Northeast Regional Planning Body
Fall 2015 Stakeholder Forum

October 20, 2015
University of New Hampshire, Durham, New Hampshire

MEETING SUMMARY

Prepared by the:

Consensus Building Institute

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

1. WELCOME, AGENDA REVIEW & OBJECTIVES 3

2. DRAFT OCEAN PLAN TIMELINE AND OUTLINE 3

3. DATA AND AGENCY GUIDANCE IN CHAPTER 3 OF THE OCEAN PLAN DRAFT OUTLINE 5

4. ECOSYSTEM BASED MANAGEMENT WORK GROUP UPDATE 7

5. BEST PRACTICES FOR AGENCY COORDINATION 8

6. MONITORING AND EVALUATION: PLAN PERFORMANCE AND ECOSYSTEM HEALTH 11

7. SCIENCE AND RESEARCH PRIORITIES 16

8. OCEAN PLAN IMPLEMENTATION: RESPONSIBILITIES AND COMMITMENTS 23

9. NEXT STEPS AND WRAP UP 25

APPENDICES 26

Appendix A: Forum Participants 26

Appendix B: Presentation Slides 28

Executive Summary

The Northeast Regional Planning Body (RPB) hosted a one-day Stakeholder Forum on October 20, 2015. Approximately 61 participants from diverse stakeholder groups attended the Forum. The purpose of the workshop was to gather stakeholder feedback about the outline of the draft Ocean Plan and plan implementation and science research priorities prior to discussion of these topics at the November 16-17, 2015 RPB meeting.

Ocean planning staff summarized the timeline for completion of the Ocean Plan, which must be submitted to the National Ocean Council in June 2016. There will be a 45-day public comment period on a draft plan before that deadline. Participants gave feedback on the overall draft Ocean Plan outline and timeline, seeking to understand what content will be included where and identifying the three ocean plan goals (healthy ocean and coastal ecosystems, effective decision-making, and compatibility among uses) and ecosystem based management (EBM) as particular topics that should be threaded through the entire Ocean Plan.

Ocean planning staff then presented an update on the data products being developed for the Ocean Plan. Participants commented on the data (including gaps such as lobstering activity and other topics' data limitations) and said that information about data limitations must be clearly communicated to users of the data portal. Staff then gave an update on the recently formed EBM workgroup and their priorities for the coming couple of months. Deerin Babb-Brott (SeaPlan and ocean planning contractor) presented an overview of the work about best practices for agency coordination in the areas of: participation in early coordination of development review, use of Ocean Plan data and information, coordination with stakeholders, coordination with states, and coordination with tribes. Participants urged those developing the draft Ocean Plan to think carefully about how to ensure that best practices described in the draft Ocean Plan would be sufficient (in terms of substance and the level of agency commitment) to achieve desired results.

Ocean planning staff presented a potential framework for monitoring and evaluating plan performance and ecosystem health. The presentation underscored the challenge of identifying indicators that show cause and effect relationships and of identifying quantifiable metrics that can be measured, noting that qualitative and quantitative are both likely to be useful. Participants worked in small groups to develop ideas for how to measure progress toward each of the Ocean Plan's three goals once the Ocean Plan is finalized. Although indicators varied for each of the three main goals, some common themes included the importance of data use and maintenance. Common themes between the goals of effective decision making and compatibility among uses included surveying stakeholders and agencies about their experience to gauge the efficacy of enhanced coordination efforts once implemented; monitoring the time it takes a project to move from pre-proposal to project implementation; and monitoring trends in positive or negative comments received or made through media outlets.

Participants then brainstormed individually to identify science and research priorities for the region to undertake once the Ocean Plan is in place. Ideas were grouped into four categories: natural and cultural

resources, human activities, EBM, and changing conditions. Small groups then grouped and reflected on the various suggestions, identifying general themes and adding missing ideas. These ideas will feed into RPB deliberations about what to include in Chapter 5 (Science and Research Priorities) of the Ocean Plan.

Finally, the group discussed future responsibilities and commitments for implementing the Ocean Plan. Participants highlighted the importance of implementation beginning immediately through efforts to maintain open lines of communication between stakeholders, agencies, and tribes; continue forums where people could discuss ocean-planning issues and resolve conflicts between ocean uses (by focusing on specific topics such as offshore aquaculture or sand and gravel extraction, for example). The participants highlighted the need for stakeholders and agencies alike to continue supporting the Ocean Plan, to advocate its use to elected officials, and to ensure agency staff are dedicated to its implementation.

1. Welcome, Agenda Review & Objectives

On October 20, 2015, the Northeast Regional Planning Body (RPB) hosted a one-day Stakeholder Forum on ocean planning in the northeast United States. Approximately 61 participants from federal and state agencies, industry groups, fisheries, academic institutions, nonprofit organizations, and elsewhere attended the workshop.[1] The goal of the forum was to engage stakeholders in dialogue and collect feedback about key discussion topics in advance of the November 16-17 RPB meeting. More specifically, there were two meeting objectives: first, to provide updates and discuss progress on the draft Ocean Plan outline, focused on Chapter 3 (Regulatory Environment and Management Actions), and recent updates (such as the work of the Ecosystem Based Management Work Group); second, to obtain input on potential approaches and substance for Chapter 4 (Plan Implementation) and Chapter 5 (Science and Research Priorities) of the draft Ocean Plan.

Staff from the Consensus Building Institute (CBI) facilitated the workshop and drafted this workshop summary.[2] Presentation slides and other materials from the workshop are available at the following URL: http://neoceanplanning.org/events/fall-2015-stakeholder-forum/

Betsy Nicholson, the RPB federal co-lead, welcomed participants and set the context for the Forum. This is the final year of developing the Ocean Plan to guide ocean planning through existing authorities. Several years ago, the process started by setting goals for ocean planning that reflect shared values of ocean users across New England. This was followed by stakeholder and scientist collaboration to collect data to characterize ocean resources and provide information for transparent decision-making. Now, the process is turning to the discussion of how to implement the plan in the short and long-term. Ms. Nicholson emphasized the importance of including the best and most realistic ideas in the Ocean Plan both for short-term action and long-term implementation.

Ocean planning staff then presented the outline of and timeline for the development of the draft Ocean Plan, focusing on data and agency guidance in Chapter 3, the progress of the Ecosystem Based Management Work Group (EBM Work Group), and best practices for agency coordination.

2. Draft Ocean Plan Timeline and Outline

Nick Napoli, ocean planning staff, summarized the timeline for completion and the draft Ocean Plan outline. See Appendix B for the slide presentation accompanying his remarks.

The draft Ocean Plan must be submitted to the National Ocean Council (NOC) at the end of June 2016. Prior to submitting the Ocean Plan in June 2016, a draft of the Ocean Plan will be issued at an RPB meeting in March followed by a 45-day public review period. The RPB will revise the draft Ocean Plan

[1] See Appendix A for a full list of participants.
[2] Consensus Building Institute staff: Dory Dinoto, Ona Ferguson, Patrick Field, and Eric J. Roberts.

following feedback gathered during the public review period and will then submit the Ocean Plan to the NOC, which will have approximately three months to review it. October 2016 is the anticipated publication date for the final Ocean Plan.

Mr. Napoli described the five major chapters of the draft Ocean Plan outline, which could evolve as the plan is drafted. The five chapters of the draft outline include:

1. New England Offshore Environment and the Need for Ocean Planning: Chapter 1 is a way to broadly identify the need for this work in New England, drawing upon the baseline assessment information (the baseline information will be included in the appendix) and generally discussing the importance of the three goals.
2. Ocean Planning in New England: Chapter 2 will present the major milestones of the planning process, beginning with initial steps leading to the establishment of planning goals, and describe its evolution.
3. The Regulatory Environment and Management Actions: Chapter 3 will present the regulatory context and primary legal authorities that are involved in management of ocean uses and resources, with an overview in Section 3.1and specific details as follows: natural and cultural resources (Section 3.2); human activities (Section 3.3); and EBM (Section 3.4). Sections 3.1 and 3.2 will include topically-specific sub-sections with an overview, maps and data, a description of how the relevant agencies intend to use the data in existing regulatory and management programs, additional information sources, information about the long-term maintenance of ocean plan maps and data including a brief mention of science priorities, and other related RPB agency initiatives and coordination activities. Ecosystem Based Management (Section 3.4) was added to describe how EBM principles are incorporated in the plan and, consequently, how agencies plan to incorporate EBM during plan implementation. The EBM topic could fit in many parts of the Ocean Plan.
4. Ocean Plan Implementation: Chapter 4 will describe best practices for intergovernmental coordination, the responsibilities and commitments of RPB members for Ocean Plan implementation, and monitoring and evaluation of plan performance and ocean and ecosystem health.
5. Science and Research Priorities: Chapter 5 will expand upon the science and research priorities mentioned in Chapter 3, Sections 3.2 and 3.3, and describe the short- and long-term needs to update ocean plan information and analysis by filling data gaps and highlight long-term planning considerations, including changing conditions.

Discussion

Participants made the following comments and asked the following questions. Responses from ocean planning staff are italicized:

- The Antiquities Act should be included in Section 3.1 since certain organizations in New England and at a national level are advocating for the President to use his power under the act to designate a national marine monument in this region of the Atlantic Ocean.

- Consider providing a public comment period that is longer than 45 days since the public has not had a chance to review the draft baseline or summary products, or the agency guidance.
- Consider whether to include emerging uses in the plan or how to differentiate between established and nascent ocean uses, and whether or not including nascent ocean uses increases their potential to become established. Section 3.3 includes a list of human activities, but some activities such as energy, aquaculture, and some aspects of sand and gravel mining are just starting and not established yet as a major part of the offshore environment—why should these emerging uses be given the same credibility by including them with well established ocean uses?
- The Historical and Cultural Resources section should include information about tribal groups and other communities that have historically relied on ocean resources.
- Where will compatibility issues between uses be outlined? *We anticipate this information will be included in Chapter 3 in the sections drafted by agencies that describe how they will use the data under existing authorities.*
- Where will issues such as coastal development, hardening of shorelines, coastal runoff, etc. that relate to the ocean/coast interface be included? *Some of that is found in the baseline assessment and could be included in the introduction.*
- Are you using the national database for stranding responders when you talk about marine mammal and sea turtle data? *The stranding data is not incorporated due to how it is collected, but it is used to validate the models that are used for these species*.
- How will the plan address the three goals of ocean planning? Will they be addressed in each chapter? How will agency guidance lead back to those goals? *We hope Chapter 2 will describe how the plan addresses the goals. Additionally, the goals will be embedded in each topic, so we anticipate discussion of the three goals in each section.*
- Participants made several comments about including EBM in the plan:
    - The opening description and vision for the plan should incorporate EBM, since it is an aspiration the agencies hope to achieve.
    - The EBM section should describe a management philosophy and specifically describe how that philosophy translates into management decisions.
    - Include a clear definition of EBM: "The RPB believes EBM is…"
    - Will adaptive management be discussed in the implementation section? *A lot of EBM is adaptive management and EBM will be threaded throughout the plan, but for now we have this section as a placeholder for EBM.*

3. Data and Agency Guidance in Chapter 3 of the Ocean Plan Draft Outline

Mr. Napoli provided participants with an update on product development related to Natural and Cultural Resources (Section 3.2) and Human Activities (Section 3.3). The group also discussed related agency guidance for these sections.

The MDAT team is wrapping up more than 3,000 data products for individual marine mammal, fish, and bird species. Ocean planning staff are working with the MDAT team to create other individual species-

derived groupings based on regulatory status (e.g., listed under the Endangered Species Act) or ecological function. The team is also considering vulnerability- or sensitivity- based species groupings, examining scientific literature to compile conclusions about species interactions or impacts (for example, grouping whales by sensitivity to low-, mid-, or high-frequency sound. Mr. Napoli requested participants to forward literature they know of that could help develop sensitivity or vulnerability-based groupings. Collaboration is ongoing with the tribes to develop plan content related to historic and cultural resources. Human use data (e.g., shipping, fishing, and recreation) is mostly complete with three updates in preparation:

- AIS data from 2013 for the marine transportation theme
- 19 Vessel Monitoring System (VMS) maps for the commercial fishing theme
- characterization of coastal and marine recreation activities.

Mr. Napoli described species groupings products to be completed using the marine life data. The base of these groupings are the more than 3,000 species specific layers. In Chapter 3, agencies will describe how they intend to use these data in their decision making. Agencies will also describe their use of products that group individual species.

Discussion

Participants made the following comments and asked the following questions. Responses from ocean planning staff are italicized.

- A presentation at the recent RARGOM (Regional Association for Research on the Gulf of Maine) conference highlighted the disappearance of right whales this summer and how little we know about their behavior. It illustrates how quickly information can change and illuminates the need for the plan to guidance for updating and maintaining data to ensure it is reliable and useful.
- Do analyses stop at the shelf break because we lack data or because we cannot go beyond the shelf? *A lot of the fish data is based on trawl data, which does not go beyond the shelf. Some bird and mammal data goes beyond the shelf. Chapter 5 could include reference to data gaps in deep locations/off-shelf areas.*
- What is at the top of the pyramid and is the intent of creating multi-taxa hot spots to justify nationally protected areas or areas to be exploited under a particular act? The plan should clearly explain that creating justifications for nationally protected areas or areas to be exploited is beyond the scope of what the agencies are supposed to do and that there are no endorsements by agencies for creating multi-taxa hotspots.
- It is important to alert the public when data is available for public review.
- Can people use the viewers to create their own groupings? *Users could stack individual species layers, but the groupings the MDAT team is completing require additional analysis that users could not conduct just by combining multiple layers.*
- Some areas are particularly important for different life stages of species, and this may be an issue to examine in the future. Considering the fish grouping, is Essential Fish Habitat (EFH) an

attempt focus on life history by, for example, identifying spawning or juvenile refuge locations across species? *We are actively thinking about how to map life history, and the portal already contains EFH data.*

- Many fish species in the juvenile stage could be considered forage fish. Some important life stages are not linked to management but should be. There are several highly commercially valuable invertebrates in the region, how will these be grouped? *Groupings will be submitted to the work group for comment soon. Available data sources will limit what is possible given inherent limitations in data sets.*
- The portal should show avian species by breeding colonies and foraging concentrations, which is a common way to view this data.
- It could be useful to depict stock status so maps could show hotspots for species that are overfished or depleted. *We have not done this yet, but some recommended that we group species by management plan.*
- We need to ensure that lobstering efforts are included, especially since there are slivers of federal waters that are open to state lobstermen. Will any data be included in the portal to identify lobstering efforts? *We know that lobster fishing location is a data gap to fill and expect this will be included in the Chapter 5 (science and research priorities). The Ocean Plan will also reference other sources of information that may be available for portions of New England (e.g., state-specific information).*
- A broad, basic level of information should be included in the plan rather than making references to many other data sources. Please comment on the lobster data that is referenced in the plan but not included and describe the decision making process to determine what data to include or not include in the plan. *Data that is not in the portal, but that is referenced in the plan, can still be used by agencies and project proponents. When agencies draft their sections of the plan, they will identify the data they will reference and how they plan to use it. Additionally, the plan will reference the lobster data that is in the Massachusetts Ocean Plan, but also recognize that we do not have that type of lobster data region-wide. In general, as part of the data portal effort, decisions are made about inclusion of that data is based on whether it is the best available data and whether it is regionally available. It will be up to the agencies to reference additional data sets they anticipate using. The plan will also describe the criteria the MDAT team used to determine which data they used in the models.*

4. Ecosystem Based Management Work Group Update

Dr. Emily Shumchenia, ocean planning staff, presented a brief update on the Ecosystem Based Management Work Group. During the first work group meeting held at the end of September, its members provided input how to merge habitat and marine life data sets into useful products.[3] They also identified the need to define important ecological areas (IEAs) based on components such as rarity,

[3] A meeting summary of the inaugural EBM Work Group meeting is available here: http://neoceanplanning.org/events/inaugural-ebm-working-group-meeting/

diversity, vulnerability, spawning and breeding, migration, etc. The Mid-Atlantic RPB is considering ecological richness as one way to define an IEA; if the NE RPB used this approach it would lend consistency across both regions. Upcoming work group meetings will continue these discussions and possibly focus on interactions between ecological variables and human uses, monitoring and evaluation, and future science and research priorities.

Discussion

Participants made the following comments and asked the following questions. Responses from ocean planning staff are italicized.

- Will the working group define EBM? *During the EBM workshop, we talked about the various definitions of EBM and the principles of EBM included in the National Ocean Policy. We will apply already-developed definitions and principles in the literature. The EBM work group Terms of Reference describes the work the group will undertake.*[4]
- Ecosystem based management is a long, slow, evolutionary process specific to the ecosystem at hand. You will know you are making progress when outcomes are framed as societal or economic outputs as well as broad sustainability outputs.
- An outcome of the EBM workshop was that people said that ecologically rich areas are only one component of EBM. Adaptive change, migratory corridors, and habitat continuity are examples of others, and these should be the focus of the EBM work group and the Ocean Plan. Only identifying ecologically rich areas is dangerous because it can lead to ocean zoning which justifies whether a particular act or regulation will focus development in a particular area. The intent of ocean planning is not ocean zoning. *The function of the EBM Work Group is defined in the group's Terms of Reference and is much larger than establishing hotspots.*
- The work group could consider reviewing ecological marine units similar to those being considered by the Mid-Atlantic RPB. Right now we make decisions without data, and efforts made to date will be very valuable to help us know where not to permit specific activities.

5. Best Practices for Agency Coordination

Mr. Deerin Babb-Brott, SeaPlan, presented an overview of his research on best practices for agency coordination. He is currently seeking RPB feedback on a draft best practices document and expects to present a revised version in November. Highlights from his overview included the following.

In 2014, the RBP identified options for moving forward with the Effective Decision-Making goal. A key outcome of this discussion was that best practices could be developed to enhance coordination and decision making, particularly for NEPA review and US Army Corps of Engineers permitting. Initially, the best practices were narrowly focused on pre-application ocean development review; however the focus

[4] The EBM Work Group Terms of Reference are located here: http://neoceanplanning.org/events/inaugural-EBM-working-group-meeting/

has since been broadened to best practices for agency coordination to capture a wider range of applicability.

The best practices for agency coordination will support or provide the structure for improved coordination between agencies, project proponents, and other interested stakeholders. The best practices are intended to improve decision-making processes between agencies by connecting ocean plan information with agency implementation of existing authorities. The data portal will provide key information to agencies early in their decision making processes to establish a baseline understanding of the context for proposed ocean development. These best practices will also enhance the clarity and efficiency of the process for the applicant, and enhance stakeholder engagement in the planning, review, and or/regulatory processes associated with decision-making.

Mr. Babb-Brott described best practices in five main categories:

- *Participation in early coordination* – best practices suggested in this category would aid the initiation of early coordination prior to the beginning of official review processes. Suggested best practices for early coordination would help project proponents understand all the applicable information they should submit in a formal development proposal. They would also suggest that lead agencies provide interested parties with opportunities to learn about and provide early input on projects.
- *Use of data and information* – best practices in this category would highlight the need to use ocean plan data to frame project proposals and acknowledge that site-specific data will likely be needed for each proposed project. Best practices in this category may also serve to remind parties to explicitly discuss data limitations or missing data (e.g., lobstering data) necessary for agencies to make an informed decision on a specific project.
- *Coordination with stakeholders* – these best practices would aid in stakeholder identification potentially affected by a project and assessment of their interests and concerns. The suggested best practices will work within existing management provisions that require characterization of stakeholder interests and identify approaches that agencies could use to engage stakeholders to clarify stakeholders' interests and concerns, identify where interests and concerns converge or diverge, and determine potential options to address those interests and concerns.
- *Coordination with states* – suggested best practices in this category would highlight and encourage the use of existing processes to coordinate project review with the state(s) with jurisdiction over a proposed project. These processes are often determined by existing statutory, regulatory, administrative, and/or practical measures.
- *Coordination with tribes* – Tribal representatives and ocean planning staff are currently developing suggested best practices for agency coordination with tribes.

Discussion

Participants made the following comments and asked the following questions. Responses from ocean planning staff are italicized.

- Harbor Masters are often engaged and speak about lobstermen interests, but lobstermen should represent their own interests. How will you determine which industry stakeholders are engaged? *One recommendation is to create a centralized information hub that would make it easy for interested parties to learn about proposed projects themselves, but parties may not have time to consistently check another web page. The best practices may suggest creation of a list of core stakeholders to remind project managers of who should be engaged.*
- If project proponents are required to engage stakeholders, are they obligated to use the information they collect from stakeholders? *The best practices cannot legislate behavior but instead provide a soft authority. For example, if the best practices are reflected in the ocean plan and the plan is the guidebook for how to do business, then stakeholders can use public comment periods to remind agencies of the commitments they agreed to in the ocean plan.*
- The NEPA process could be improved by incorporating a systems perspective to link to EBM and the ocean plan. The EPA Green Book on Sustainability Management is an example of incorporation of a systems thinking approach.
- The ocean planning process will improve processes like NEPA, but how will the plan enable collaborative problem solving between stakeholders without government intervention, and how will it resolve conflicts between specific stakeholders? *The agencies could orchestrate conversations to facilitate collaborative problem solving and address specific conflicts. A large, roundtable discussion may not always be feasible, but there are several different ways to provide decision makers with the outcomes of such conversations. Some of this will be outlined in Section 4.2.*
- What happens if best practices are not followed? Since best practices cannot be required, is there a way to make it difficult for agencies not to follow best practices? *Agencies could choose to ignore the best practices, but it would look bad since there is an Executive Order (and in the Northeast, a signed charter) saying they would participate in ocean planning; they can be held accountable for having signed that agreement. If a stakeholder feels an agency is not living up to what they agreed to do, the stakeholder can use the required public comment processes to highlight what the agency agreed to do and where the agency has not followed through. It may also be useful to engage local and regional elected officials.*
- An ocean plan user guide would provide a clear path for plan users with specific interest to identify where in the plan to find the information they need.
- Where will the Coastal Zone Management Act fit into the Ocean Plan? *Ideas related to interactions between states and federal agencies, pursuant to the authorities included in the CZMA, are currently being discussed, and there is a placeholder for now in Chapter 4, Section 4.1.2, pending further discussion among the states. The section could describe how CZMA might be used to provide notice of activities, how the data portal could be used in coastal effects analysis, and suggest options to streamline CZMA reviews for certain federal actions.*
- To seriously employ ocean planning, we must use the best science and seek public input and deliberation prior to decision-making.

6. Monitoring and Evaluation: Plan Performance and Ecosystem Health

Ocean planning staff presented potential options for monitoring and evaluating plan performance and ecosystem health. They underscored the challenge of identifying indicators that show cause and effect relationships and of identifying quantifiable metrics that can be measured.

Monitoring Ocean and Ecosystem Health

Mr. Napoli provided background on two options for monitoring ecosystem health: the Integrated Sentinel Monitoring Network (ISMN) and the Ocean Health Index (OHI). He said the initial suggestion is that the two could be used in tandem to monitor ecosystem health during plan implementation, since they are complementary in approach and intended outcomes. The ISMN matches well with some of the ecosystem components (species and habitats) outlined in Chapter 3 of the plan, but it does not include human uses or socioeconomic considerations. The OHI is a broader assessment that combines socioeconomic, environmental, and cultural considerations to establish a baseline for measuring changes over time. Using both the ISMN and OHI together could help people monitor and evaluate marine ecosystem health.

Discussion

Participants made the following comments and asked the following questions. Responses from ocean planning staff or others are italicized.

- Is the ISMN limited to measuring the impacts of climate change? *A representative on the ISMN steering committee said it started with a focus on climate change but has since become broader.*
- The ISMN would track certain variables, but it would not evaluate what to do to achieve a healthier environment. To achieve the goal of improving ecosystem health, do we want to have something that will create recommendations about the actions needed to attain the goal? *The OHI establishes goals to attain, but the ISMN may not have a goal-setting component. Results of OHI and ISMN would inform needed management actions.*
- The marine disentanglement efforts of the Marine Mammal Stranding Network could be a good source of data for quantifiable human impacts. We may also want to monitor marine debris.
- It is important to monitor for economic considerations such as jobs created or eliminated.
- The monitoring and evaluation program should be closely linked to adaptive management; it should help to increase certainty about what is or is not working by trying activities, learning from them, and making decisions about what will or won't work.

Monitoring Plan Performance

John Weber, ocean planning staff, presented several ways to monitor and evaluate plan performance (see the examples in the presentation slides). He noted that qualitative data might be as valuable as quantitative data for monitoring the performance of the plan. For example, qualitative data may be appropriate to monitor and evaluate progress on the effective decision-making goal.

Small Table Discussions

Participants broke into small table groups to brainstorm indicators that could be used to monitor and evaluate plan performance as they pertain to the three goals of ocean planning. Below are participants' comments and questions, compiled, summarized and organized by theme.

Goal: Healthy Ocean and Coastal Ecosystems

Indicators

- Overall ocean ecosystem status
    - Is the plan helping to maintain, improve, or restore ocean health?
    - Is the plan meaningfully helping to identify trends or changes that are increasing or decreasing ocean health?
        - Are we collecting, tracking, and identifying trends across a range of parameters for a range of species, groups, and broader ecosystem measures?
        - Has the plan identified and is it using an index or tool such as the Oceans Health Index?
        - Can we identify and track changes over time to show improvements in ocean health?
    - Is there a feedback loop to identify what worked and what did not, and to then adapt management accordingly?
- Data improvement and maintenance
    - Are we ensuring that the quality, timeliness, and reliability of the data are sufficient to be used in agency decision-making?
    - Is a plan in place to ensure plan data is updated? Are we updating important data sets on a regular basis to ensure that they are up-to-date? How often is the data updated?
    - What were the information gaps when ocean planning commenced? What data gaps will still be present (beyond project-specific data) when monitoring and evaluation commences? Over time are we filling the data gaps that have been identified?
    - What and how much new data was entered into the portal? What agencies provided data?
    - Are we improving data quality to improve its reliability, accuracy, and comprehensiveness over time?
- Data use
    - Is the use of data clearly identified in agency review and decision making processes?
    - When agencies present progress on project review to the National Ocean Council, the public, or the RPB, do they use data and information to inform impact avoidance or mitigation development?
    - Can the use of data be clearly identified in project proposals? Did project proponents use the data portal meaningfully to develop, refine, and hone their applications?

- Contribution or collaboration with the Science & Research Needs in the Ocean Plan
    - Is the Science Plan triggering proactive scientific that helps to develop a rational basis for EBM that ultimately supports the Healthy Ecosystems Goal?
    - Are many research intuitions working on research priorities listed in the science plan?
    - Is the Science Plan referenced often in other work and widely embraced by social and natural scientists?
- Conservation and/or restoration actions
    - How many acres or projects have been conserved or restored (though data will be most available for restoration)? This will help us track preservation or restoration of ecological systems that need to remain functional.
    - How much land has been acquired by New England's coastal states?
- Public understanding and awareness
    - Has the plan increased the public's understanding and awareness of ocean ecosystem health?

Questions and Comments

- Can specific ecosystem goals be identified (i.e., eel grass restoration) and tracked over time to show how the plan helped to meet that goal or objective?
- Should Objective 1 under this goal be to '"characterize [these things] *well*" as opposed to just characterizing them?
- Drivers of interest to track for this goal include resource extraction, development of projects on land, aquaculture projects and climate change.
- A long-term commitment to tracking the work that is completed and any changes made along the way will be required.
- Could the RPB prioritize projects meeting certain criteria (including wide-spread support)? While agencies won't be able to endorse conservation and restoration projects throughout the region, perhaps they could do something like this, then we could monitor completion of those projects.

<u>Goal: Effective Decision-Making</u>

Indicators

- Process, timing, and/or frequency of coordination
    - Did agencies make lists of relevant stakeholder groups for various aspects of their regulations? Are they using the lists to remember to engage those stakeholders?
    - Were stakeholders who requested early notification of proposed projects engaged early in the process? How frequently were they engaged early?
    - How frequently are agencies informed of a project prior to official agency-to-agency communication requirements (i.e., conversation occurs between BOEM and NOAA prior

to when BOEM officially submits a project to NMFS, which then must review and present the potential impacts of the project to BOEM within three days.)
    - Is there an increase or decrease in agency-to-agency collaboration or in agency/stakeholder collaboration?
    - Is there an increase in public participation from a wider group of stakeholders?
    - Can agencies and stakeholders identify occasions when agencies implemented the best practices for agency coordination that are suggested within the plan?
    - How well do stakeholders feel the process is working for them?
- Timeframe from project submittal to implementation
    - Does the timeframe for decision-making and project implementation increase or decrease?
    - Does using the plan decrease the steps of the permitting process (e.g., CZMA review or 401 certification)? Are duplicitous points reduced?
- Memorandums of Understanding (MOUs) – several participants suggested the following indicators associated with MOUs:
    - How many MOUs are created between federal agencies or between state and federal agencies?
    - What is the quality of the MOU?
    - Are the MOUs followed?
- Data use
    - Is there a change in the quantity or quality of proposed projects due to use of data? Is there a reduction in the number of rejected projects due to the use of the data?
    - How many people are visiting and/or using the data on the data portal?
    - Is there an increase in the quantity and quality of standardized data for states that don't already have data in the portal? Are all states meeting the same data standards?
    - How frequently are DOI digital data references identified in project proposals or agency decisions?
- Litigation
    - Is there an increase or decrease in litigation?
    - Is there a percentage increase or decrease in an agency's total budget for legal fees?
- Other
    - Does a linguistics analysis identify positive or negative trends in perceptions based on comments in news reports, radio, television, social media outlets, etc.?

Questions and comments

- The National Research Council report *Sustainability for the Nation: Resource Connections and Governance Links* could provide useful examples to include in the plan of how agencies could enhance collaboration to achieve long-term sustainability goals.[5]

[5] The NRC report is located here: http://www.nap.edu/read/13471/chapter/1

- The New Hampshire Site Evaluation Committee (SEC) works well because all agencies are on one board and get involved at the same time; agency support and commitment to convening and collaboratively assessing and deciding on project proposals will be required to make substantial change through the ocean planning process.
- Could several agencies be selected to assess how well the agency's constituents feel the process is working for them?
- Can a human relations/quality of service type of survey be developed and completed by project applicants or other stakeholders?

Goal: Compatibility Among Past, Current, and Future Ocean Uses

Indicators

- Process, timing, and/or frequency of coordination with stakeholders
    - How many and what kind of opportunities have the Ocean Plan's signatories provided for ocean users to engage across sectors around particular uses and activities?
    - At what point in the process are affected stakeholders being engaged in the conversation? How much earlier are people being engaged than previously? How many agency pre-coordination meetings occur?
    - What are the perceptions of stakeholders when asked qualitative questions about engagement between stakeholders?
    - How much project proponent outreach is completed?
    - How frequently are agencies involved in the projects represented at public hearings?
    - Measure government coordination by quantity of internal agency correspondence.
- Conflict prevention and resolution, and stakeholder satisfaction
    - For each activity or kind of use, has the plan identified the key potential impacts related to other uses, species, or habitats?
    - If a grid of uses and resources were created to identify the issues of greatest concern between each potential interaction, how would ocean users respond to survey questions about whether or not and how the grid was used?
    - Has the plan helped to reduce, minimize, or prevent user conflicts?
    - How many legal or formal challenges were made to an agency decision prior to the plan and after plan implementation?
    - How many challenges are associated with offshore projects now and over time as the plan is implemented?
    - How many comment letters are received and what is the proportion of negative to positive comment letters?
- Quality of project proposals, quantity or extent of required revisions, and applications approved or denied
    - How many changes must be made to address concerns about draft proposals before a final proposal is accepted and approved?

    - What is the level of quality of the environmental document submitted with project proposals? What is the frequency of positive to negative public comments received about the quality of environmental documents (EA, EIS, etc.) submitted by project proponents?
    - How many applications are approved or denied prior to and after plan implementation?
- Data use
    - Are agencies referring to data in the portal? How often do agencies visit the data portal?
    - Are agencies incorporating data into official decision making documents? How many references to data in the portal are in NEPA documents?
    - Was ocean plan data used or helpful in a decision or permit application?
    - Are project proponents using the information in the Ocean Plan/data portal?
- Timeline from project submittal to implementation
    - What is the average permit processing time prior to and after plan implementation?
- Other
    - When and where did operational practices change (e.g. deepwater wind development could be delayed because of right whale migration)?
    - What economic impacts occurred due to a project?

Questions and comments

- The RPB could request the NEFMC to describe potential fishing impacts of different activities.
- Email surveys could be distributed to anyone who participated in a particular process.
- Can a compatibility matrix be created to clearly indicate conflicts and compatibility among different uses and species and habitats?
- How might the concept of “no net loss” be used as a tool for measuring plan performance across and beyond individual permits and projects?
- Measuring the resolution of conflict immediately after a project is decided upon or implemented may not yield useful results; it may be more useful to assess the process several years after conclusion of the decision making process or implementation of the proposed project so stakeholders can reflect on the process, the agreement that was reached, and what occurred after the conclusion of the decision making process.

7. Science and Research Priorities

Mr. Napoli introduced Chapter 5, science and research priorities, of the draft Ocean Plan outline. This chapter of the plan will focus on natural and cultural resources, human activities, EBM, and changing conditions, building upon previous chapters of the plan particularly Chapter 3. Short to medium-term priorities will focus on updates to ocean plan products that can be achieved within the first six months to a year of plan implementation (e.g., following its finalization). Long-term priorities would focus on additional research over a longer timeframe. For both the short-term and long-term priorities, the plan will identify potential programs and partner efforts that could be leveraged to complete the priorities.

Independent and Small Group Brainstorms

Participants wrote ideas for research priorities on post-it notes and then grouped them by category (natural and cultural resources, human activities, EBM, or changing conditions). Small groups of participants reviewed each category and identified and added additional science and research priorities.

Participants suggested the following science and research priorities, which have been compiled, summarized and loosely organized by theme. Participants were not asked to reach agreement, so some suggestions may contradict others.

Natural and Cultural Resources

- Holistic and Systemic
    - Map locations of important ecological areas/habitat
    - Manage fisheries holistically, not individual species (this should be long term goal)
    - Focus on cumulative impacts on species and uses
    - Develop operational/consensus definition of ocean ecosystem health considering both structural and functional attributes
    - Conduct comprehensive research to identify how New England's natural marine resources contribute to meeting the jobs, economic, and societal needs of the region and nation
- Cultural
    - Identify island and coastal cultures within the region
    - Conduct economic and social impact studies of small island communities
    - Work with tribes to identify important natural resources areas (aquaculture, fishing, etc.) in addition to paleo-cultural sites
    - Expand work to characterize paleo-landscapes
    - Measure or partially correlate the strength of "cultural/historical value" by looking to local tourism activities
    - Collect cultural-fishing or port data, not just tribal data
    - Study the general public values of local seafood and preservation of local fishing ports and traditions
- Impacts
    - Forecast the impact of sea level rise and storm surge on historic places
    - Evaluate the effect of fisheries closures on species and habitat improvements
    - Study all impacts of aquaculture and sand and gravel mining. Monitor pilot projects.
    - Investigate noise-related impacts from wind energy and other impacts on marine mammals and sea turtles from developed projects
- Improve data
    - Develop a better understanding of year-round marine mammal abundance and habitat use
    - For marine mammals, extend aerial surveys to encompass all of the northeast

    - Conduct ongoing surveys for marine life including mammals, turtles, birds, and fish to fill gaps.
    - Compile historical abundance and utilization data
    - Identify biodiversity hotspots
    - Compile and create a regional lobster data set
- Near shore
    - Improve near shore marine mammal and sea turtle density information (accuracy and scale)
    - Incorporate state near shore trawl and other species abundance surveys into models
    - Connect stressors on natural resources in bays or estuaries to open ocean
    - Restoration: identify or update restoration efforts that tie estuaries/bays to ocean planning goals
    - Identify near shore seagrass distribution and trends
- Seafloor
    - Seafloor mapping/sediment characterization
    - Benthic habitat characterization
    - Improve characterization of seafloor habitats and biotic relations

<u>Human Activities</u>

- General
    - Identify and characterize historic tribal sustenance areas and behaviors
    - Emerging uses: offshore energy and offshore aquaculture
    - Trends in marine mammal and turtle entanglement
    - Quantify the amount of marine debris, both floating and submerged
    - Complete white papers similar to the shipping/maritime paper for a broader set of issues (e.g. small communicates, recreational fishing, etc.)
    - Include all Federal Permit (lobster) efforts by allowing a 5-10 mile radius per permit
- Links between near shore and offshore environments
    - Land use impacts on water quality and how this is exacerbated with temperature and acidification
    - Quantify runoff/pollutants from shore that impact water quality and habitats. Identify sources and changes overtime
- Impacts of human uses on other uses
    - Assess interactions between offshore and near shore activities (non-consumptive ocean recreation and offshore developments)
    - Cultural effects of interruption the change of multi-generational reliance on the ocean for livelihoods
    - Study how recreational use increases or decreases over time
- Environmental and ecological impacts

  - Identify expected, real, and perceived impacts from increased ocean development
  - Compile real-time observations of impacts during construction and operation of wind energy projects
  - Conduct environmental/ecological impacts of offshore energy infrastructure and aquaculture projects
  - Compile existing literature on environmental impacts of existing and emerging ocean industries in a central location
  - Conduct a cumulative analysis of the impacts of sand mining at the regional scale
  - Provide updates on the sand and gravel research being conducted by BOEM with states
  - Study all impacts and seek public input on new activities such as aquaculture, sand and gravel, and mining
- Public Values and Perceptions
  - Track changes in public perception/awareness of ocean health metrics
  - Host ongoing stakeholder engagement opportunities
  - Study public values related to ocean activities and ocean health. Do not just use monetary values of economic uses
- Economic
  - Identify human activities and their economic impact in each one degree by one degree area (or other area) to provide starting point for transparent discussion
  - Conduct a gaps analysis of human activities not addressed in the marine plan and an analysis of the existing or potential future economic contribution
  - Complete a comprehensive data/study of economic impacts (human uses; resources)
  - Study how local seafood processing, etc. can build local economies and communities
  - Compete community economic conditions analysis
- Fisheries
  - Map communication and the political/economic networks in the fishing industry for agency coordination
  - Create a spatial characterization for recreational fishing, parse by different categories
  - Commercial fishing: conduct industry surveys that could be species or fishery specific, e.g. cod (not captured by trawls)
  - Study the divisions of ocean geography and their importance to Maine's small communities
  - Data layer update: color code or otherwise distinguish vessel tracks by fishery
  - Identify fisheries that do not have or require VMS
- Aquaculture
  - Assess the demographics of growth in the aquaculture industry—identify new entrepreneurs or commercial fishermen seeking alternative income source.
  - Identify the most economically and ecologically successful species for cultivation regionally and locally
- Lobstering
  - Categorize the lobster industry in terms of ocean geography and use

    - Collect spatial data on lobstering (fishermen to own data, i.e. not VMS).
    - Map location and intensity of lobster fishing
- Marine transportation
    - Identify changes in tug and barges with the expansion of the Panama Canal
    - Identify future trends in marine transportation
    - Do we need to update AIS data? How much inter-annual variability is there?
- Suggestions/Comments
    - Conduct qualitative research, including interviews with fishermen and other stakeholders
    - Fishing data is dynamic because of environmental factors; establish a plan to update the data.
    - Human impact has caused a gradient of change/gradient of conditions throughout the ecosystem. This gradient of conditions challenges our ability to manage the ecosystem. How do we manage along this gradient?

<u>Ecosystem Based Management</u>

- How EBM informs or interacts with management
    - Research how agencies can collaborate better to advance EBM and systems approach (see the National Academy of Sciences study, Sustainability for the Nation: Resource Connections and Governance Links).
    - Application of EBM tools to applied ocean planning
    - Coordinate research with agencies to ensure it is use-driven (e.g., work with new BOEM environmental studies NAS Advisory Committee to identify and fund priority projects)
    - Develop a restorative, adaptive management approach to ocean health—"think like an ocean" to identify what is needed to recover.
    - Research the best ways to provide data/information to inform adaptive management and how science-based knowledge can best support good management.
- Cumulative impacts
    - Create a uses-by-uses incompatibility matrix
    - Cumulative impacts/interacting stressors
    - Develop compatibility guidelines agreed upon by agencies and users
    - Factor biological assessment work into marine mammal models
    - Conduct project review 3-5 years after completion to determine impacts
    - Analyze the total number and/or impact (noise, disturbance, etc.) of projects across the region to support cumulative impacts analysis
    - Track cumulative impacts across the region to enable regional planning (e.g., create a database of sand borrow sites across the region to identify cumulative impacts).
    - Expand by-catch monitoring efforts
- Habitat

    - Standardized benthic habitat characterizations
    - Determine a baseline for benthic substrate pre and post project implementation
    - Clarifying species vs. habitat as in Maine's FMP for Rockweed. Is it species or habitat for other species?
    - Move toward implementing Coastal and Marine Ecological Classification System (CMECS) standards across the board
    - Evaluate the health of the fish and lobster stocks pre- and post-project implementation.
- Migratory corridors and connectivity
    - Characterize community dependence on specific areas of the ocean
    - Identify migratory corridors
    - Research nutrient changes compared to water temperature and bait fish migration
    - Research connectivity among keystone species
- Food webs and life history
    - How do interactions vary at different life stages?
    - Build understanding of the food web components within important habitats
- Ecosystem function
    - Create an index for ecosystem function to compare against as time progresses
    - Map ecological function through interviews with fishing captains
- EBM plan performance
    - Periodically survey users (stakeholders and agencies) to determine usefulness and effectiveness of the plan to create an ongoing data set that can be used to judge success of the planning effort over time.
    - Conduct a regulatory/legal assessment of the impacts of implementing EBM, including peer-reviewed analysis on state of EBM science and monitoring capabilities.
- General
    - Compile local ecological knowledge
    - Research how other fields define EBM, identify the insights they are gleaning from their efforts, and include an investigation of how to best manage ecosystems for recovery.
    - EBM needs to account for uncertainty in all sectors, especially in the natural world which is largely beyond management control.

<u>Changing Conditions</u>

- Ocean acidification
    - Monitor for ocean acidification, especially nearshore
    - Track ocean temperature/warming and acidification
    - Identify or update ocean acidification monitoring mechanisms for the region
    - Standardized ocean acidification collection/analysis methods
- Species and ecology changes

    - Identify shifting species within the region (i.e., southern species moving north) and how climate change (i.e., ocean acidification) may affect species distribution
    - Develop models to predict shifts in marine species in response to changing climate (temperatures, acidification, etc.) to identify likely future conflicts or problems, not just those of today
    - Identify system effects/changing conditions on fish stocks and how this variability informs management
    - Identify presence of new commercial and recreational fish species due to warming waters.
    - Characterize fisheries and species shifts
    - Characterize habitat changes
    - Predict emerging fisheries based on climate change, invasive species, evolving markets, etc.
    - Connect shifts of natural resources in bays/estuaries to open ocean
- Socioeconomic changes
    - Identify the areas and ecosystem communities most susceptible to various changes in environmental conditions (i.e., NRDC Ocean Acidification review of waters and communities that depend on shell-fish)
    - Determine the human communities most linked to particular ecosystems to identify who might be impacted by changing conditions
    - Track possible future gains that result from changes
    - Study how levels of economic prosperity have changed for different commercial fisheries
    - Measure and document lobstering within the region and determine what changes have occurred or will occur
- Climate, weather, human coastal
    - Sea level rise and coastal inundation
    - Frequency of larger/stronger storms
    - Study resilience frameworks since conditions may change dramatically and adaption will be needed, though this may not be possible if long-term leases are given for some ocean territories
    - Measure the extent/area of land based impacts (i.e., hypoxia, nitrification) to determine if it is getting worse.
- Baseline
    - Develop a process to measure and communicate trends and conditions
    - Develop baselines for a variety of environmental variables—temperature, salinity, pH, nutrients, etc.
    - Identify and analyze historical datasets to establish baselines
- Other
    - Create habitat layers showing carbon sequestration potential benefit (i.e., blue carbon, wetlands, eelgrass)

- Review research to date that relates to the ocean plan
- Ocean ecosystem goals need to consider changing conditions; transition to a new normal is an increasingly likely outcome. Effective planning and management needs to look to these future conditions.
- Leave a placeholder for science and research priorities that come up once the plan is initiated.

8. Ocean Plan Implementation: Responsibilities and Commitments

Mr. Weber presented a draft list of responsibilities and commitments that need to be assumed during Ocean Plan implementation and which are described in Chapter 4. The following list of functions was presented for initial feedback:

1. Forum for federal-tribal-state coordination – The RPB has facilitated communication and coordination across federal, tribal, and state representatives. There seems to be value in continuing to convene a similar forum during ocean plan implementation.
2. Plan updates to best practices, plan products, and guidance – Updates to best practices, plan data products, agency guidance, and other plan components will be needed during plan implementation. This function could also incorporate changes arising from monitoring of plan performance and other insights gained during plan implementation. It is possible that the process for routine data updates could be different than larger, comprehensive changes to the plan.
3. Public engagement to review progress toward achieving the plan's three goals, discuss monitoring results, and explore emerging issues – Public engagement will remain an important element to keep interested parties informed and provide opportunities to comment on progress, emerging needs and other ramifications of changing conditions, and other aspects of plan implementation.
4. Seek other partners to help implement the Science and Research Priorities identified in Chapter 5 and to leverage existing efforts related to ecosystem monitoring – Partnerships likely will be critical in the long-term to complete the many science and research priorities identified in the plan.
5. Updating and maintaining the data portal – This would include updating the priority data products in Chapter 3 of the plan, as well as other supporting data products in the data portal, general portal maintenance and technical support, and coordination and stakeholder engagement to continue updating the products in a transparent way.
6. Monitoring and evaluation – Develop and implement an adaptive management approach that both tracks plan performance and monitors ecosystem conditions, as described previously.
7. Science priorities – ensure oversight of the progress toward achieving science and data priorities and provide a forum for agency and project coordination.

Discussion

Participants generally seemed to support the seven commitments and responsibilities described. They commented on the activities they hope to continue during plan implementation and suggested some methods to continue those activities. Participant comments are summarized and grouped by theme.

- Communication
    - Forums for future coordination or collaboration and planning – Many participants provided examples of forums that would enable stakeholders to continue coordination and collaboration between federal, tribal, state representatives and stakeholders. Some suggested continuing to convene a federal-tribal-state representative forum such as the RPB. Others suggested convening a federal-tribal-state-public stakeholder forum. Several participants noted that many stakeholder groups gained significant insight and perspective on the issues of ocean planning by actively participating throughout the entire process thus far; they added that they would like to continue to be engaged during implementation and beyond to continue these trends. Another suggestion was to continue convening stakeholder forums or symposiums where multiple stakeholder groups and scientists can grapple with governance issues related to specific topics (e.g. marine aquaculture, sand and gravel mining, etc.). A participant also suggested convening forums to conduct regional future needs assessments and values identification processes in relation to specific topics such as energy or aquaculture. Such forums would allow agency staff to understand public perspectives on future needs and to hear how the public hopes to meet those needs. Such activities would enable the public to help agencies decide how to use ocean resources to achieve regional needs, rather than agencies just responding to industry proposals and interests.
    - Conflict resolution processes – A participant suggested that agencies commit to a conflict resolution process to help mediate conflict between user groups and agencies as tradeoffs are made among ocean uses.
    - Email listservs – Some participants suggested create of a listserv or Google Group that would enable different stakeholder groups, and federal, tribal, and state agency representatives, to continue to communicate with each other.
- Develop a common definition for ecosystem health and put the plan into practice – A participant suggested that agencies develop a shared definition of ecosystem health, as a basis for setting targets and assessing whether or not plan implementation is achieving the goals of the plan.
- Use the Ocean Plan - Several commenters suggested that agencies build on ocean planning momentum to actively apply the data in the portal and the ocean plan process to work on current topics such as aquaculture and sand and gravel mining.
- Continued stakeholder and agency support and political commitment – Some participants commented on the need for both stakeholder groups and agencies to commit to sustained, active support of ocean planning, despite the uncertainty of whether or not future administrations will support ocean planning efforts. Stakeholder groups can continue to contribute data to the portal and can actively raise awareness of and foster support for the use

of the ocean plan by advocating for its use to legislators and regulators. Agencies could commit to assign a high level staff member the task of ensuring plan implementation occurs throughout the agency. Staff members overseeing implementation could meet periodically to assess progress toward achieving the goals of the plan.

- Public education – Participants commented on the need to conduct outreach to the general public to educate them about ocean ecosystem health, how ocean resource management has occurred and how it will occur during ocean plan implementation, and to highlight the successes and failures of management efforts.

9. Next Steps and Wrap Up

Betsy Nicholson thanked participants for contributing during the day and the planning team for organizing the Forum. She reflected on the need to hold agencies accountable, the importance of stakeholder input throughout the process, and the need for collective ownership of and continued support for the plan as it moves into implementation. She encouraged the participants to attend the November RPB meeting.

Other RPB members closed the meeting by offering additional words of appreciation for the wide-ranging discussion and their commitments to work actively in the final phase of the development of the Ocean Plan.

APPENDICES

- Appendix A: Forum Participants
- Appendix B: Presentation

Appendix A: Forum Participants

Category	First Name	Last Name	Organization
Public Participant	Mark	Alexander	CT Department of Energy & Environmental Protection/NEFMC
Public Participant	Amalia	Almada	Knauss Sea Grant Fellow at NOAA
Public Participant	Jackie	Ball	NERACOOS
Public Participant	Robert	Ballou	RI Department of Environmental Management
Public Participant	Adam	Baske	Natural Resources Defense Council
Public Participant	Priscilla	Brooks	Conservation Law Foundation
Public Participant	Aimee	Bushman	Conservation Law Foundation
Public Participant	Laura	Cantral	Meridian Institute
Public Participant	Beth	Casoni	Massachusetts Lobstermen's Association
Public Participant	Alison	Chase	Natural Resources Defense Council
Public Participant	Rebecca	Clark Uchenna	Island Institute
Public Participant	Downey	Brian	Maine Pilotage Commission
Public Participant	Melissa	Gates	Surfrider Foundation
Public Participant	Ashley	Green	
Public Participant	Brent	Greenfield	National Ocean Policy Coalition
Public Participant	Annie	Hawkins	Fisheries Survival Fund
Public Participant	Tricia	Jedele	Conservation Law Foundation
Public Participant	David	Kaiser	NOAA
Public Participant	Jerry	Keefe	U.S. EPA OCP
Public Participant	Jen	Kennedy	Blue Ocean Society for Marine Conservation
Public Participant	Wendy	Lull	Seacoast Science Center
Public Participant	Sally	McGee	The Nature Conservancy
Public Participant	Chris	McGuire	The Nature Conservancy
Public Participant	Lindsey	McKenna	NOAA OER
Public Participant	Anne	Merwin	Ocean Conservancy
Public Participant	Kyle	Molton	Penobscot East Resource Center
Public Participant	Molly	Morse	SeaPlan
Public Participant	Stephanie	Moura	SeaPlan

Public Participant	Valerie	Nelson	Water Alliance
Public Participant	Richard	Nelson	F/V Pescadero
Public Participant	Glenn	Normandeau	NH Fish & Game Department
Public Participant	Tom	Robben	Connecticut Ornithological Association
Public Participant	Jennifer	Seavey	Shoals Marine Laboratory
Public Participant	Derek	Sowers	NOAA
Public Participant	Paul	Stacey	Great Bay National Estuarine Research Reserve
Public Participant	Susan	Sullivan	NEIWPCC
Public Participant	Peter	Taylor	Waterview Consulting
Public Participant	Amy	Trice	Ocean Conservancy
Public Participant	Prassede	Vella	MA Office of Coastal Zone Management
Public Participant	John	Williamson	Sea Keeper Fishery Consulting
Public Participant	Sarah	Winter Whelan	American Littoral Society
Public Participant	Peter	Zaykoski	SeaPlan
RPB-Federal	Robert	LaBelle	Bureau of Offshore Energy Management
RPB-Federal	Regina	Lyons	U.S. EPA Region 1
RPB-Federal	Ivy	Mlsna	U.S. EPA
RPB-Federal	Betsy	Nicholson	NOAA
RPB-Federal	Chris	Tompsett	U.S. Navy/Department of Defense
RPB-State	Bruce	Carlisle	MA Office of Coastal Zone Management
RPB-State	Matthew	Nixon	Maine Coastal Program
RPB-State	Emily	Norton	Maine Coastal Program
RPB-State	Christian	Williams	New Hampshire Coastal Program
Support Staff	Deerin	Babb-Brott	SeaPlan
Support Staff	Dory	Dinoto	Consensus Building Institute
Support Staff	Ona	Ferguson	Consensus Building Institute
Support Staff	Patrick	Field	Consensus Building Institute
Support Staff	Katie	Lund	Northeast Regional Ocean Council
Support Staff	Benjamin	Miller	ERG
Support Staff	Nick	Napoli	Northeast Regional Ocean Council
Support Staff	Eric	Roberts	Consensus Building Institute
Support Staff	Emily	Shumchenia	Northeast Regional Ocean Council, E&C Enviroscape
Support Staff	John	Weber	Northeast Regional Ocean Council

Appendix B: Presentation Slides

Draft NE Ocean Plan Development Timeline

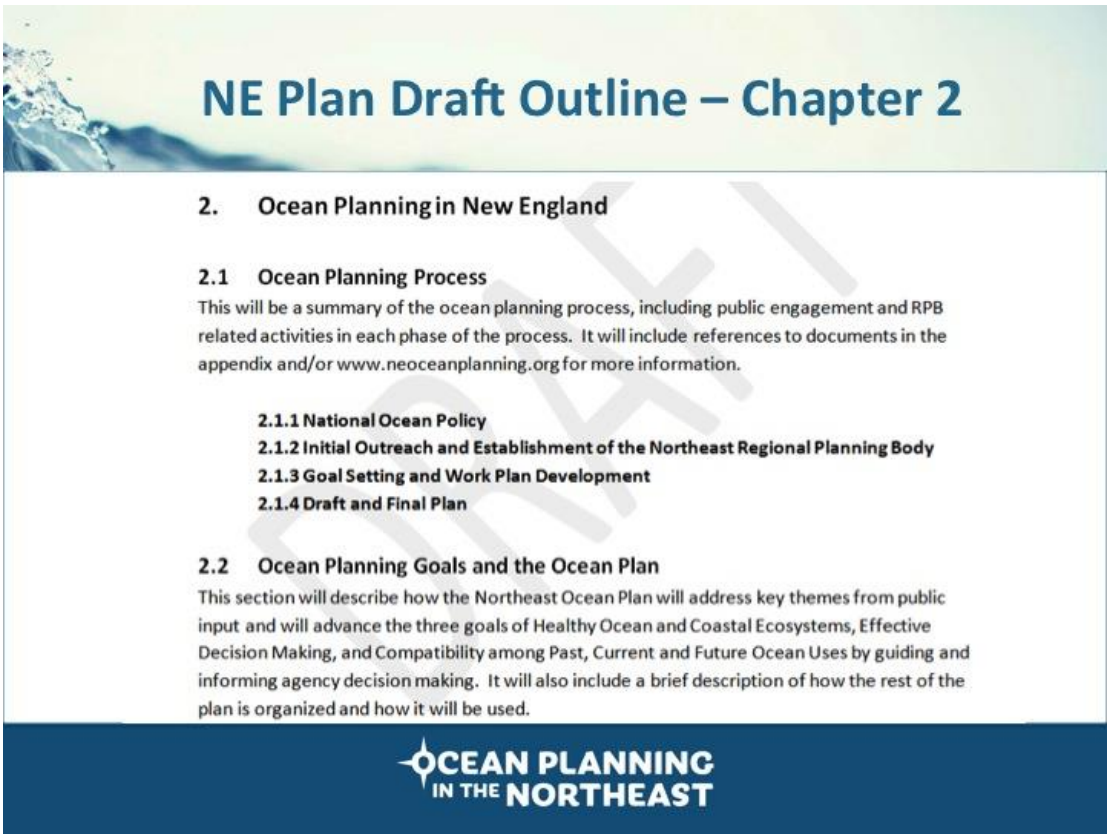
Note: schedule is approximate and will be modified as milestones are achieved; the exact timing of activities will evolve.

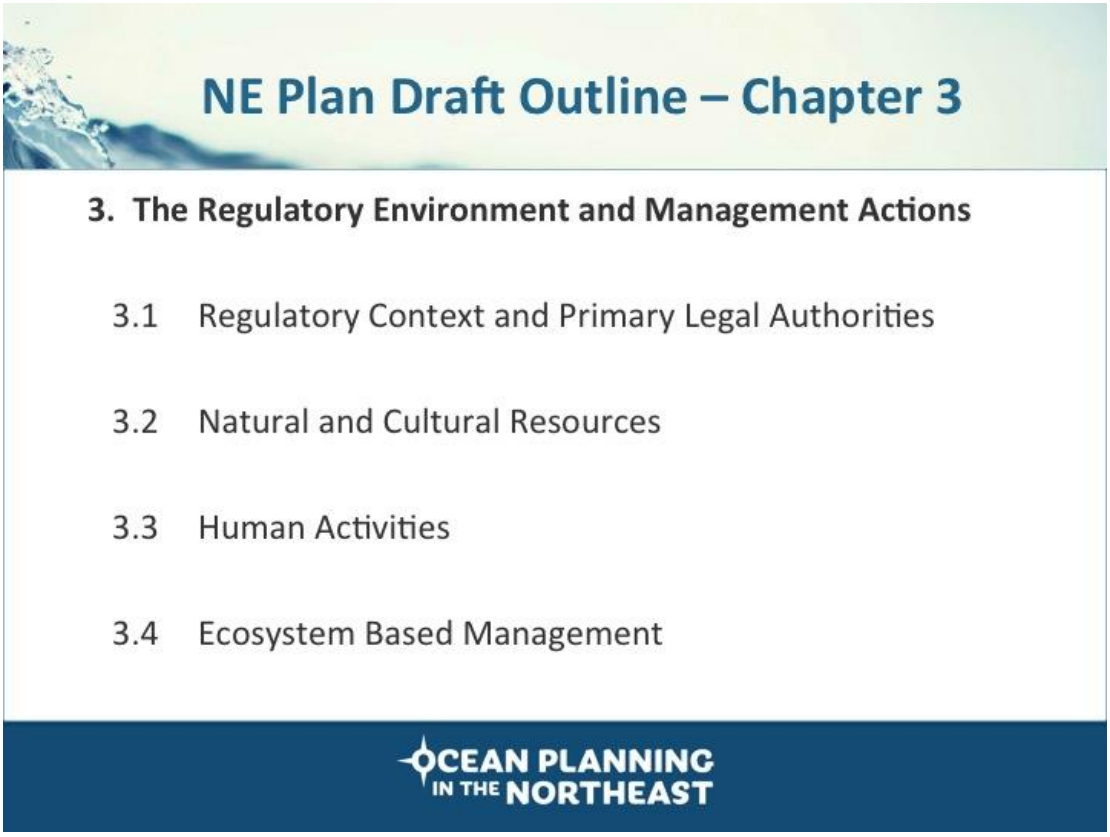
Activities	2015					2016									
A. Draft Northeast Ocean Plan	July Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct
1. Drafting Sections 1 & 2 of NE Plan and related Agency Guidance															
2. EBM Work Group meetings		9/30													
3. Stakeholder Forum			10/20												
4. RPB Meeting				11/16 11/17											
5. Complete Draft NE Plan and Agency Guidance															
6. RPB internal review of Draft NE Plan and Agency Guidance															
7. RPB meeting and public release of Draft NE Ocean Plan and Agency Guidance															
B. Public Comment and Final NE Plan															
1. Public meetings and comment (45 days)															
2. Plan revisions and response to comment															
3. RPB internal review of Final NE Plan and Agency Guidance															
4. RPB meeting and submission of plan to NOC															
5. NOC/Agency review, concurrence and adoption of NE Plan and Agency Guidance															

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

OCEAN PLANNING IN THE NORTHEAST


NE Plan Draft Outline – Chapter 2
2. Ocean Planning in New England
2.1 Ocean Planning Process
This will be a summary of the ocean planning process, including public engagement and RPB related activities in each phase of the process. It will include references to documents in the appendix and/or www.neoceanplanning.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.
OCEAN PLANNING IN THE NORTHEAST


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
OCEAN PLANNING IN THE NORTHEAST

NE Plan Draft Outline – Chapter 3

3.1 Regulatory Context and Primary Legal Authorities

- National Environmental Policy Act
- Rivers and Harbors Act, Section 10
- Clean Water Act, Section 404
- Outer Continental Shelf Lands Act
- Deepwater Port Act
- Endangered Species Act
- Marine Mammal Protection Act
- Migratory Bird Treat Act
- National Historic Preservation Act, Section 106
- Magnuson-Stevens Act
- Ports and Waterways Safety Act
- National Marine Sanctuaries Act
- Coastal Zone Management Act

OCEAN PLANNING IN THE NORTHEAST

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
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

OCEAN PLANNING IN THE NORTHEAST

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
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

OCEAN PLANNING IN THE NORTHEAST

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
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

OCEAN PLANNING IN THE NORTHEAST

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 defining and identifying important ecological areas, reviewing analyses and overlays of human use and ecological data, and developing a framework for monitoring and evaluation. It will also describe how the agencies intend to incorporate these analyses and tools into decision making under existing authorities and the actions the agencies will take to advance EBM and related science. *Note: This section, or components of this section, could be moved to other parts of the plan (e.g. implementation, science priorities), depending on progress.*

OCEAN PLANNING IN THE NORTHEAST

NE Plan Draft Outline – Chapter 4

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

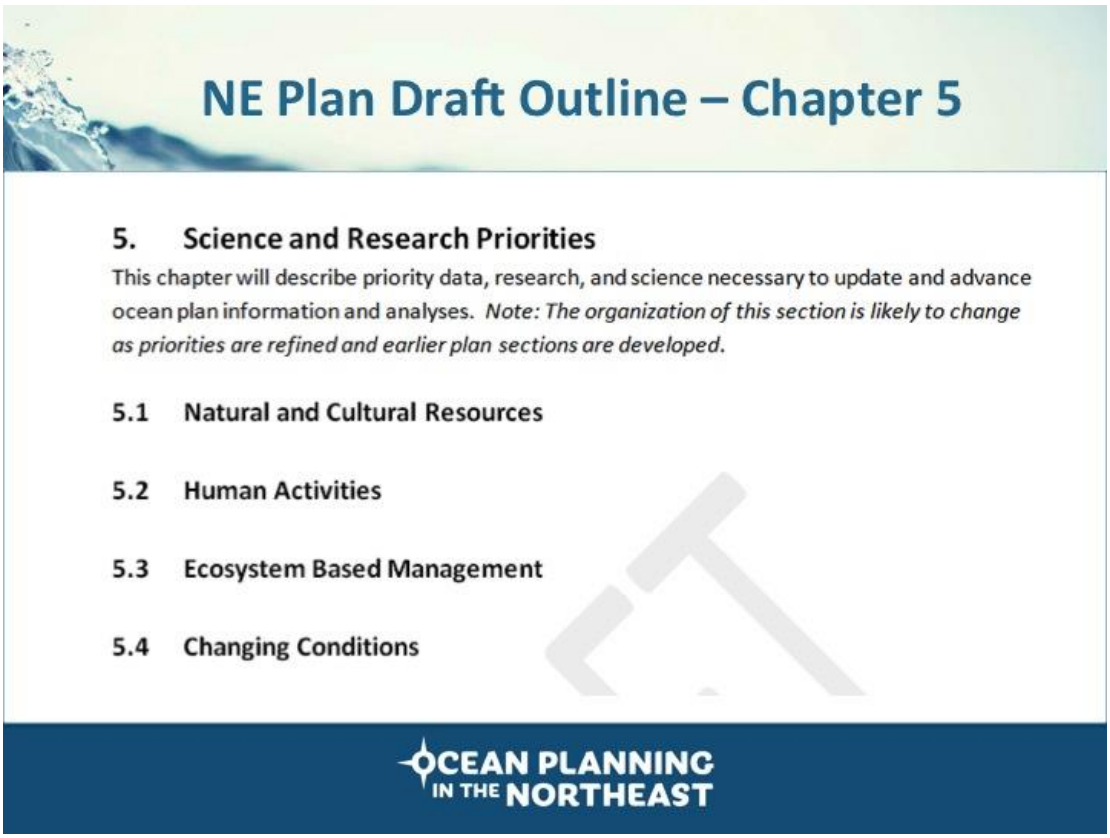
This section will describe RPB organization commitments to implementing the following additional responsibilities for ocean plan implementation.

- **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**

DRAFT


NE Plan Draft Outline – Chapter 5
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
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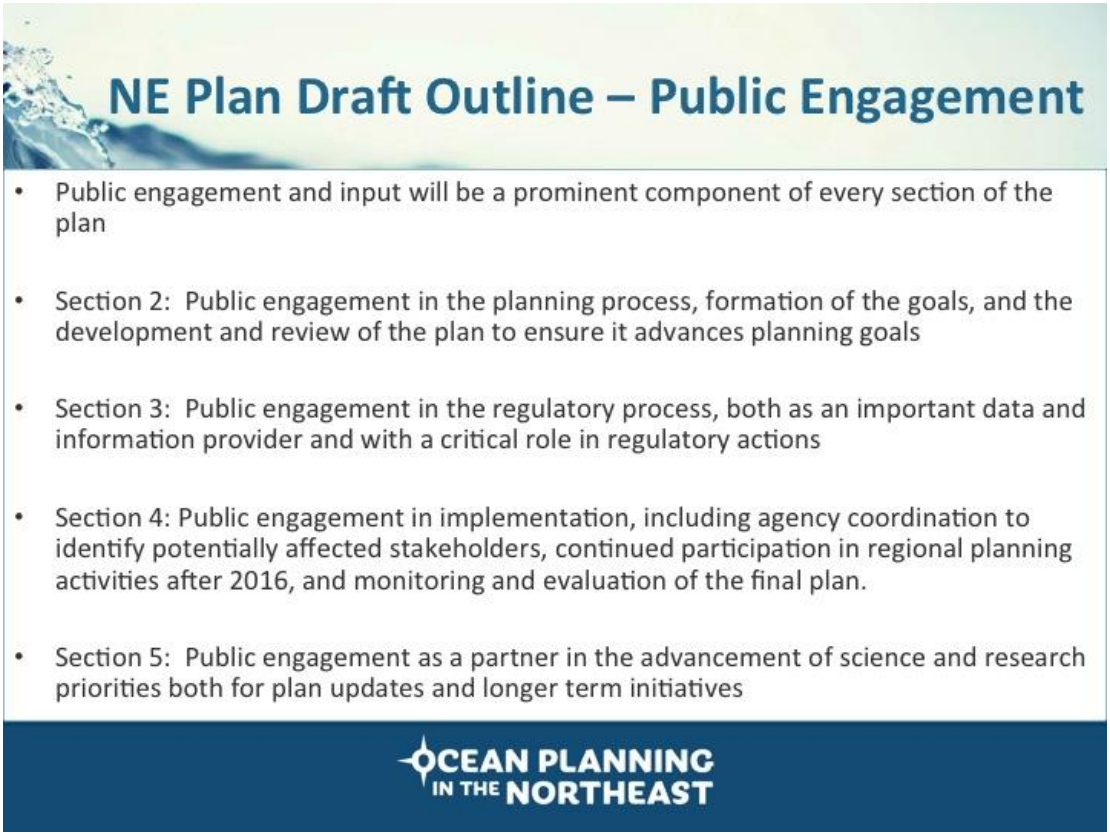
NE Plan Draft Outline – Public Engagement
• Public engagement and input will be a prominent component of every section of the plan
• Section 2: Public engagement in the planning process, formation of the goals, and the development and review of the plan to ensure it advances planning goals
• Section 3: Public engagement in the regulatory process, both as an important data and information provider and with a critical role in 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
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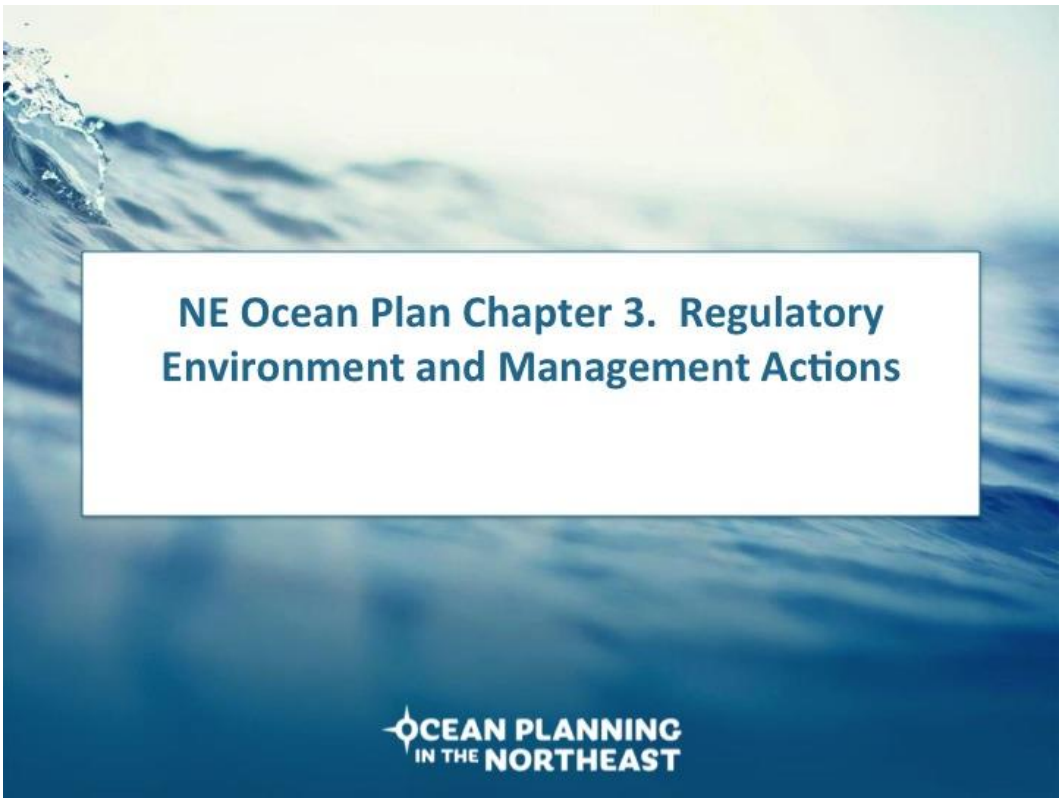

Sections 3.2 and 3.3 Update

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
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

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Sections 3.2 and 3.3 Update

- Marine life and habitat data:
  - Online viewers with species level base products are near complete
  - Abundance, richness, and diversity products for regulatory and ecologically-based species groupings are being developed; vulnerability-based species groupings are being considered
- Restoration: NE Portal to be updated with restoration sites by end of year – to coincide with draft section of the plan
- Historic and Cultural resources: Working with tribes and agencies to develop plan content
- Human use data mostly complete and being added to the portal; anything new is likely a future priority to be listed in Section 5
- Sections 3.2 and 3.3 are beginning to be drafted and will provide agency guidance about the use of ocean plan maps and data under existing authorities

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Sections 3.2 and 3.3 Update

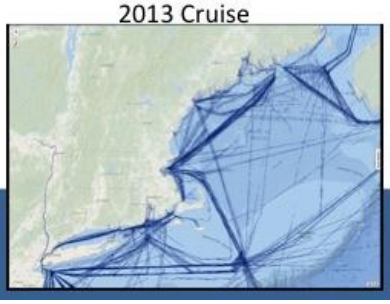
Marine Transportation

- Data portal being updated with 2013 AIS data after extensive industry review
- Data portal will still include 2011 and 2012 data

2013 Tug/Tow

2013 Cargo

2013 Cruise



2013 Ferry/Whale Watch

Sections 3.2 and 3.3 Update

Commercial Fishing

- Data portal to be updated with 19 Vessel Monitoring System maps that have been extensively reviewed
- Update will also include a map of relevant federal fishery management areas

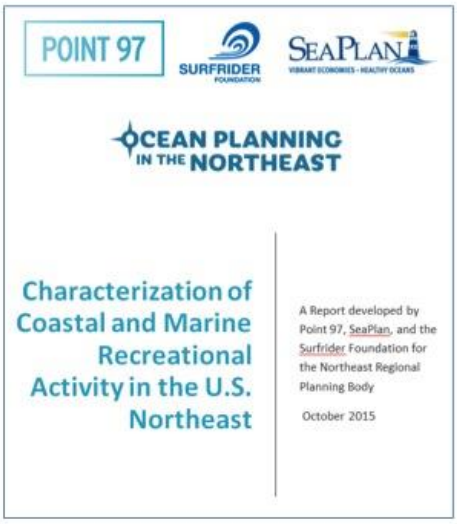
2011- 2014 Scallops

2011- 2014 Scallops < 5 Knots

Sections 3.2 and 3.3 Update

Recreation

- Recreational characterization recently completed
- Whale watching, SCUBA, distance races, and recreational activity points being added to the data portal
- Updated recreation theme on the NE Portal to be completed shortly



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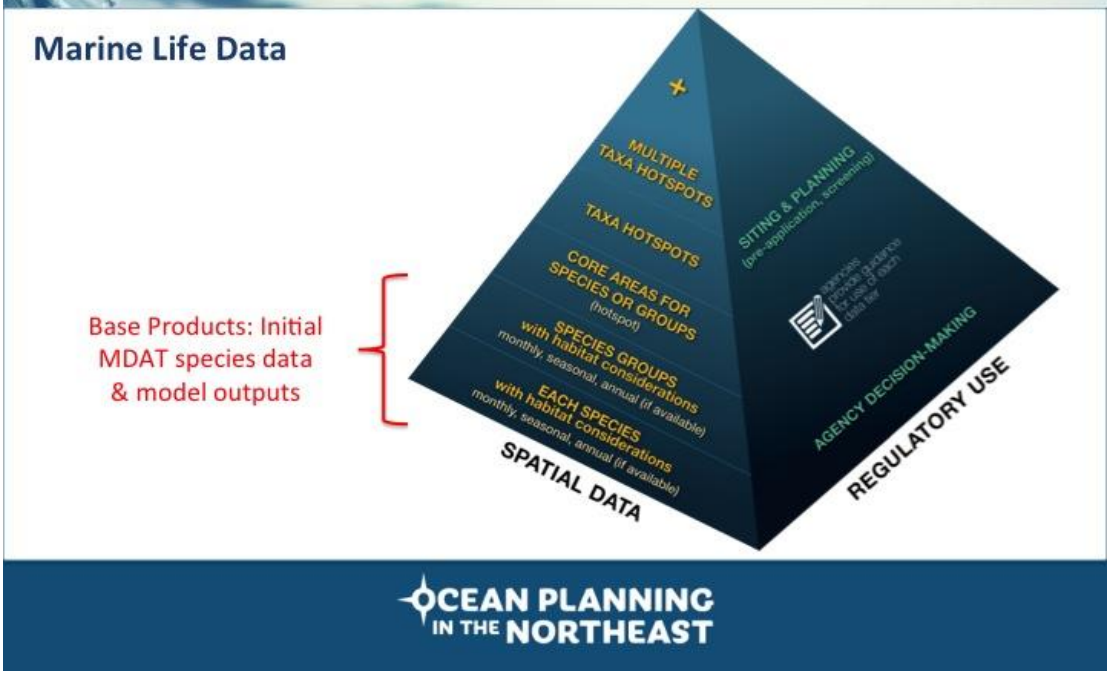
Sections 3.2 and 3.3 Update

Marine Life Data



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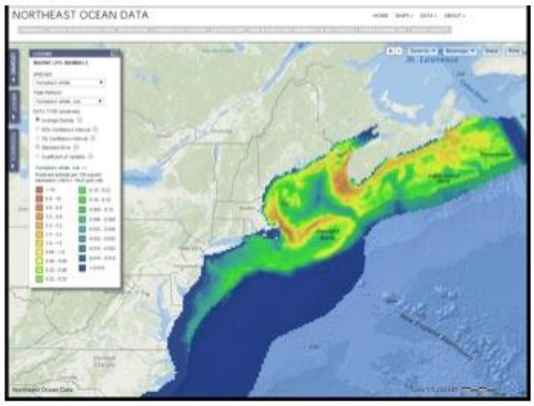
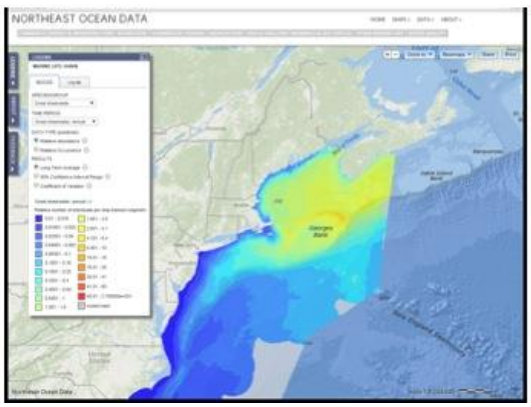
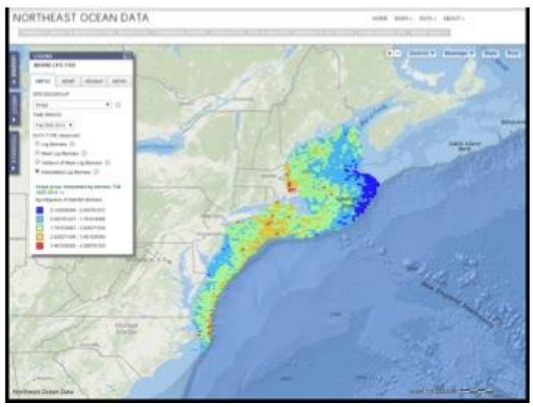
Marine Life Data

Online viewers to view base products nearly complete





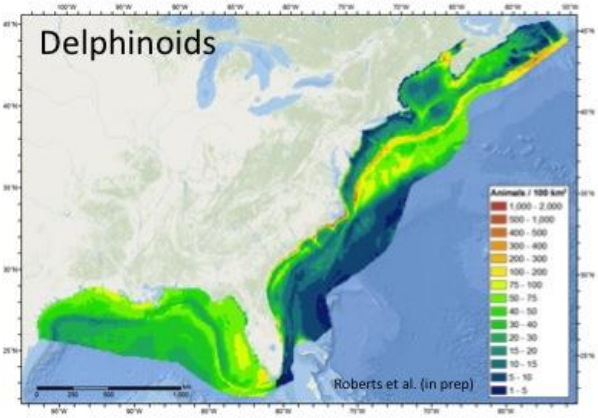


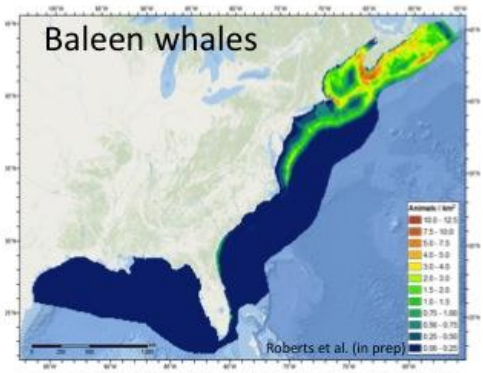
Species grouping options…

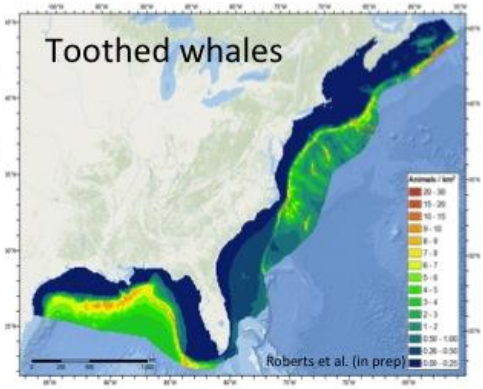
Marine mammals	Avian	Fish
• All cetaceans • Baleen whales • Small delphinoids • Large delphinoids • Sperm and beaked whales • All ESA-listed species • Sensitivity to sound (low, mid, and high frequencies)	• Spatial (nearshore, offshore) • Taxonomic (terns, gulls, etc.) • Ecological/functional (plunge-divers, surface divers) • Conservation/authority (State-listed, BCR priorities, AMBCC priorities)	• All species • Elasmobranch • Flatfish • Forage • Gadoid • Invertebrate • Other demersal • Other fish • Pelagic • EFH • Fishery Management Plans

Groups are not mutually exclusive; some groups may require longer term research

Example Mammal groups - Abundance

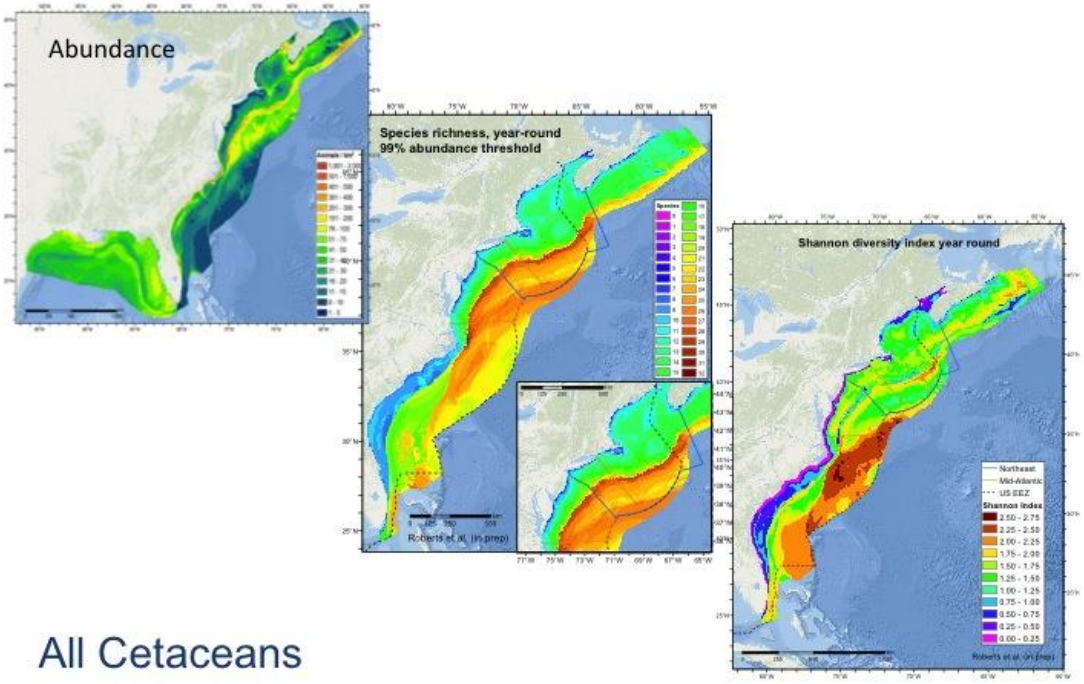






Example Taxa Hotspots: Abundance, Richness, Diversit

Using 99% pop threshold



All Cetaceans

Example Taxa Hotspots: Abundance, Richness, Diversity

All Birds

Abundance Hotspots

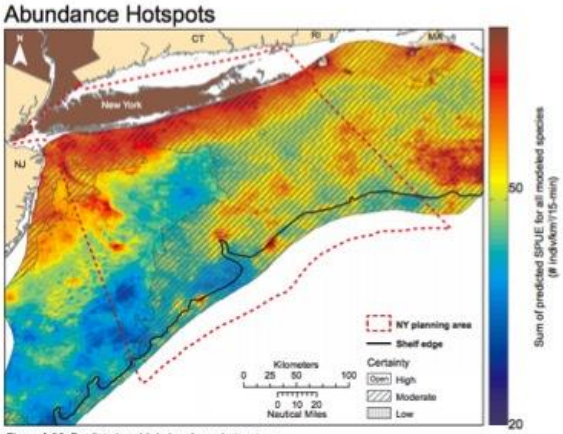


Figure 6.35. Predicted seabird abundance hotspot map.

Richness Hotspots

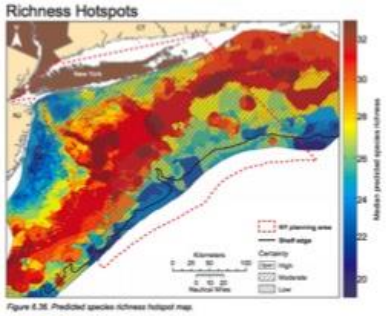


Figure 6.36. Predicted species richness hotspot map.

Diversity Hotspots

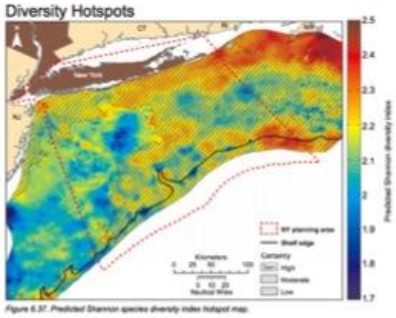


Figure 6.37. Predicted Shannon species diversity index hotspot map.

Examples from NOAA Technical Memorandum – NOS NCCOS 141

Example Fish groups - Biomass

Forage fish

Elasmobranchs

Flatfish

Gadoids

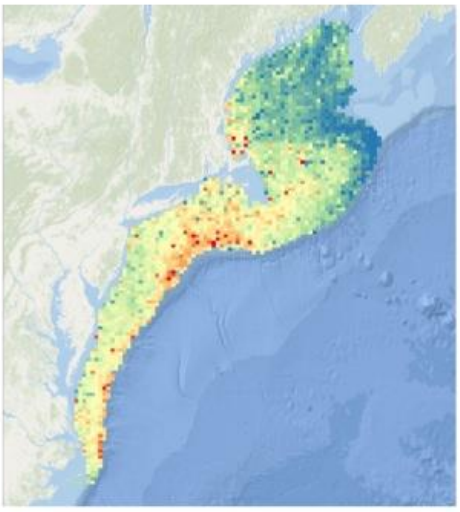
Invertebrates

Pelagics

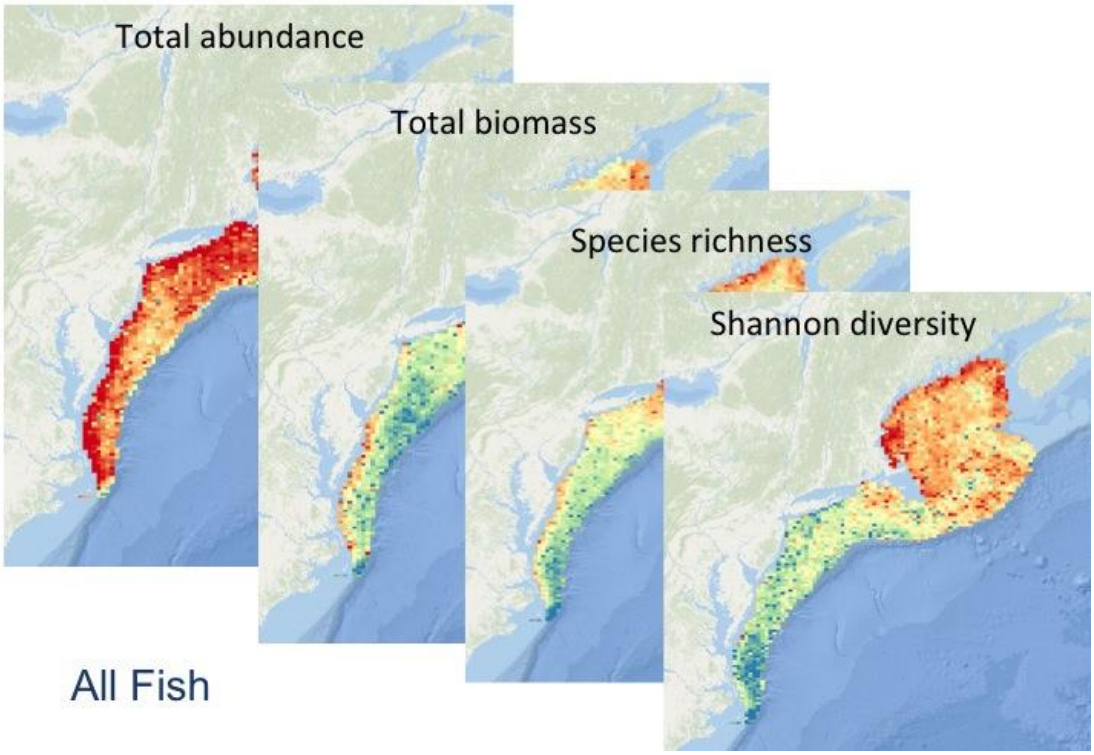
Other demersals

Other fishes

- Northern sand lance
- Alewife
- Atlantic herring
- Butterfish
- Blueback herring
- Atlantic mackerel
- Atlantic menhaden
- American shad
- Hickory shad
- Capelin
- American sand lance



Example Taxa Hotspots: Abundance, Richness, Diversity



Ecosystem Based Management Work Group Update

- EBM WG established as an outcome of the April 2015 EBM Workshop and June 2015 RPB meeting
- First meeting on 9/30/15:
  - Review marine life data
  - Review habitat data and provide input on priority habitat characteristics that should be characterized
  - Review initial ideas for identifying "important ecological areas" by synthesizing marine life and habitat data
- Subsequent meetings:
  - Provide input on ecological and human use data overlays
  - Provide input on monitoring and evaluation
  - Provide input on science and research priorities

Ecosystem Based Management Work Group Update

- Recommended priority habitat data that should accompany marine life data (possibly incorporated into below)
- Recommended RPB defines "important ecological areas" in terms of their various components (rarity, diversity, vulnerability, spawning/ breeding areas, migration, etc.)
- Staff, with MDAT support, will suggest a set of components and their potential to be mapped in the short and long term
- "Ecologically rich areas", term being used in MidA, can be one of the components with potential to be mapped in short term

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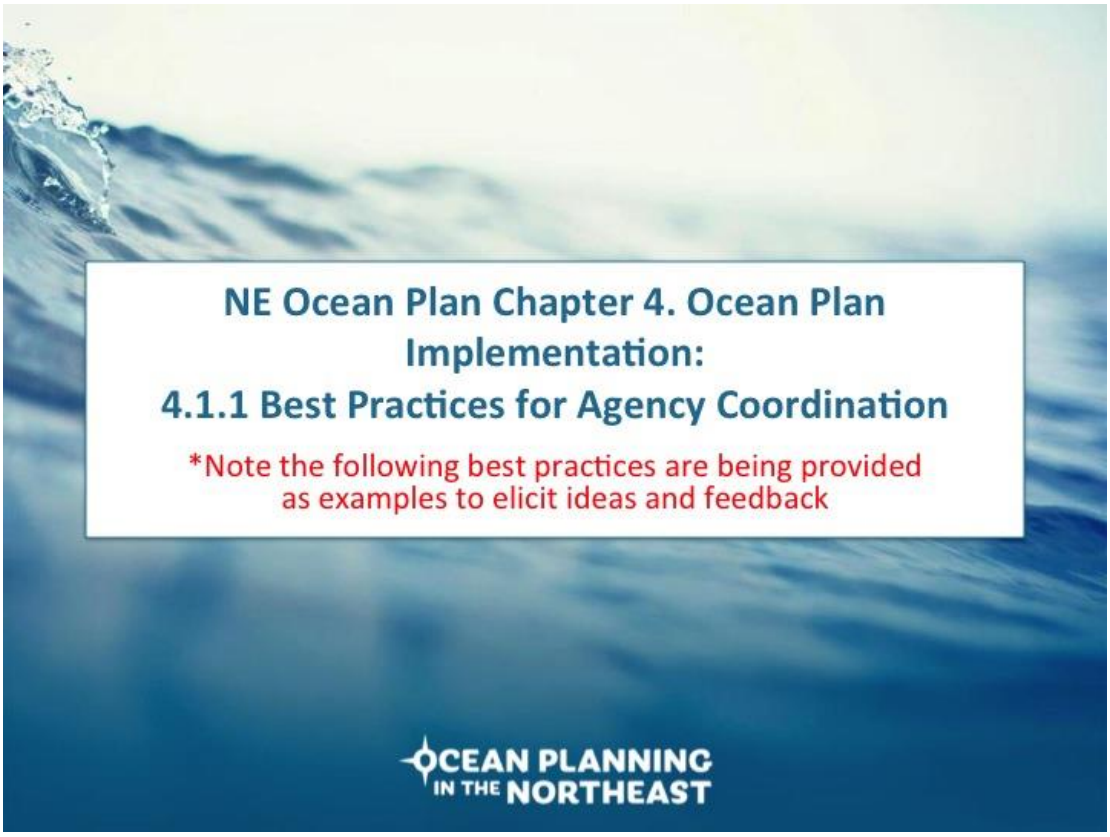

Background

- 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
- EPA and NMFS have provided initial feedback; seeking same from USACE, USCG, USN; will be coordinating with tribes to address similar issues
- Working report to be provided for RWG/RPB review, anticipating prior to the November RPB meeting
- Originally described narrowly as best practices for pre-application review; has been broadened as "best practices for agency coordination" to capture range of applicability

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Purpose

Support and provide for:

- The use of relevant information from the data portal, the Plan, stakeholders, and other sources;
- A common initial understanding of the proposed project;
- Clear and efficient direction for the applicant;
- Informed stakeholder engagement in the planning, review, and/or regulatory process; and
- Coordinated federal, state, and tribal review as appropriate.

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Categories and examples

- Participation in early coordination
  - *Federal agencies subject to Executive Order #13547 should engage in early coordination as a general practice, and should do so consistent with these best practices, as appropriate.*
  - *The lead agency should ensure that all agencies with potential interests in NEPA review and USACE permitting receive notice of, and an opportunity to participate in, agency coordination.*
- Use of data and information
  - *Project proponents and agencies should use the data portal and associated textual and graphical information contained in the Plan as a primary initial source of information to inform agency coordination and project review under authorities described in Chapter 3.1.*

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Categories and examples

- Coordination with stakeholders
  - *In the context of the proposed project, agencies and the proponent should discuss how stakeholder interests are addressed by applicable authorities, and agencies with subject-matter jurisdiction should specifically identify management provisions that require characterization of stakeholder interests.*
- Coordination with states
  - *Federal agencies serving as either a project proponent or a lead agency should use the agency coordination process to discuss with a state(s) that has state jurisdiction over the proposed project whether a coordinated approach to NEPA and regulatory review should be considered. On a project-specific basis, such discussion will be influenced by a range of existing statutory, regulatory, administrative, and/or practical measures.*
- Coordination with tribes – will be coordinating with tribes to develop.

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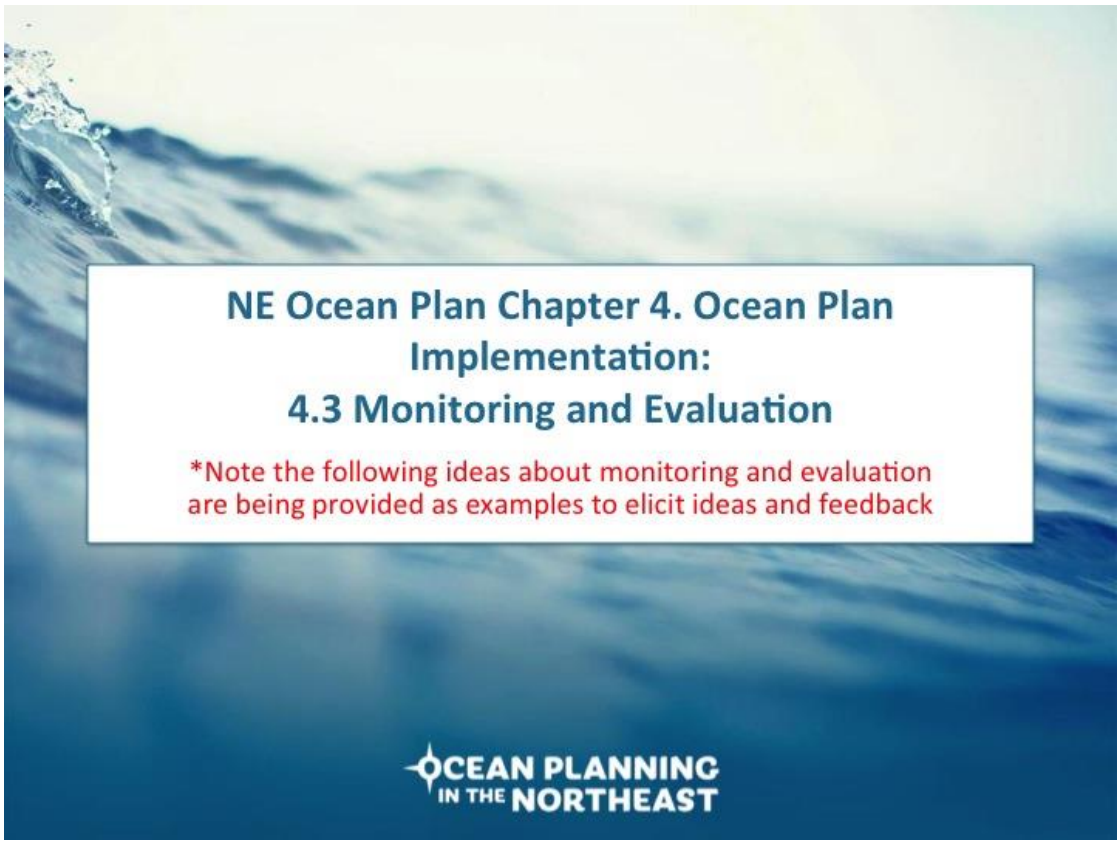

Background & Assumptions

- Plan framework includes an objective to "Periodically assess progress toward achieving regional ocean planning goals"
- Support adaptive management approach, which includes two components:
  - Plan performance
  - Ocean and ecosystem health
- Development and application of related indicators can be difficult:
  - Identify "cause-and-effect" type of relationships?
  - Identify quantifiable metrics (e.g. indicators that can be supported by hard numbers)
- Much literature on this topic; NOP calls for adaptive approach

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General Approach

- For each component, provide information for the following questions:
  - What do we want to achieve (what are the goals)?
  - How we will measure progress toward what we want to achieve? (Indicators)
    - Stories/anecdotes/qualitative data can be helpful but are qualitative
    - Quantitative data can be helpful but difficult to obtain
    - Want as direct a correlation as possible between outcome and goal
- Analysis of indicator results supports future "what do we need to change" discussion

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Monitoring Ocean and Ecosystem Health: potential approaches

- Integrated Sentinel Monitoring Network (ISNM)
  - 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

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Monitoring Ocean and Ecosystem Health: ISMN

- ISMN Science and Implementation Plan is a joint NROC and NERACOOS 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

Draft Science and Implementation Plan – August 6, 2015

A project of the Joint Northeast Regional Ocean Council and Northeastern Regional Association of Coastal and Ocean Observing Systems Ocean and Coastal Ecosystem Health Committee

ABSTRACT

The Northeast U.S. region spans a range of ocean and coastal environments from Long Island Sound to the Canadian border in the eastern Gulf of Maine, and includes ecologically and economically rich ecosystems. Climate change, living resource harvesting, and increasing human populations are altering the structure and function of these ecosystems. Ecosystem changes are not only threatening the sustainability of marine and human communities, but also challenging managers to make decisions about marine resources under novel conditions with high degrees of uncertainty. In response to these changes and challenges, this document describes a plan to sustain an adaptive sentinel monitoring program that watches for key changes, informs researchers, managers, and the public about ecosystem status and vulnerabilities; and supports an integrated, ecosystem-based management framework for adaptive responses to changes in ecosystem states.

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Monitoring Ocean and 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 of the plan)
- 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 Northeastern Regional Association of Coastal and Ocean Observing Systems.

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Bowdoin College
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Connecticut College
Connecticut Department of Energy and Environmental Protection
Connecticut Sea Grant Program
Fisheries and Ocean Canada
Great Bay National Estuarine Research Reserve
Gulf of Maine Council Ecosystem Indicator Partnership
Gulf of Maine Research Institute
Hurricane Island Foundation
Maine Coastal Observing Alliance
Maine Department of Marine Resources
Maine Geological Survey
Massachusetts Bays National Estuary Program
Massachusetts Division of Marine Fisheries
Massachusetts Office of Coastal Zone Management
Massachusetts Water Resources Authority
Massachusetts Institute of Technology Sea Grant
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Regional Association of Coastal Ocean Observing Systems
New England Interstate Water Pollution Control Commission
New Haven University
Northeastern University
Northeast Regional Ocean Council
Provincetown Center for Coastal Studies
Rhode Island Department of Environmental Management
Shoals Marine Laboratory
Stellwagen Bank National Marine Sanctuary
Suffolk University
The Nature Conservancy
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Geological Survey
University of Connecticut
University of Maine
University of Massachusetts Boston
University of New Hampshire
University of Rhode Island
Wells National Estuarine Research Reserve
Woods Hole Oceanographic Institution

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Monitoring Ocean and 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?)

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Plan Performance: Examples for Healthy Coasts and Ocean Ecosystem Goal

Objectives:

I. Characterize the ecosystem, economy and cultural resources

II. Support existing restoration and conservation programs

III. Develop regional ocean science plan

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Plan Performance: Examples for Healthy Coasts and Ocean Ecosystem Goal

- Does the plan identify and support non-regulatory opportunities to work toward conserving, restoring, and maintaining healthy ecosystems?
  - *Are existing restoration programs identified and supported? If yes, how?*
- Does the plan contain a science plan to prioritize ocean science and data needs?
  - *What's missing? What's being implemented/addressed? Are there emerging needs?*

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Plan Performance: Examples for Effective Decision-Making Goal

Objectives:

I. Enhance inter-agency coordination

II. Implement specific actions to enhance public participation

III. Incorporate products into existing decision-making

IV. Improve respect for tribal customs and traditions in decision-making

V. Improve coordination with local communities in decision-making

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Plan Performance: Examples for Effective Decision-Making Goal

- Are existing government management and regulatory decisions coordinated?
  - *If so, how have pre-existing practices been altered? Are best practices for agency coordination being used? Can anything be said about the pace of regulatory decisions start to finish? Are there other opportunities to enhance existing practices?*
- Has public input in existing practices been enhanced?
  - *If so, how? Are there examples of implementing best practices to build on? If not, what are other opportunities?*
- Have ocean plan products and data been incorporated into agency decision-making?
  - *If yes, what are examples/be specific. How have these products affected decision-making? Can track metrics such as numbers of users of the data portal, but difficult to assign any significance to that. Agencies can track use of data portal in project applications and public comment, or used in permit applications and public comment.*

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Plan Performance: Examples for Compatibility Among Uses Goal

Objectives:

I. Increase understanding of compatibility between past, current, and future interactions and the ocean ecosystem

II. Ensure regional issues addressed on ongoing efforts to assess new human activities

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Plan Performance: Examples for Compatibility Among Uses Goal

- Does the plan increase understanding of past, current, and future interactions among ocean uses and the ocean and coastal ecosystem?
  - *If so, how? How has such understanding translated into effective decision-making?*

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NE Ocean Plan Chapter 5. Science and Research Priorities

*Note the following science and research priorities responsibilities are being provided as examples to elicit ideas and feedback

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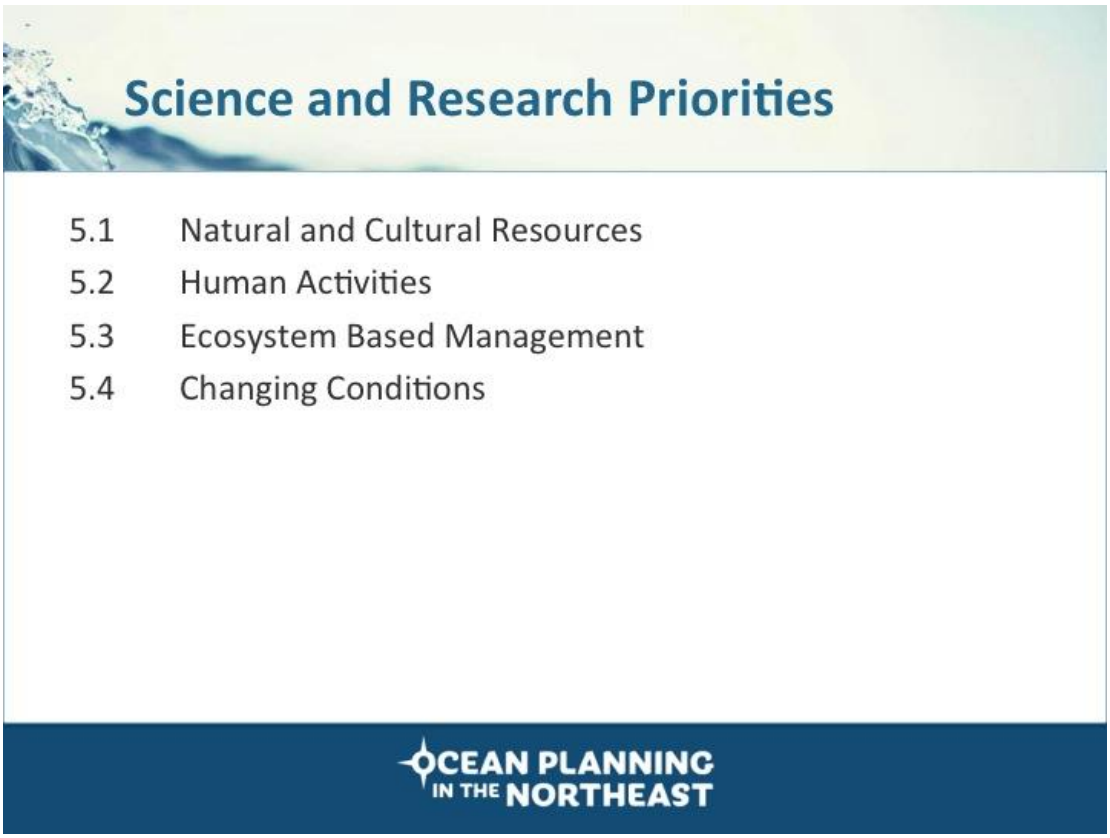
Science and Research Priorities
5.1 Natural and Cultural Resources
5.2 Human Activities
5.3 Ecosystem Based Management
5.4 Changing Conditions
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Science and Research Priorities
5.1 Natural and Cultural Resources
5.1.1 Marine Mammals and Sea Turtles
5.1.2 Birds
5.1.3 Fish
5.1.4 Habitat
5.1.5 Historic and Cultural Resources
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Science and Research Priorities

5.1 Natural and Cultural Resources

- 5.1.1 Marine Mammals and Sea Turtles
- 5.1.2 Birds
- 5.1.3 Fish
- 5.1.4 Habitat
- 5.1.5 Historic and Cultural Resources

For each:

- Updates to Ocean Plan Data Products
- New Research
- Programs and efforts to leverage

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Science and Research Priorities – Some examples

5.1 Natural and Cultural Resources

5.1.1 Marine Mammals and Sea Turtles

A. Product Updates

- Incorporate additional survey data into the model and update plan products
- Develop a companion data product showing survey effort over time

B. New Research

- Identify geographies and times requiring additional observations and provide model criteria for use in designing any new survey to ensure data are used
- Study the effects of various disturbances and develop products for species groups sensitive to those disturbances

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Science and Research Priorities – Some examples

5.1 Natural and Cultural Resources

5.1.5 Historic and Cultural Resources

A. Product Updates

- Update the map of National Register of Historic Places as sites are added

B. New Research

- Continue and expand research to identify submerged paleocultural landscapes
- Expand efforts to incorporate traditional knowledge, specifically:
  - Develop a database of navigational place names
  - Develop a database of tribal traditional knowledge to be accessible along with other data/information products

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Science and Research Priorities

5.1 Natural and Cultural Resources

5.2 Human Activities

- 5.2.1 Marine Transportation
- 5.2.2 National Security
- 5.2.3 Commercial Fishing
- 5.2.4 Recreational Fishing
- 5.2.5 Recreation
- 5.2.6 Energy and Infrastructure
- 5.2.7 Aquaculture
- 5.2.8 Sand and Gravel

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Science and Research Priorities – Some examples

5.2 Human Activities

5.2.1 Marine Transportation

A. Product Updates

- Update AIS vessel density products annually
- Expand on monthly time series data to better understand variation in intra-annual traffic

B. New Research

- With industry input, develop and implement a methodology for counting unique transits
- Develop a tool to select areas with a certain number or percentage of unique transits

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Science and Research Priorities – Some examples

5.2 Human Activities

5.2.3 Commercial Fishing

A. Product Updates

- Update VMS vessel density products annually

B. New Research

- Develop a method to characterize fishing effort using VMS, VTR, and state permit information
- Develop a method to link areas of fishing effort to specific communities

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Science and Research Priorities

5.1 Natural and Cultural Resources

5.2 Human Activities

5.3 Ecosystem Based Management

5.4 Changing Conditions

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Science and Research Priorities – Some examples

5.1 Natural and Cultural Resources

5.2 Human Activities

5.3 Ecosystem Based Management

- Organizational structure to evolve as the subject advances through the EBM Work Group and the RPB
- Science and research priorities may depend on how far the plan can take any specific topic
- Initial ideas:
  - Habitat classification
  - Important Ecological Areas organized into its components (biodiversity, primary productivity, life stage – feeding/breeding/ spawning)
  - Ecosystem service production and value
  - Cumulative impacts – stressors, vulnerability, method to quantify impacts

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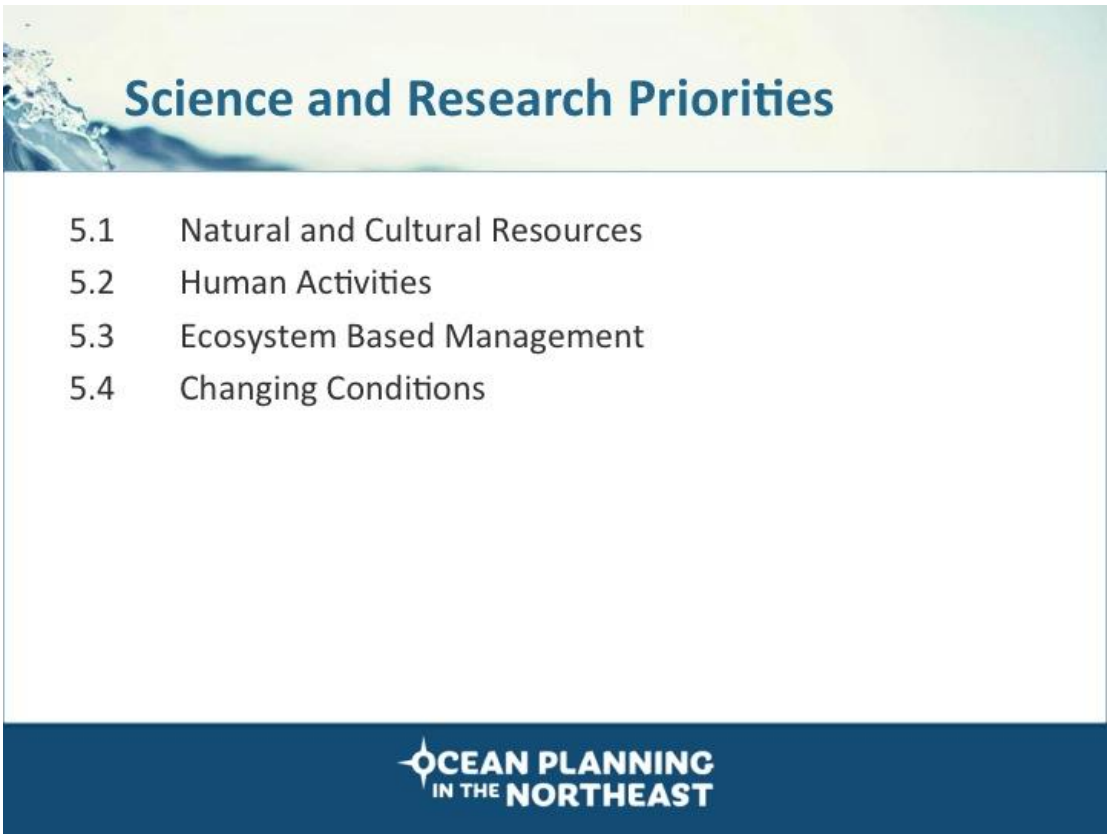
Science and Research Priorities
5.1 Natural and Cultural Resources
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5.3 Ecosystem Based Management
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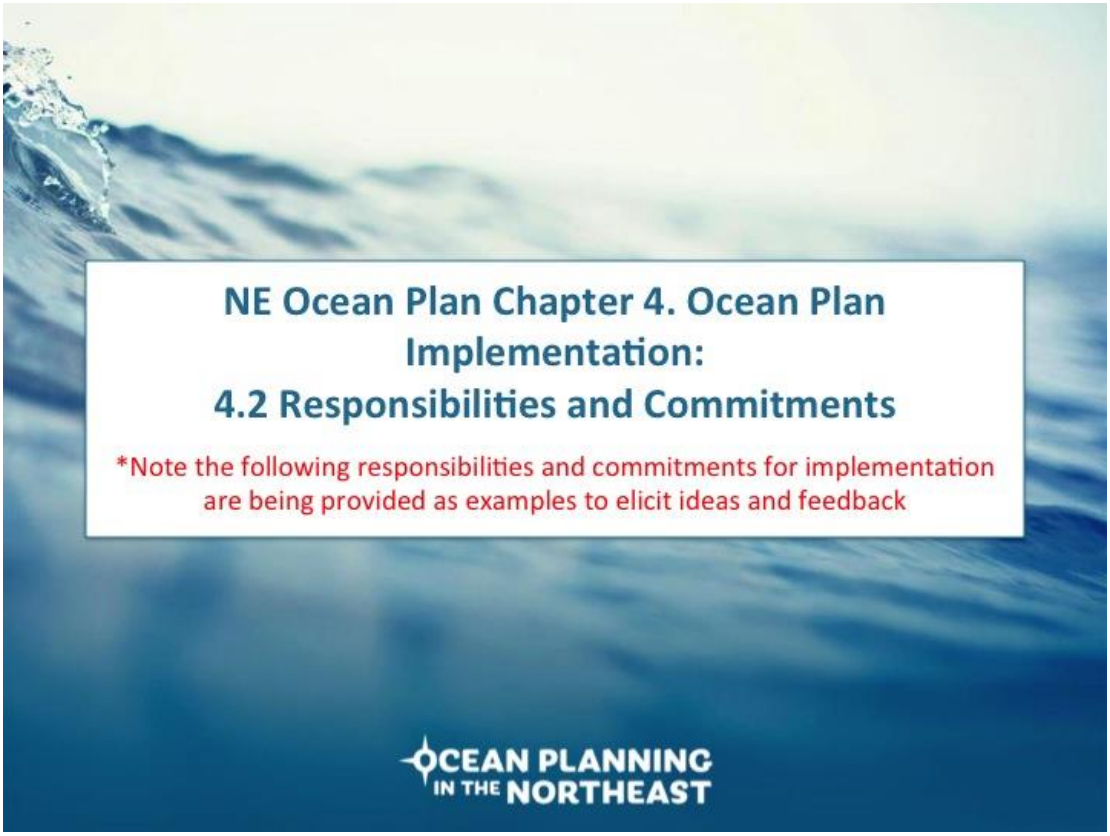
OCEAN PLANNING IN THE NORTHEAST


NE Ocean Plan Chapter 4. Ocean Plan Implementation:
4.2 Responsibilities and Commitments
*Note the following responsibilities and commitments for implementation are being provided as examples to elicit ideas and feedback
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Potential Responsibilities and Commitments*

1. Forum for federal-tribal-state coordination?
2. Plan updates to best practices, plan products and guidance.
3. Public engagement to review progress toward achieving three goals, results of indicators and monitoring, discuss emerging issues, etc.
4. Seek other partners to help implement priorities in Section 5 and/or leveraging existing efforts related to ecosystem monitoring

*NOTE: for all implementation considerations, consider leveraging existing resources and being practical

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Potential Responsibilities and Commitments*

5. Data Portal
   - Priority data products referenced in Section 3
   - Other supporting data products
   - General maintenance and technical support
   - Coordination and stakeholder engagement for above responsibilities

*NOTE: for all implementation considerations, think about leveraging existing resources and being practical

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Potential Responsibilities and Commitments*
6. Monitoring and evaluation – develop and implement an adaptive management approach by:
– Tracking plan performance
– Monitoring the ecosystem
7. Science Priorities
– Oversight of progress toward achieving science and data priorities
– Forum for agency and project coordination
*NOTE: for all implementation considerations, think about leveraging existing resources and being practical
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