New England Fishery Management Council
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DRAFT MEETING SUMMARY

Habitat Plan Development Team

January 9, 2020
10:00 a.m. - 3:30 p.m.

Agenda

The PDT discussed offshore wind science and monitoring, the development of habitat policy documents, Fishing Effects maps/metadata, annual review of Council research priorities, and an update on the Northeast Regional Habitat Assessment.

Meeting attendance

PDT members included Michelle Bachman (Chair), Peter Auster (remote) Jessica Coakley, Geret DePiper (remote), Rachel Feeney, Marianne Ferguson, Kathryn Ford (remote), Julia Livermore (remote), Dave Packer (remote), David Stevenson, Page Valentine (remote) and Alison Verkade. Emily Shumchenia attended and is working with the PDT on the Fishing Effects model outputs. Drew Minkiewicz and Crista Bank also attended. Heather Coleman, Julia Beaty, Tasha O'Hara, and Jeff Kaelin listened to portions of the meeting via webinar.

Offshore wind science and monitoring

The PDT discussed BOEM guidance on benthic habitat surveys and fisheries surveys. Clarifying our thoughts on these guidance documents, and related issues, will be useful as the Council begins to engage with the Responsible Offshore Science Alliance (presumably later this year).

GARFO staff have been working on an evaluation of the benthic survey guidelines; currently the developers are mapping geoforms for engineering and hazard identification purposes, but fish habitat features at a spatial scale of less than ½ meter are not being collected (BOEM's G&G guidelines require mapping hazards less than ½ meter). Developers are collecting side scan plus multibeam bathymetry and backscatter but are not doing anything with backscatter data. The guidance recommends CMECS (Coastal and Marine Ecological Classification Standard) classification, but this guidance alone seems to be insufficient for classifying fish habitats, and modifiers to basic CMECS delineations appear to be required in this case. For example, GARFO has made suggestions on more detailed sediment classifications. One challenge relates to getting developers to process the acoustic data at a sufficient resolution. NMFS staff noted that BOEM has been supportive of efforts to provide guidance so that developers can gather sufficient data

for EFH assessment. Note that NMFS guidance document on benthic habitat surveys is separate from BOEM guidance and should be ready by the end of January.

As to specific details:

- Mapping sand/sand ridges but not hard habitat at a fine scale.
- Exploring side scan data use for mapping habitats.
- Images/video are being acquired and reviewed but not integrated into the CMECS characterization.
- Possibly suggest adaptive sampling in areas of high complexity, sampling in areas adjacent to proposed cable sites.
- Acoustic and other sampling is currently simultaneous; might gather better information if the types of data were done sequentially.

In addition to the data types collected, the PDT also wondered about the sufficiency of surveys for developing habitat maps. It seems that in some cases, the entire lease area is surveyed at some resolution. In other instances, surveys are focused on the turbine locations. Will follow up on this issue to understand more. Related to this are issues of scale – how well are the efforts capturing habitats that are patchy at various spatial scales?

While NMFS has been involved in drafting specific habitat survey advice to augment BOEM's guidelines, MA and RI have not recommended guideline revisions to BOEM or worked directly with NMFS on this issue. MA has talked to developers directly about cable laying issues. MA, RI, and BOEM partnered on an EFP, and one area is habitat studies; two interest areas were classification and data distribution. On the data distribution front, MA had received imagery/side scan, but these data have not been shared with NOAA. There appears to be a need to standardize data distribution. On this note, Emily Shumchenia commented that the data portal teams have begun to discuss the idea of using the data portal as a centralized repository for developer data.

What should Council's role be here? In the short run, amplify NMFS' concerns to BOEM (through a letter)? This could potentially be useful but need to consider timing. The Councils are responsible for designating EFH so amplifying NMFS' requests for information to better understand effects on EFH would be within the Council's purview. On the other hand, NMFS/developer discussions have been very collaborative to this point and it may make more sense at this time to let these discussions continue to play out. NMFS staff noted that BOEM doesn't need to sanction NMFS advice to the developers. Medium to longer term, the Council should work on these types of issues through ROSA, but the challenge is that there is data collection already happening and ongoing that will be done before ROSA is at the point of providing guidance. Recognize that adjusting survey plans (with survey companies/contractors) requires sufficient time and effort, so worth having these conversations early. Crista Bank from Vineyard Wind noted that in general the developers want to get this type of feedback, want their data to be useful, and appreciate getting feedback as early as possible.

In terms of the benthic guidelines, over the short term, the best path forward seems to be to tell the Committee and Advisors that these issues are being discussed, that NMFS is working on guidance on benthic surveys, and timing is important because survey work is ongoing. We could consider a more detailed explanation of NMFS guidance later once it is finalized, and at that

stage Council could perhaps endorse it. The overall point is that our overarching concern is being able to map data from benthic assessments to our EFH designations.

The PDT also discussed cumulative effects concerns: as we look at the eventual build out of thousands of turbines, what about aggregating and halo effects of towers? Both seafloor and water column structures will aggregate certain species, and these animals will venture into surrounding habitat and have habitat/community effects. What are those effects, magnitude of effects? What are the opportunities to learn over time about these effects, and possibly adjust sampling strategy? Also, what about island effect that might promote spread of invasive species (which could affect economically important species and their EFH)? Knowing the distribution of natural hardbottom seafloor habitats will be important for understanding the effects of new, artificial hard bottom habitats. Ideally, where should turbines be located with respect to natural hard bottom? Need to do more than raise the issue – we can estimate impacts in a reasonable way, now, based on existing science and making inferences/extrapolations to scale. For example, black sea bass attracted to structure, might increase in density in certain locations, and they eat fish.

In contrast to the habitat guidelines, the fisheries survey guidelines are barely being discussed. These issues are very challenging (likely more complex than habitat sampling), but the Council needs to be aware of them. As for habitat data collection, sampling is already being done by the developers. Need to not only show change in the areas but be able to peg changes to different drivers (wind farms, climate, fishing effects). Degree of resolution needs to be sufficient for attributing the likely source of any effects. The PDT wondered if we should make general recommendations about statistical power/effect size? Helpful to be as specific as possible.

There are two related questions. (1) How can impacts to NMFS surveys be mitigated? (2) How can you sample fishery resources in the area in order to determine the effect of wind farms? Ideally you want quality monitoring capable of detecting the effects that we want to measure, integrated across developers/projects.

Should consider European literature to the extent that it is relevant. Noted DOE-NREL literature review. Will follow up on scope of this review with DOE. Are Europeans looking at cumulative effects? Perhaps through a modeling framework for whales/seals? Caution with this is that the European experience has used available resources to look at general questions but doesn't seem they have invested widely to look at long term cumulative effects. And don't have projects proposed at the scale we do. Doesn't seem they have baseline information for most projects. Worth reviewing Belgian 10-year monitoring report.

How to pass these discussions through the Council? ROSA will be a place to consolidate these concerns; at the moment we are wandering in the woods. One option is that via the habitat PDT (working with others as needed), the Council could provide detailed guidance on what monitoring should look like. This is perhaps best done through ROSA and in coordination with a broad array of interested groups so that developers are responding to a single set of guidelines. Another (not mutually exclusive) approach is to flag these issues for Council stakeholders so that they can better participate in the process and be more informed as they advocate for better science. Even if the desire of the Council is to funnel guidance through ROSA, talking internally

now about our perspectives on fisheries surveys will support our engagement in the ROSA process. The PDT noted that better data up front are in everyone's interest as this reduces the chance that a step in the NEPA/permitting process will stall due to lack of information. In the short term, there is an opportunity to review the VW monitoring plan and provide feedback directly to them. In addition, there will be opportunities to comment on monitoring aspects of each COP via the NEPA process. Need to get Committee/Council endorsement for this work.

Update on development of habitat policy documents

The Council recommended developing policy documents related to the habitat effects of offshore floating wind, submarine cables, and aquaculture. The PDT considered draft outlines for background documents that would present high-level information on these issues for Council members (i.e. a level of familiarity that would allow them to feel comfortable revising and approving a policy on best management practices). These documents will also give Council stakeholders the knowledge to better engage in policy development. The MAFMC documents which these outlines were based on range from 9-20 pages per topic. Seems important to give people links/tools to learn more while keeping the documents concise. Primary question – what are the effects of these activities on habitat, and thus indirect effects on species (as well more directly on managed species)?

Who is the end user? GARFO HCD as they do EFH consults, and also internal as the Council writes comment letters on specific issues. The policies allow the MAFMC to do a streamlined comment letter development process. Another way in which policies could be used would be to inform our recommendations about what should be included in a NEPA document related to a project.

Is there a potential for a larger role in these issues, beyond comments on projects? Not sure what the interest might be on the part of the Council, but it seems that having these policy documents is first step towards that.

PDT looked at an example summary table of species and habitat categories and the potential for adverse effects from the activity associated with each (from MAFMC document). Agreed that this was useful.

Was there discussion of incorporating impacts to the human community? Main focus of MAFMC documents/policies was on habitat effects, but some human community (specifically fishing community) impacts are obvious and should at least be mentioned in these background documents. For example, laying cable affects benthic habitats directly, but there are gear interaction concerns that could be acknowledged. Human community effects could certainly be further developed if many of the best management practices (BMPs) being suggested by the Committee are oriented towards human community impacts. If we do go down this road, would be helpful to separate out habitat/human community effects and related BMPs.

Overall strategy for completion? Do background documents sequentially or in parallel? Use a contractor or attempt within the PDT? If using a contractor, need to have enough detail in the outlines to ensure that these documents cover the right topics. Timeline: target completing background documents first half of 2020, then work on policies in the second half of the year.

- Should review NOAA Tech Memo on non-fishing activities and impacts, SAFMC aquaculture document.
- Should identify expert reviewers beyond the PDT.
- Next steps – Michelle will connect with volunteers, look at documents noted above, and do initial population of sections. See where we are in mid-March and reassess progress.
- Peter, Jessica – can review documents
- Geret – can help with interactions with other coastal/marine activities sections
- Julia – can help with aquaculture document, especially habitat impacts sections
- Alison – can help with aquaculture and cables documents

Fishing Effects maps/metadata

The PDT reviewed the GIS symbology for the Fishing Effects model products, as well as the metadata documents. Members were comfortable with the symbology of the sediment and percent disturbance products. There was a discussion about highlighting the sediment data density product as a companion piece to the sediment type products. Also showing some key depth contours for reference. A theme map could be a good way to roll out the products and highlight the range of data sets.

There was more discussion of the intrinsic habitat vulnerability product; the general feeling was that providing two estimates (based on median and 95%ile of effort per gear type) was more information than needed for the portal and could be confusing. Also the value ranges of the data bins for these products were very small; there was discussion about whether we could be overemphasizing differences between grids by dividing the data into 10 bins. Michelle will follow up with the contractors at APU who worked on the modeling with us to get their view on the differences in outputs that are meaningful. There was also some discussion about showing the actual percentage values for each bin, vs. depicting a high low gradient. An intermediate approach was decided on to show the values as a range, with the upper bound of percent disturbance in the layer title. This will allow for quick comparisons across gear types.

Another follow up item related to the FE model is how we plan to do updates.

Annual review of Council research priorities

The PDT discussed each of the Council research priorities related to habitat or offshore wind and made a series of minor edits and identified ongoing, related work. Michelle will follow up with Scott Gallagher at WHOI about an additional report from them and will continue a dialog with Heather Coleman at the Deep-Sea Coral Research and Technology Program about how to provide ideas and feedback for the 2022-2024 northeast funding opportunity. For DSCRTP, 2022 is a ramp up year, with most of the research/survey work occurring in 2023-2024. The DSCRTP is very open to ideas from the Councils.

A general comment was that we should highlight the data portals as means for disseminating results of studies that relate to the Council's priorities. The following table summarizes the discussion for individual priorities. These will be integrated with the master priorities spreadsheet in the next few weeks.

Table 1. Habitat PDT Comments on Council Research Priorities

Number	Short title	Notes/edits
4	Red crab assessment	Cross reference priority 69 (possibly other coral-related priorities). Coral-focused surveys of the canyons, seamounts, and slope generally observe red crabs.
69	Existence value DSC	DSCRTP is funding coming in 2022 to address this area. The NEFSC is continuing data analyses of previous years surveys, characterizing habitats and contributing to the NOAA National Database for DSC. Funds for work outside the initiative have come from DSCRTP small projects & data analysis funding and from NEFSC & partnerships, for example with ROPOS. PDT noted that existence value assessed via social science surveys (willingness to pay). Outside NOAA, there have been a couple of European papers on valuation of deep-sea coral habitats (possibly existence value, but also more practical valuation related to fisheries - though these have mainly dealt with *Lophelia* habitats). Redfish were included in some of these studies and are also of interest for the NEFMC. The trade-offs with fishing could potentially be approached with existing data. As noted under item 4, potential to use images from canyons for red crab assessment or to estimate red crab habitat use.
70	Gear seabed contact and gear dimensions	Need to edit notes; Refinements would allow you to discriminate between effects of different types of trawls – recent European paper on this topic.
71	Evaluate current and potential HMAs/HAPCs	WHOI project on Northern Edge Possible work in GSC HMA (EFP) - what habitats are currently being dredged Potential HabCam/SMAST work? WGOM closure work – follow up with Peter Auster
72	Habitat recovery from fishing gear impacts	Check wording on description. Re corals, the NEFSC can potentially document trawling impacts seen from the existing images (e.g., on Lindenkohl Knoll in the Gulf of Maine). Some of the data from Dave Packer & Peter Auster's work (with DSCRTP funding) could serve as baselines for looking at this in areas that are now going to be protected under the coral amendment. Long-term chronic effects on fish productivity might be more challenging.

		See recent meta-analysis paper
73	Methods to reduce scallop and clam dredge gear effects	Aware of recent (perhaps planned?) N-Viro Scallop Dredge work; will follow up
74	Managed species and relationship to habitat features	Reference NHRA modeling work (planned), and related projects.
75	Effects of fixed gear on seabed	Suggest making link to Deep-Sea Corals in rationale
76	Refine shear stress estimates	No PDT discussion
77	Coral habitat suitability and functional value	June 2019 Northern Neighbors transboundary coral cruise (report in prep); Mid- and South Atlantic BOEM/NOAA/USGS study: https://opendata.boem.gov/BOEM-ESP-Ongoing-Study-Profiles-2019-FYQ2/BOEM-ESP-AT-17-06.pdf. DSCRTP is funding coming in 2022 to address this area. Data analyses and specimen studies from previous surveys continue to characterize habitats and contribute to the National Database. Future modeling work requires NOS expertise but could be arranged. Some of this work could be started with existing information.
78	Benthic sampling in GOM and SNE	Change priority to urgent (especially in context of wind development, also in context of EFH/HMA review) Not in identified regions but in NY Bight: BOEM-funded NOAA NCCOS project: Comprehensive Seafloor Substrate Mapping and Model Validation in the New York Bight; final report https://espis.boem.gov/final%20reports/BOEM_2019-069.pdf Mention fishery needs as well as the desire to focus on opportunities with BOEM; collect data to allow habitat maps to be created from the data
87	Industry-based oceanographic data collection	RODA industry data trust project with John Manderson
88	Species response to climate change	NRHA linkage; cross ref with 74 – very broad
91	Habitat suitability modeling	NHRA; cross ref with 74 – more specific
92	Impacts of OSW on scallop production	SMAST-WHOI project awarded May 2019 under 2019-2020 scallop RSA program: Assessing Potential Impacts of Offshore Wind Facilities on Regional Sea Scallop Larva and Early Juvenile

		Transport; BOEM awarded hydrodynamics study to DHI (Dec 2019?) – determining which species to model but scallops are a candidate.
93	Effects of noise on behavior and reproductive success	Add note about relevance to cod especially on Cox Ledge Relevant work but not NEFMC managed species - Behavioral effects of sound sources from offshore renewable energy construction on the black sea bass (*Centropristis striata*) and longfin inshore squid *(Doryteuthis pealeii*) (NSL #AT-17-02); https://opendata.boem.gov/BOEM-ESP-Ongoing-Study-Profiles-2019-FYQ3/BOEM-ESP-AT-17-02.PDF. Related publication: Jones, I. T., J. A. Stanley and T. A. Mooney (2020). "Impulsive pile driving noise elicits alarm responses in squid (*Doryteuthis pealeii*)." Marine Pollution Bulletin: 110792. Foundational study on sound propagation: https://opendata.boem.gov/BOEM-ESP-Ongoing-Study-Profiles-2019-FYQ3/BOEM-ESP-AT-16-05.PDF.
94	Fishability of wind farms	RODA project? Other proposed work?
95	Wind farm effects on fishery independent surveys	NEFSC working group on this issue; ROSA will work on this issue?
96	FMP changes to mitigate effects of OSW	Relevant but not NEFMC managed fishery - Understanding Potential Economic Impacts to Surfclam/Ocean Quahog Commercial Fishing from Offshore Wind Energy Facility Construction and Operation (AT-19-03); https://opendata.boem.gov/BOEM-ESP-Ongoing-Study-Profiles-2019-FYQ4/BOEM-ESP-AT-19-03.pdf. Not clear what research questions might be here – seems more reactive than proactive Construction related effects – short term mitigation approaches Add human dimensions category Example – black sea bass allocation changes; habitat loss

Update on Northeast Regional Habitat Assessment

Jessica and Michelle provided a short update on the Northeast Regional Habitat Assessment. Some PDT members are team members, but it seems valuable to keep others in the loop on this project.

The meeting adjourned at roughly 3:30 pm.