Work Group Recommendation for Next Steps on Ecologically Rich Areas (ERA)

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Background
- Process to date: Since 2015, 6000+ data layers have been synthesized into 75-150 layers organized by ERA components (i.e. productivity, diversity, abundance, vulnerability, and rarity).
- 8 workshops and/or webinars were held to gather input from stakeholders
  - Jul 13, 2015 in DC - Meridian Institute
  - Sep 22, 2015 in Norfolk, VA
  - Dec 10, 2015 in Annapolis, MD (MAFMC)
  - Jan 29, 2016 in Dewey Beach, DE
  - Mar 11, 2016 in Baltimore - UMCES
  - Aug 17, 2016 in Baltimore - Aquarium
  - May 19, 2017 in Delaware - NERRS
  - Nov 2, 2017 in Annapolis, MD
- Collaboration with the Northeast was conducted to receive input from scientists and stakeholders via a survey, webinars and meetings (Feb-August 2017) regarding appropriate data layers to describe the five components of ERAs.

Nov 2, 2017 Workshop
At this workshop participants learned about and and discussed 3 options for next steps over the next year or two on ecological data synthesis
- **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.

Breakout report-outs included the following highlights. Additional detailed notes will be available in a workshop summary in early 2018:

Option Preference
- Some attendees thought Option One is useful but just for specific individual uses.
- Interest in going beyond Option One but less than Option Two.
- Entities that don't have the capacity to do their own analysis were particularly interested in more synthesis.

- A refined approach to Option Two would be feasible that defines a series of cluster or bundle map products that show data that tell specific stories (e.g. whales and menhaden; aspects of productivity).
- Might be able to move ahead with some level of classification for some taxa.
- Strong sense that Option Three goes too far toward an index approach and would raise many questions about decisions made to get to synthesized products.

Data
- Lots of 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 the synthesis should be prominent on the portal.
- 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 should be expert driven, quantified and defensible- e.g. "show the top 10% of the mean" instead of "high".

Data Application
- Interest in developing 'use cases' that would focus on potential of impacts (benthic impact), and not necessarily the activity that generates the impact.
- 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.

ERA Work Group Recommendation
Data and Tool Production: Data and tools to assist in identifying ERAs will be provided by the RPB. Individual agencies, entities planning activities and all ocean stakeholders will be able to access the data and tools, and apply as they wish. Both the organization/classification of data and further synthesis products would be considered tools to use among others that may be available. Data and tools provided through this OAP action will be available on the Mid-Atlantic Ocean Data Portal.

Drawing from alternatives presented in the ERA Component Synthesis Options paper (October 2017), the Work Group recommends further effort on Option One, including developing materials to improve the understanding of each dataset under the ERA components. User-friendly communication tools will be developed to explain individual data layers, models, syntheses, the five ERA Component groupings, data gaps, and levels of confidence or uncertainty for data layers and related limitations.

The Work Group also recommends further exploration of the Option Two approach (Classify and Overlay) during 2018. This would enable stakeholders to take selected datasets identified under each ERA Component and classify them and overlay them with other data. The process will include a range of quantifiable choices for various parameters to test a proof of concept. The Work Group recommends an initial, limited set of layers be included in this exploration, including taxa with the best available data. Further scoping on portal integration is needed to refine and choose among possible technical approaches. Opportunities for scientist and stakeholder input will be made available throughout 2018.