Ecosystem Based Management Work Group Meeting #2 Summary

Providence Marriott, Providence, RI
January 6, 2016; 1 - 4pm

Attendees

EBM Work Group: Mike Fogarty (NOAA NMFS), Mary Boatman (BOEM), Margherita Pryor (EPA), Bruce Carlisle (NE RPB Member – Massachusetts), Kathryn Ford (NE RPB Alternate – Massachusetts), Jeff Herter (New York); Bob Steneck (UMaine), Kathy Mills (Gulf of Maine Research Institute), John King (URI), Peter Auster (UConn), Scott Kraus (New England Aquarium)

Marine life Data and Analysis Team (MDAT): Pat Halpin, Jesse Cleary and Corrie Curtice (Duke University)

NROC: Nick Napoli, Emily Shumchenia, John Weber, Katie Lund

Northeast RPB: Betsy Nicholson (NOAA – RPB Federal Co-lead), Chris Tompsett (DOD), Kathleen Leyden (Maine), Meredith Mendelson (Maine)

This meeting was open to the public, both in-person and via webinar/phone. Approximately 75 people attended, in addition to the attendees mentioned above.

Agenda overview

- Review progress on the development of the draft Northeast Ocean Plan and associated marine life and habitat data
- Review and provide feedback on the Important Ecological Areas (IEAs) Framework, including applicable marine life and habitat data as well as science and research needs for IEAs

Outcomes

The EBM Work Group:

1. Recommended the NE RPB conduct scientific review of draft marine life and habitat data products that will be referenced in the plan and are applicable to IEA components
2. Provided positive feedback on the IEA Framework and recommended edits, including the suggestion that Component 3 “Habitat areas and distribution of species critical to ecosystem function and resilience” is more relevant as a general definition of IEAs
3. Recommended that the NE RPB illustrate applicable data for IEA Components 1, 2, and 6 to enable further review and discussion

(1) Scientific review of draft marine life and habitat data products that are applicable to IEA components

NROC staff presented examples of draft marine life and habitat data, developed for the Northeast Ocean Plan, which could be applicable to IEA components with additional interpretation and/or identification of appropriate analysis methods such as identification of thresholds and combining species-specific products. Marine life data included individual species products; ecological, regulatory and stressor-sensitivity species group products; and taxa-level products (abundance, richness, diversity, and core abundance areas). Habitat data included physical (e.g., oceanography, sediment type) and biological (e.g., primary productivity, cold-water coral habitat) parameters.

The EBM Work Group provided the following comments:

- The group recommended scientific review of draft species group- and taxa-level products, including the methodology and thresholds used to define core abundance areas
- As datasets are used in the IEA framework, they may each require individual review and examination to determine thresholds of "importance" due to their unique characteristics (e.g., temporal extent, statistical distribution)
- Consider additional vulnerability and stressor sensitivity based species groups (longer term)
- Include marine mammal species groups for different foraging guilds
- Consider how to communicate uncertainty in species group- and taxa-level products

The EBM Work Group discussed a draft map of marine mammal core abundance areas. In this map, the top 50% of the average annual marine mammal abundance was classified as "a core abundance area" to provide an example of this type of map product. It is important to note that this core abundance area may not reflect areas known to be seasonally important for feeding, breeding, or migration because it displays an annual average of abundance (and there are other map products that characterize these areas). The EBM Work Group recommended further review of the particular temporal ranges and thresholds for defining "core abundance areas" for certain species, species groups or whole taxa.

(2) Feedback on and edits to the IEA framework, including the suggestion that Component 3 "Habitat areas and distribution of species critical to ecosystem function and resilience" is more relevant as a general definition of IEAs

The IEA framework, composed of six Components, was developed using the National Ocean Policy definition of important ecological areas as a starting point, with input from the EBM Work Group since their first meeting in September 2015. Each IEA component (summarized below) includes a short definition and lists of existing applicable marine life and habitat data, as well as science and research needs.

1. **Areas of high productivity**
2. **Areas of high biodiversity**
3. **Habitat areas and distribution of species critical to ecosystem function and resilience** – *includes areas/species that perform ecological functions such as providing structure and nutrient-cycling and core areas for marine life populations*
4. **Areas of spawning, breeding, feeding and migratory routes**
5. **Areas of functionally vulnerable marine resources**
6. **Areas of rare marine resources**

The EBM Work Group provided positive feedback on the structure and contents of the IEA framework, and made the following specific recommendations and changes:

- The development of data applicable to IEA Components should be viewed as an iterative, adaptive process; use Science and Research Priorities in the Plan to note current data gaps
- Provide additional justification, rationale, and narrative about the IEA Components and why they are ecologically important
- "Areas of high and low marine life abundance" should be explicitly included in the framework
- Consider adding areas of particularly low productivity and biodiversity to Components 1 and 2, respectively (i.e., "coldspots")
- Food availability is a fundamental driver of marine life distribution/abundance and should be considered, potentially as part of Component 1

- Component 3 should be limited to “areas of high marine life abundance”, with the remaining elements of the original Component 3 definition being covered by Components 1, 2, 4, 5, and 6. All IEA Components would then fit under the former description of Component 3, because they each contribute to overall ecosystem function, resilience, and recovery
- It would be more inclusive to call Component 5 “Areas of vulnerable marine resources”

(3) Recommendation that applicable data for IEA Components 1, 2, and 6 be illustrated for review

Of the six IEA Components, the EBM Work Group agreed that Component 1 “Areas of high productivity”, Component 2 “Areas of high biodiversity”, and Component 6 “Areas of rare marine resources” required the fewest intermediate steps in order for the applicable data to be preliminarily mapped. The EBM Work Group agreed that displaying the existing data to address each of these Components, identified in Tables 1a and 1b in the Framework document, would be an appropriate next step. Visualizing the relevant data for these Components will facilitate the identification of appropriate thresholds, and help inform the use of multiple datasets to address IEA Components. Specific recommendations included:

- Illustrate Component 1 using existing applicable data (e.g., chlorophyll a, zooplankton, productivity, marine life abundance, biomass) at multiple temporal windows to test the utility of these elements together and to advance potential metrics of food web characteristics and food availability
- Consider indices of biodiversity other than Shannon’s index, such as Simpson’s index, or other metrics of richness to more fully address Component 2

Next Steps

1. EBM Work Group members to provide additional comments on the IEA framework
2. NROC staff to present EBM Work Group recommendations to the Northeast RPB for consideration and direction on next steps, including:
    a. Scientific review
    b. Revisions to framework
    c. Potential illustration of one or two IEA Components