Mid-Atlantic Regional Planning Body
Ecologically Rich Areas (ERA) Workshop Summary

Maryland Historical Trust
100 Community Place
Crownsville, MD
November 2, 2017

Summary Highlights

On November 2, 2017, 45 participants gathered at the Maryland Historical Trust in Crownsville, Maryland to further explore the concept of Ecologically Rich Areas (ERAs) in the Mid-Atlantic region. This workshop was the fourth held on this topic since January 2016.

Workshop objectives included:

1. Present updated Marine life Data Analysis Team (MDAT) models for birds and marine mammals;
2. Explain how input on data layers to depict the five ERA components was gathered from stakeholders, scientists and agencies and how key takeaways on ERA components shaped development of synthesis options;
3. Present and explain the three ERA Component Synthesis Options;
4. Answer clarification questions about synthesis options;
5. Collect input from stakeholder as to which option they prefer; and
6. Summarize next steps and timeline for further consideration of the ERA action by the Mid-A Regional Planning Body.

At the workshop, participants learned about and discussed three options for next steps on ecological data synthesis. These three Options are detailed in a Synthesis Options Paper (https://www.boem.gov/ERA-Component-Synthesis-Options/) and include:

- *Option One* - No further synthesis: focus on organizing and communicating the data in hand.

- *Option Two* - Classify and overlay: determine logical breaks in the distribution of ERA component data based on statistical ranges and overlay them.

- *Option Three* - Classify and combine: classify components for each taxa and combine them to produce an index for each ERA component.

Welcome and Background Remarks

Laura McKay from Virginia Coastal Zone Management Program, and Co-Lead for the Mid-Atlantic Regional Planning Body's (RPB) Ecologically Rich Areas (ERA) Work Group, offered welcome and opening remarks and provided an overview of the day.

McKay reminded participants of the ERA action as outlined in the Mid-Atlantic Regional Ocean Action Plan[1] as the following, under the goal of "promoting ocean ecosystem health, functionality and integrity":

> The action is to "Identify ecologically rich areas of the Mid-Atlantic and increase understanding of those areas to foster more informed decision-making."
>
> The action has 7 steps (A through G on page 40-41):
>
> By end of 2018 steps A – E were to be completed
>
> - A. Evaluate and refine marine life data layers and synthesis approach
> - B. Apply synthesis methodologies to the data
> - C. Select one or more areas as a pilot for in-depth review
> - D. Review the area by characterizing its ecology and human uses and summarizing management authorities in that area
> - E. Compile a report on the area
> - F. Document the use of the report in informing agency processes and methods for decision-making and make any needed improvements to the process of identifying, reviewing and developing reports *by end of 2021*
> - G. Continue to select and review ERAs and develop reports (*ongoing)*

McKay said that the RPB is committed to wrapping up the synthesis of ERA data by the end of 2018 and that input from this workshop will be considered by the RPB's ERA Work Group and a recommendation will be developed as to how to proceed with this ERA data. The recommendation will be posted on the RPB website[2] around Dec 20th and the RPB was to consider it at its January 24, 2018 meeting in Philadelphia. Workshop participants were invited to provide additional written input to Laura McKay or Kate Morrison prior to November 30, 2017, for additional consideration by the ERA Work Group.

Marine Life and Habitat Data Team Presentation

Jesse Cleary from the Marine Life and Habitat Data Team presented their work which was divided into three sections: (1) history and status of MDAT data and overview of Ecologically Rich Areas components, (2) summary of feedback collected on potential

[1] https://www.boem.gov/Mid-Atlantic-Regional-Ocean-Action-Plan/
[2] https://www.boem.gov/Mid-Atlantic-Regional-Planning-Body/

ERA data and methods, and (3) a review of the three proposed options for further data synthesis. Brief question and answer periods were held after each part of the presentation and discussion is summarized below.

Cleary presented a history and status of MDAT data and an overview of ERA components and how they were developed. Discussion included:

- Migratory bats are not currently included in avian models; some data exists with the United States Fish and Wildlife Service (USFWS).
- Confirmation that predictive models are available for marine mammals who are sensitive to the low-end frequency range, such as minke whales.
- Additional cetacean information is available from the New York State Energy Research and Development Authority (NYSERDA) and the New York Department of Environmental Conservation (DEC) and this information will be considered for future integration.
- Additional fisheries information is needed to improve the analyses- not all fisheries are represented, timeframes for fisheries that are included are inadequate (they show anomalies that are not representative of the fishery), geographic extent of trawl surveys is not comprehensive; improvements should include seasonality and an exploration of innovative analyses that include oceanographic features and temperature considerations.
- There could be a perception of double-counting if one category, such as "vulnerability" for example, is made up of layers from other categories such as "high productivity" and/or "high biodiversity", even if the layers aren't added together to get a score.
- If it is possible to identify/delineate an ephemeral area, then it may not really be "ephemeral," since there are reasons why concentrations are there, such as a high productivity area due to a persistent upwelling or gyre.

Cleary presented an overview of the feedback process to collect input from the Mid-Atlantic and Northeast RPB's on potential ERA data and methods, work that was conducted by Emily Shumchenia. Further summary details on feedback received is available here (https://www.boem.gov/Agenda-ERA-Workshop/). Discussion included:

- There are no biodiversity, abundance or vulnerability analyses for invertebrates, (which are by far more numerous and biodiverse than the groups of vertebrates in the current analysis); data products show diversity of animals that have been observed and it was acknowledged that this is not necessarily comprehensive from an ecosystem standpoint.
- No information is available on underwater sonic testing for this analysis.
- Without further analysis, the current number of total layers is approximately between 77-142, depending on whether seasonal / monthly datasets are counted separately.

- Gaps identified include for example, invertebrates and some pelagic fish; the gaps may be pieces of information that do not exist.
- Concern about capturing the error and uncertainty inherent in sampling practices and modeling.

Cleary presented a review of the three proposed options for further data synthesis. Discussion included the following clarifications:

- Option One is not just the "status quo"- it reflects all the work that has been done over the past few years and includes the presentation of the data layers on the portal organized into the five ERA components.
- Selection of any part of Option One or Two does not preclude eventually taking the next step to Option Three or a hybrid thereof.
- A timeline, structure and process for the evaluation and inclusion of new data sets (as they become available) should be developed to indicate when there will be a need to update the models with multiple layer products and the process for doing so.

The above discussion was informed by the following three presentations:

Marine-life Data Update and Review

ERA Component Data Review

ERA Component Synthesis Options

Summary of breakout discussions

Two breakout groups discussed the pros and cons of each of the three options and provided input on preference among the three options, or a hybrid approach. Breakout groups were not asked to reach consensus on a preferred option. Consolidated feedback from breakout report-outs and discussion during the afternoon plenary session is included here under the themes of Option Preference, Data, and Data Application and Communication.

Option Preference

- Some attendees thought Option One is useful and that it provides a good base of data products, but that this Option may be useful just for specific individual uses. Having access to datasets in Option One is useful even if the process does not advance to delineation of Ecologically Rich Areas, and provides the greatest flexibility for decision-making.
- Option One concerns included the very large number of layers that would have to be considered in order to better understand where ERAs are located.
- Some expressed interest in going beyond Option One but not applying Option Two to all of the data. This approach might be implemented for a smaller set of

ERA data layers. Gaps in certain data sets that are integral to the ecosystem-like fisheries- may prevent the ability for appropriate synthesis of data in Option Two or Option Three.

- Option Two provides the value-added of further expert knowledge and further guidance on how to overlay certain data sets, helping a user identify what may be important to an interest rather than having the user selecting which layers to overlay.
- Subjectivity in assessments (e.g. assignment of values) and possible end-uses and interpretation of data were raised as concerns of both Options Two and Three (or any further synthesis options).
- Entities that don't have the capacity to do their own analysis were particularly interested in more synthesis to inform both internal and external communications with stakeholders and individual user communities.
- A refined, feasible approach to Option Two would be to define a cluster or bundle of maps that have high confidence and are relatively complete and overlay them into a single synthesized map to tell a specific story (e.g. trophic interactions such as between whales and menhaden; or aspects of productivity).
- It might be possible to move ahead with some level of classification for some taxa. While it is important to recognize the gaps in a transparent way, we can continue to work towards filling the gaps while simultaneously working with what we have to advance synthesis options.
- Strong sense that Option Three goes too far toward an index approach, requires extensive documentation, could require "deconstruction" tools, and would raise many questions about decisions made to produce synthesized products.

<u>Data</u>

- There are many opportunities to enhance the fish data (e.g., butterfish, adding seasonality and analyses that take oceanography and temperature into consideration).
- Data gaps/assessment of the gaps for any synthesis should be prominent on the Mid-Atlantic Ocean Data Portal, where syntheses will be displayed.
- There was desire for more communication and details on each data layer regarding the level of confidence in the data, any data gaps, etc.
- Decisions that create clusters/bundles of map products and data classification options should be driven, quantified, and defensible- e.g. "show the top 10% of values in the distribution" instead of applying value-laden terms such as "high."

<u>Data Application and Communication</u>

- There was interest in developing 'use cases' that would focus on potential impacts (benthic impact), and not necessarily the activity that generates the impact.
- There was desire for story maps and decision support tools that are relevant to specific 'use cases' (relevant for making decisions).

- Map layers and data gaps should be prioritized so that people advocating for research dollars can reflect RPB priorities.
- Some user groups need more support to develop synthesis maps that don't have the resources to overlay data layers on their own.
- More communications tools are needed to explain individual data layers, models, syntheses, data gaps, levels of confidence or uncertainty for data layers and related limitations.
- Story maps should be developed to show how data synthesis and different compilations of best available data layers could inform decision-making, providing illustrative examples of what users could do with the data; examples suggested included whales and menhaden or aspects of productivity.
- The MDAT demonstrated an internal Mapping Tool for Cetacean Density for the U.S. Atlantic and Gulf of Mexico as a possible way to illustrate information.
- The audience for use cases should be broad to include any interested person (i.e. decision-makers, private sector, environmental groups), and if case studies are created there should be one for each different type of user such as regulator, industry, scientist or ENGO.
- Stakeholder engagement should be ongoing; the level and type of engagement needs further ERA Work Group discussion.
- Use cases should describe potential impacts and/or vulnerability rather than discussing a specific ocean use. Use cases should represent various perspectives, include the best information that explains a scenario, and include on-going stakeholder engagement in the development process.

Next Steps

McKay expressed the RPB's commitment to completing the synthesis of ERA data by the end of 2018 and that workshop input will be considered by the RPB's ERA Work Group as it develops its recommendation on to how to proceed with this ERA data. The recommendation will be posted on the RPB website around December 20, 2017 for the RPB to consider at its January 24, 2018 meeting in Philadelphia. Workshop participants were invited to provide additional written input to Laura McKay or Kate Morrison prior to November 30, 2017 for additional consideration by the ERA Work Group.

List of Participants

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Laura Bankey, National Aquarium
Mary Boatman, BOEM
*Sarah Bowman, Navy
Bonnie Brady, Long Island Commercial Fishermen's Association
Leann Bullin, BOEM
Merry Camhi, Wildlife Conservation Society

*Charles Caruso
Ali Chase, Natural Resources Defense Council
Karen Chytalo, New York State Department of Environmental Conservation
Jesse Cleary, Marine life and habitat data analysis team (MDAT), Duke University
*Peter Clouse, New York Department of State
Kimberly Cole, Delaware DNREC
Kaycee Coleman, USFWS
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**denotes participation for webinar portion of workshop*