

Northeast Regional Planning Body: Data Workshop Workshop Summary

Workshop held November 15, 2017 in Durham, NH

Prepared by the Consensus Building Institute

WORKSHOP IN BRIEF

At a data workshop held on the first day of the two-day November meeting of the Northeast Regional Planning Body (RPB), RPB members and the public reviewed and provided feedback on new, draft data products for the Northeast Ocean Data Portal (Portal). Presentations covered updates to human use, marine life, habitat, and Components of Ecological Importance data products. They also included next steps for key Portal updates. The workshop provided frequent opportunities for questions and group discussion. Presentation slides from the workshop can be found within the meeting briefing packet at http://archive.neoplan.org/wp-content/uploads/2017/11/Nov-RPB-briefing-packet_FINAL.pdf.

ATTENDANCE

Approximately 85 people participated in the data workshop. Participants included 15 members of the Northeast Regional Planning Body; other representatives from interested states; staff from the U.S. Navy, Bureau of Ocean Energy Management, U.S. Environmental Protection Agency, National Oceanic and Atmospheric Administration, U.S. Army Corps of Engineers, and New England Fisheries Management Council; representatives of NGOs, research institutions, and the fishing industry; and other members of the public. Approximately 15-30 individuals participated in the workshop via webinar. A list of participants is attached to this summary.

SUMMARY OF WORKSHOP KEY THEMES

Three crosscutting themes emerged from the presentation and discussion of new draft human use, marine life, habitat, and Components of Ecological Importance data products.

The first theme reflects participants' preference to focus on existing data products and their draft updates. This includes continued development of presentation and communication strategies for existing data products that acknowledge their limitations, as well as the need to continue developing case studies, demonstrations, and to conduct trainings for potential data applications and appropriate uses.

Second is the recognition that there are some instances where the development of new data products should be considered, including to better represent temporal aspects of existing human use and marine life data, and to fill other key data gaps.

The third theme involved continued consideration and development of plans for long-term maintenance of Portal data products and tools, including an understanding of how Portal uses and users could evolve over time.

DETAILED SUMMARY OF WORKSHOP KEY THEMES

The summary below provides more detail on how the key themes discussed at the workshop relate to specific data products and topics. This summary is not intended to be a full meeting transcript. Rather, it focuses on the main points covered during the group discussions.

Recent Milestones and Key Data Updates

Nick Napoli, contract staff to the Northeast Regional Ocean Council (NROC), presented a summary of Portal updates and new features, planned activities for 2018, and RPB activities to obtain stakeholder input on specific data themes.

Mr. Napoli highlighted increasing use of the Portal by stakeholders, industry, states, and federal agencies. To help users, the Portal team is building on a series of case studies¹ to demonstrate how the Portal is being used to make decisions. These case studies are organized around three threads: planning and management, education and research, and regulatory and siting. Staff and the Portal Working Group have also held trainings and conducted outreach to current and potential users.

The 2018 Portal priorities fall into four themes:

1. Understand and promote use of the Portal
2. Conduct outreach and trainings
3. Enhance functionality and content
4. Maintain and update priority data

Priority 4 will focus on two major data umbrellas: (1) human use and (2) marine life, habitat, and Components of Ecological Importance (CEIs). From late 2017 through 2018, the RPB will work to complete human use data updates and stakeholder outreach for energy and infrastructure, commercial fishing, marine transportation, recreational activities, and the lobster fishery. For the latter two data areas, the team is also refining options for data presentation and identifying potential partners and funding sources for longer-term projects. The RPB will spend 2018 updating the marine life and habitat data products and determining options for long-term maintenance. They will also complete and post initial data layers and tools for the CEIs.

The RPB and the Portal Working Group will continue to identify human use and marine life data products or packages that may support current issues or fill key data gaps. They will also develop a long-term plan for Portal assets and functions.

Draft Human Use Data

Participants provided feedback on updates to human use data products during breakout groups. These discussions covered validity of the data and methods, how data can be used or should not be used, and what other review needs to be completed to finalize data products. The specific data themes reviewed were commercial fishing, marine transportation, aquaculture, energy and infrastructure, and recreation. Participant feedback on these themes is summarized below:

¹ <http://www.northeastoceandata.org/casestudies/>

Commercial fishing	
General feedback	<ul style="list-style-type: none"> • Develop tools that clearly communicate to users any data limitations and the appropriate use of products.
Draft VMS data products	<ul style="list-style-type: none"> • Note that the RPB is to using a data source that was intended for enforcement and not planning. • Correct minor inaccuracies in scallop and clam maps. • Should herring, squid, and mackerel data be aggregated or disaggregated? • Consider developing information on temporal variation for fisheries. • Look at the correlation of VMS data with fisheries independent data. • The Portal should be able to correlate management closure data with fishing activity.
Draft Communities at Sea (CAS) data products	<ul style="list-style-type: none"> • Need greater clarity on methodology: home port vs. landed port; use of coordinates from VTR; how confidentiality screening is applied to data. • Need maps showing different gear types. • Continue to develop tools that can show projected impacts of a proposed project (e.g. homeport landings). • Incorporate data from Lisa Coburn at the Northeast Fisheries Science Center. Her research includes community impacts based on management decisions. • VTR data may be incomplete or inaccurate; the Portal should include caveats about this limitation. • Consider changing the density term to an intensity term. • Consider how the Portal can show state fisheries activity, since this is based on federal permits. • This information is based on effort, not weight. It would be useful to look at the cumulative percentage curve, perhaps 10% increments to look at variation in distribution. • Consider how the Portal can display this data to contribute to spatial planning efforts.
Options for characterizing the lobster fishery	<ul style="list-style-type: none"> • Concern about the representativeness and utility of existing lobster data. • There are clear gaps in the CAS data not showing lobstering activity off of the Maine coast. How can the Portal improve its coverage of this major fishery? • Include clear caveats about gaps in the CAS lobster dataset. What are alternative ways to make clear that there is more activity in Area 1? • Consider the best resolution to display lobster data. Grids may be able to show activity off the Maine coast more accurately. As a long-term approach, the team could look at matching available data with dealer data to interpolate landings to effort. • Consider showing distinction between lobster pots and traps (fixed gear vs mobile gear).
Missing data	<ul style="list-style-type: none"> • Highly migratory species. <i>The Portal team has made the data request for this dataset.</i> • Display party charter data while protecting captains' confidential

	information.
Data qualifiers	<ul style="list-style-type: none"> • How should datasets be used and qualified? • What is the threshold for including data?

Marine transportation	
General feedback	<ul style="list-style-type: none"> • General agreement with the current approach. • Add a clear way to find out when a dataset was last updated.
Draft navigation data products updates	<ul style="list-style-type: none"> • Consider developing a tool that indicates how long vessels stay in anchorage areas (using data on vessel raw speed).
Draft commercial vessel traffic data products (AIS)	<ul style="list-style-type: none"> • Consider developing a tool that shows the seasonality of AIS data and vessel types. Monthly data would be important for the Navy but less so for cargo vessels and tugboats. • Consider a tool that shows current and any future danger zones and how vessel traffic behaves overtime. Could this tool also identify annual trends for any areas that vessels are avoiding? • Develop a tool that combines vessel routes with biological data. This would allow researchers to track biological changes due to navigation activities. This data would ideally go back farther than 2011. • Interest in additional applications (e.g. characterizing sound impacts, informing recreational use). • Add links to the US Army Corps of Engineers Disposal Area Monitoring System (DAMOS) reports to show more information about dredging.

Aquaculture	
General feedback	<ul style="list-style-type: none"> • All data should be downloadable from the Portal. Users should not have to go to other portals or state websites to do this. • Flag caveats and data limitations for users. • Make clear when data is from federal sources or from state sources. • Aquaculture activities in federal waters need to be included.
Tools to build out	<ul style="list-style-type: none"> • Continue to work on data products that allow users to compare ocean datasets with land conservation and use datasets.
Missing data	<ul style="list-style-type: none"> • New York shellfish and scallop data is not present. If it exists on the MARCO Portal, can the two portals be connected? • Some interest in having information about scallops available in this theme (i.e., some shellfish may cross between aquaculture and commercial fishing).

Energy and infrastructure	
General	<ul style="list-style-type: none"> • Update the Portal frequently.

feedback	<ul style="list-style-type: none"> • Post new projects as early as possible (including information on the project’s status and how the public can participate in the process). Consider what the threshold for posting should be. • Include a link to the Federal Register. • Avoid having the same project/data show up multiple times because it exists in multiple datasets. • Ensure legends are showing up clearly and define symbology (e.g. communication, electrical, current). “Identify” text boxes should be uniform for the information they present. • Include proposed alternatives within a project on the Portal, if possible. This may depend on who the Portal’s intended user(s) is. • Consider the best source for different information. Should it come from only federal or state entities or can project proponents submit data?
Communication	<ul style="list-style-type: none"> • The Atlantic Link project is a good example for a case study of how stakeholders can engage on a project. • Provide clear ways for interested parties to stay informed about updates to the theme and receive updates on areas of particular interest to them.
Missing data or data to update	<ul style="list-style-type: none"> • Some proposed cable and pipeline projects in the Gulf of Maine are missing. • Include crossover information with Mid-Atlantic data when possible and avoid screening out data based on regional boundaries. • The Block Island wind farm should be filed under infrastructure rather than planning areas because it’s constructed and complete.

Recreational activities	
General feedback	<ul style="list-style-type: none"> • Does this theme need a different title?
Options for updating the footprint	<ul style="list-style-type: none"> • No easy, uniform answer for this category. • Talk to operators of scuba diving and whale watching businesses. • Consider social media approaches for gathering information on recreational activities. • Connect to Chambers of Commerce; they often maintain lists of fishing tournaments and other events. • Use states to advertise the Portal and its need for recreational data. • Consider developing incentives for people to share their activities and routes. • Engage with industry and trade organizations. Could the RPB and the Portal Working Group convince these groups to make the Portal a go-to source for race information, etc.? • Engage with state tourism bureaus (e.g. https://visitmaine.com/things-to-do/on-the-water). • Engage with the Regatta Network and Sailors for the Sea for information on sailing activities.

Research questions to answer	<ul style="list-style-type: none"> • Link to the MA Coastal Program’s inventory of public access points². • How is recreational use changing on an annual basis? How frequently does this dataset need to be updated? • What information about phenological change on an annual cycle can be derived from recreational fisheries data? What time of year are people fishing, how frequently are they fishing, and what specific areas are being used? • How are ocean recreational activities contributing to local economies? Where is the money going? • What is the spatial extent of these activities? Do more buffers need to be built into these datasets to account for inherent spatial variability (e.g. sailboats do not follow a straight line from Point A to Point B)? • How do use patterns change after an infrastructure project is sited? Can this information help regulatory processes and decision-making?
Managing data flows	<ul style="list-style-type: none"> • Do each of these survey methods yield separate datasets or should the Portal use a combination of these to create datasets?

Updating Marine Life, Habitat, and Components of Ecological Importance Data Products

Emily Shumchenia, contract staff to the Northeast Regional Ocean Council (NROC), presented a summary of Portal updates and activities for (1) marine life, (2) habitat, and (3) Components of Ecological Importance (CEI) data products. The context for the presentation on CEI data and methods was the RPB and public review of the CEI data and methods that took place from February to October 2017. The presentation reviewed 2017 updates to existing marine life and habitat data products, the timeline and summary of the review process for Components of Ecological Importance data and methods, a summary of the types of reviewers and feedback received, key remaining application questions, and initial visualization and presentation options that reflected the feedback received. A detailed summary of this review process, feedback received, and remaining application questions for draft data products and methods related to the CEIs is included in the meeting briefing packet available at http://archive.neoplan.org/wp-content/uploads/2017/11/Nov-RPB-briefing-packet_FINAL.pdf

The staff, MDAT, and Portal Working Group will continue to update marine life and habitat data products and determine options for long-term maintenance in 2018. They will resolve remaining questions and post initial data layers and tools for the CEIs in late 2018.

Overall, participants articulated a need to focus on improving and presenting existing draft CEI data layers, including temporal aspects and documentation, rather than continue to distill into

² <https://mass-eoea.maps.arcgis.com/apps/MapSeries/index.html?appid=35ba833bdc704d49b71a71c511224eb6>.

more generalized products. Feedback on several other issues related to CEI data products covered the following topics and issues:

- Decision-making – There has been significant distillation of products to species groups and metrics that are potentially useful for decision-making.
- Data limitations and appropriate use – The Portal should encourage appropriate use of the data products by providing clear and upfront narratives about the limitations and appropriate uses of each product/metric. Resources on the Portal should explain how to use the data/tools correctly and disclose where the data came from, how it was collected, and the assumptions that went into it. Case studies or a story-mapping approach can support this effort. Participants noted that there will always be disagreement on how the data and data products can and should be used. A participant suggested that the Portal Working Group start tracking if users are viewing the metadata and data caveats already on the Portal.
- Communication tools – Case studies and tutorials should be developed to communicate how the different metrics can and are being used. There is a need for trainings on this topic, and continued evaluation of how the data are being used in different scenarios to feed tutorials, case studies, and data narratives.
- Integration with human use data – Some participants are interested in comparing pre-project and post-project animal distributions and shipping routes. Continue to develop data products that could help answer such questions.
- Temporal data – Participants are particularly interested in data products that will allow users to view data on different temporal scales (e.g. seasonally or monthly) rather than annually aggregated data.
- Audience – Participants continue to seek clarification on who the Portal’s audiences are because the answer will determine what data products appear on the Portal. Resource managers, industry representatives, and the general public may have very different data needs. The RPB continues to invite feedback about users’ data needs and any potential uses of data on the Portal.
- Available data and tools – Maintain as many existing tools and datasets as possible while providing guidance (e.g. case studies) about responsible use. Focus on the presentation of this information rather than looking to further develop new data.
- Downloading – A participant requested that it be made easier to download shapefiles from the Portal to allow for data analysis off the Portal.

Discussion of Components 1-5

Jesse Cleary (Duke) and Emily Shumchenia (NROC) led a discussion of the detailed feedback received during the review process, the key remaining application questions, and initial presentation/visualization options for Components 1-5. The key application questions remaining after the review process (*italics*) and a summary of participant discussion (bullets) are below:

Component 1: Productivity + habitat and oceanographic drivers

What spatially static drivers are missing?

For dynamic features, which/how many temporal windows (e.g. seasonal, annual) are important to include for productivity metrics?

What presentation formats of temporal windows are most useful?

- General agreement that the spatially static habitat and oceanographic drivers were comprehensive. Any data tools related to productivity need to include information on spatial variability.
- Monthly, seasonal, and annual (long-term climatological and/or 5-10-year averages) are all important.
- The Portal should guide users in using the Terrain Ruggedness Index (TRI) map. Other bathymetry-related information such as slope and Bathymetric Position Index (BPI) are also important to capture the full picture.
- The Portal should link to recent NEFSC work on this topic (e.g. Manderson and Hoey).

Component 2: Biodiversity

Which, if any, diversity metrics (Species Richness, Shannon Index, Simpson Index) are redundant, and how could they be used?

How can functional diversity be mapped (long-term)? In the short-term, are there some functional groups the Portal team could develop products for?

- Participants were not concerned with redundancy as long as all datasets and products could be maintained. More information is better because different biodiversity metrics can answer different questions and support different discussions. The Portal should open many doors rather than steering all users down one path.
- Guidance on the use of each metric should be developed. Each metric has strengths and weaknesses.
- Mapping functional diversity is important but a long-term task.
Work to develop data products for cetacean functional groups could be advanced.

Component 3: Abundance

Which of the three abundance metrics (total abundance/biomass, core abundance/biomass area richness, ranked relative abundance) best represent abundance patterns?

Do any of these metrics adequately address the dynamic nature of abundance and areas of long-term aggregation?

What is the best way to display/visualize temporal variability in abundance?

- Total abundance/biomass and core abundance/biomass area richness are the easiest maps to interpret.
- Data representing the finest temporal resolution (monthly, seasonal) and thematic resolution (species, species groups) will be most useful for decision-making.
- Animations are useful tools for visualizing temporal changes in abundance.
- Consider developing tools to examine interannual variability (temporal variability across years).
- Consider integrating recent research on forecasting changes in species distribution due to climate change.

Component 4: Vulnerability

Should the RPB continue building data products for specific stressors while developing products that represent inherent vulnerability?

- Continue building data products for specific stressors. These are important screening tools.
- Build out more data products relevant to stressors related to offshore wind development (e.g. sound, habitat impacts from jet plowing, behavior patterns)
- Consider that current month groupings (e.g. months assigned to “summer”) are becoming inaccurate with climate change.
- Some of these layers may be more useful for the screening or planning phases of a project, but not for detailed analysis.

Component 5: Rarity

How can the RPB better spatially characterize rare species and habitats?

What other sources of non-spatial information could be used to fill data gaps for rare species and habitats?

- This Component should include rare species beyond those protected under the Endangered Species Act (ESA).
- This Component is important for tracking changes in distribution due to climate change so decision-makers can evaluate project alternatives.
- Incorporate more information about critical habitat (e.g. for Atlantic salmon).

Other comments

How can these data layers be made accessible for a diversity of potential uses and applications?

What additional Portal tools could be developed to facilitate data access and understanding?

- Avoid redundancy; too much information is overwhelming. Provide a few case studies or “trainings” to walk users through an application of the tool. The Marine Cadastre story mapping is a good model. This approach can also reduce incidents of inappropriate use of the data or tools and foster responsible use of the Portal.
- The RPB needs to provide more clarity on a few key questions: Who is the consumer of these data products? What indices do regulatory entities use? What are the base assumptions behind these products? Which tools/indices are the right ones for most uses?
- It is incumbent on regulators to identify which products are the most important for decision-making. Interested stakeholders should not be the ones who have to decide which index to use. The Portal should provide a foundation for users to start from.
- The Portal was intended to enable public discussion and support informed decision-making. The Portal should strive for information efficiency: decide which metrics are already in use and what tools and data decision-makers need.
- The Portal should not try to be a one-stop shop for all data and all review but it can be a key entry point and show users its value-add through story-mapping using the summary products.
- All decision-making using the Portal should be transparent so the public knows what information was used and how it was used to make a decision.



- Consider the proper entry point to these Components. The Portal could provide guidance on which Component(s) to start with. Should users start with Component 4 and use it to guide their review of other Components? Many users may come to the Portal concerned about one stressor, rather than a dataset, and miss some key impacts due to this approach.
- There is value in incorporating unpublished data (e.g., not associated with a scientific journal article) on the Portal if published methodologies were used to generate the data products.

WORKSHOP PARTICIPANTS

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