of Functionally Vulnerable Marine Resources"
C. Programs and Efforts to Leverage	<ul style="list-style-type: none"> • Marine Life Data and Analysis Team (MDAT) outputs • NOAA Northeast Fisheries Science Center • OceanAdapt Project – Rutgers University • Northeast Coastal Acidification Network • NERACOS



Appendix J:
NE Ocean Plan Chapter
4. Ocean Plan Implementation:
4.2 Responsibilities and Commitments



Responsibilities and commitments

Assumptions:

- Plan approved by NOC
- Staff capacity exists, similar to current situation
- Much of day-to-day implementation falls to agencies as they carry out their existing authorities, but need coordination mechanism
- Other partners may be appropriate for certain aspects



Components of implementation*

1. Oversight for overall plan implementation, including:

- Implementation of management measures in Chapter 3 and “best practices” in Chapter 4, including federal-tribal-state coordination
- Oversight for Chapter 4 plan performance and ecosystem health monitoring
- Tracking progress on Chapter 5 (science and research priorities)
- Oversight of plan updates and amendments
- For all of these items, continued stakeholder engagement

**NOTE: for all implementation considerations, consider leveraging existing resources and being practical. Recognize staff availability/roles for each of these items.*



Components of implementation

2. Data Portal

- Priority data products referenced in Chapter 3 (long term responsibilities)
 - Continued collection and availability of data
 - Updates to data products
- Other supporting data products (e.g., bathymetry)
- General maintenance and technical support
- Recognize long-term, evolutionary nature of data portal “home” discussion; staff can work with agencies on developing long-term strategy

