



New England Fishery Management Council

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MEETING SUMMARY

Habitat Committee

Fairfield Inn and Suites, New Bedford, MA

April 26, 2018

The Habitat Committee met to discuss the alternatives development in the clam framework and hear from developers/develop comments on offshore renewable energy development.

MEETING ATTENDANCE: Doug Grout (Chair), Eric Reid (Vice Chair), Dr. Matthew McKenzie, Melissa Smith, Libby Etrie, Vincent Balzano, Dr. Peter deFur, Terry Stockwell, Peter Hughes, Terry Alexander, Lou Chiarella, Scott Olszewski, David Borden; John Quinn (Council chair); Michelle Bachman, Dr. Rachel Feeney (NEFMC staff); Jessica Coakley (MAFMC staff); Doug Potts, Dr. David Stevenson (NMFS GARFO staff); Mitch McDonald (NOAA General Counsel); Chris McGuire (Habitat AP chair). In addition, approximately 25 members of the public attended including Habitat AP members Ron Smolowitz, John Williamson, Dave Wallace, and Gib Brogan, as well as Melanie Griffin (Massachusetts Division of Marine Fisheries designee on scallops, skates, and groundfish).

KEY OUTCOMES:

- Related to spatial management scenarios for clam dredge exemption, the Committee asked the Habitat Plan Development Team (PDT) to:
 - Analyze the approach recommended by the clam industry via the April 3 Habitat Advisory Panel meeting, which would close the northeastern and southeastern parts of the Great South Channel HMA to clam dredges using the coordinates specified on page 7 of the AP meeting summary and leave the remainder of the HMA accessible to the clam dredge fishery.
 - Compare habitat complexity and clam fishery revenues amongst four equal-area quadrants drawn by the PDT. The intent was that this analysis would serve as a starting point for discussion of additional alternatives.
 - Develop an alternative for areas to be closed to clam dredging based on clusters of cobble and boulder-dominated habitats identified during the Omnibus EFH Amendment 2 (OHA2) process. These areas were highlighted in a letter from the Massachusetts Fishermen's Mobile Gear Alliance (MFMGA).
- The Committee asked the PDT to analyze a time/area rotation scheme for clam dredging in the Great South Channel HMA.

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- The Committee asked the PDT to evaluate a proposal to allow mussel dredging to continue in the northwest quadrant of the Great South Channel HMA only.
- The Committee recommended that the Council adopt the Mid-Atlantic Fishery Management Council's policies on offshore oil and gas and renewable energy development.
- The Committee edited and approved by consensus two letters to the Bureau of Ocean Energy Management. One was related to the Vineyard Wind project notice of intent to prepare an Environmental Impact Statement, and the second discussed BOEM's proposed "Path Forward" for identification of additional wind energy lease areas.
- The Committee received updates from four offshore wind developers as well as the developer of a cable to transport Canadian hydropower-generated electricity to Massachusetts.

AGENDA ITEM #1: CLAM DREDGE FRAMEWORK

Michelle Bachman and Rachel Feeney presented information developed by the PDT to support identification of alternatives in the clam framework. This information was included in a memo from the PDT to the Committee and summarized on slides.

Eric Reid asked about the change between 2014 and 2015 in terms of percent revenue to owner, where the trend was a median value of over 60% during 2014 to a median of about 20% during 2015 and 2016. While an answer was not available during the meeting, follow up with Dr. DePiper on the PDT indicated that since there is a relatively small number of owners in the region, even small changes can affect the distribution of percentages. Starting in 2015, there were a few new ownership groups that derived a small percentage of their revenue from the area, bringing down the median value to a lower percentage. In addition, there were some ownership groups that appear to have shifted much of their revenue generation out of the HMA, such that they still showed up in the pool of relevant owners, but at a lower percent revenue. Mr. Reid also asked about the availability of information on economic multipliers in the fishery. Dr. Feeney responded that there is a Science Center for Marine Fisheries report on the subject, but she had not yet reviewed it.

Lou Chiarella asked about the correspondence between fishing effort and habitat types in the Habitat Management Area (HMA). I'm looking at the maps that were produced and I'm trying to make sure I understand the overlap of what's occurring here. If you look at the sediment stability map (Map 3 in the PDT memo), the dark blue areas are considered to be stable, and thereby able to support epifaunal growth on them. That's borne out in map 4 where it appears that long lived epifaunal presence goes down the finger of blue in middle of the HMA. Thus, it seems that the stable areas show long lived epifauna and are also the areas being fished. Ms. Bachman confirmed that this understanding was accurate (see 3/16 PDT summary and 3/24 PDT memo). The vessel polls from the Powell et al. 2016 report show that the depressions are fished and the very shallow shoals are not. Given the correspondence between stable gravel sediments and fishing effort, the PDT felt unable to recommend specific alternatives to the committee. In other words, the PDT was not able to identify large contiguous areas that were fished but where complex habitats vulnerable to fishing were absent.

Matthew McKenzie asked if the fishery is working in cod spawning habitats (as identified by DeCelles et al. 2017). Ms. Bachman responded that on the western side of the HMA (near Old South Shoal) there appears to be an overlap. The spawning areas on the eastern side of the HMA overlap the alternative discussed at the advisory panel meeting, which suggests closing deeper waters along the eastern edge of the HMA to clam dredging, as clams do not occur at commercial densities below a certain depth.

Eric Reid commented that it seems like the fishery is coexisting pretty well with what's there. Ms. Bachman responded that yes, that's fair. The fishery has worked this area for years, including during the timeframe over which the habitat data were collected. Geologic features would be expected to persist even with the occurrence of fishing. We don't know what the biological features in particular might look like in the absence of fishing, and how a reduction in fishing might make the area more functional for managed species.

Peter deFur asked if there is an overlay between the habitat characteristics and fishing. I'm seeing some differences -- they target sandy areas in the first place. There seems to be a fine line between the habitat characteristics and fishing. Ms. Bachman responded that maps overlaying fishing effort and habitat type would be helpful and will be completed for the next meeting. We don't have data to know how clam dredge fishermen avoid or target certain substrates on scales of meters, what we have is a general sense of habitat characteristics and fishing effort at a scale of kilometers. For example, VMS polls are taken at long intervals relative to typical tow durations. The tow tracks from Powell et al. 2016 are probably more useful for understanding the distribution of fishing. The fleet does appear to avoid boulder habitats in the northeast corner and along the eastern edge of the HMA, but we don't know at the scale of the tow if vessels are avoiding or targeting certain habitat types.

Peter Hughes asked if there is observer information. Ms. Bachman and Ms. Coakley both responded that coverage is very low per the standardized bycatch reporting methodology. Toni Chute at the Northeast Fishery Science Center summarized bycatch information and provided this information to the PDT following the meeting. From her report:

"There were 15 observed ocean quahog trips (out of a total of 957 trips, so 1.6% of trips were observed) and 28 observed surfclam trips (out of a total of 2414, so 1.2% percent of trips were observed) in 2016. All species or species categories caught in the dredge, brought on board, and noted and weighed by observers during normal dredging operations are listed in [the tables]. For the 2016 observed hauls, the protocol for the observers was to stand along the conveyor belt after the catch had passed over the shaker table and move non-target species from the belt into baskets for weight. The dominant bycatch species include sea scallops, skates, monkfish, stargazers, crabs and snails. The surfclam fishery also discards ocean quahogs, and the ocean quahog fishery discards surfclams." The table indicated that surfclams comprised 97.5% of total catch during surfclam trips, with other species comprising less than 1% each of the catch.

Dr. McKenzie observed that hours fished in Southern New England roughly doubled starting after 2011 (SAW 61 Assessment Report, page 100). Do our analyses not capture the earlier period? Is the area more recently fished than we think? Dr. Feeney responded that we don't have earlier information today (however, see Figures 13-18 starting on page 103 of the assessment

report that show fishing on Nantucket Shoals from 1981 onward). Dr. McKenzie further observed that landings per unit effort have declined recently in Southern New England (see Figure 12 on page 102).

Chris McGuire summarized the Advisory Panel discussion from April 3 related to clam dredge exemptions.

Dr. McKenzie asked if there was any discussion of cod bycatch in the fishery. Mr. McGuire said that there was not. Ms. Coakley indicated that available data (for example the bycatch analysis referenced above) suggest that there is very little finfish bycatch. The dredges move slowly (~2.5 knots), and most of the fish move out of the way of the dredge.

Chris McGuire summarized the Advisory Panel discussion from April 3 related to mussel dredge exemptions.

Terry Stockwell was concerned about including changes to the scope of the document. If the same exemption areas could apply to mussels, that would be acceptable as a sub-option.

Audience member Dominic Santoro (mussel harvester) commented that he was out there last spring and summer. There are harvestable mussel beds in the same areas that the clam fishery is seeking an exemption for.

Terry Alexander confirmed that at present, mussel dredging is prohibited, given the designation of the Great South Channel HMA.

NMFS staff provided some general guidance in terms of how they are thinking about these exemption areas. Mr. Chiarella explained that the GSC HMA was part of the Council's overall strategy for minimizing the adverse effects of fishing on EFH. The Council set a one-year exemption to determine if there were areas that could be fished that would not be vulnerable. He referenced NMFS response to comment 35 from the final rule ("Council working to identify areas ...that wouldn't compromise the benefits, etc.). What we are seeing right now is that the fishing is occurring in the most vulnerable areas of the HMA. That poses a problem.

Mr. Stockwell asked if NMFS is looking for the Council to have alternatives for compensation. Mr. Chiarella responded that is a possibility depending on the extent of the impact that would be allowed to occur in the HMA through these exemptions. If impacts were determined to be more than minimal, the council would need to minimize or mitigate. But perhaps the framework is not the appropriate vehicle. Mr. Stockwell asked when GARFO might be able to provide specific guidance on this issue. Mr. Chiarella said that once we have a sense for the alternatives we can address the issue. Looking at mitigation measures might be beyond the scope of the framework.

Mitch McDonald advised that while a framework could be used for such a purpose, this framework has been designed to look at areas within the Great South Channel HMA. Looking at mitigation measures outside the area would delay the framework. If that's the route the Council decides to take, notice should be provided to the broader industry about the change in scope and timing.

Mr. Stockwell said he was perceiving agency concerns around the AP recommendation, i.e. that mitigation might be required. Libby Etrie agreed, expressing concern that if there is to be any mitigation [outside the HMA] that there hasn't been any notice to other fisheries. There are fisheries that need to be part of the discussion. She noted that she didn't believe the Committee/Council had contemplated the need for mitigation in this action.

Mr. Reid commented that the industry has come forward with an option [to close specific sections and have a dredge exemption in the remainder of the HMA]. The PDT memo says that the features persist in the presence of fishing. How do you reconcile? Things have coexisted reasonably well.

Mr. Chiarella commented that the Council already made the decision to designate the HMA and close it to mobile bottom-tending gears as a measure to minimize the adverse effects of fishing on EFH. The question is whether the activity occurring there will maintain the integrity of the HMA.

Mr. Alexander commented that he doesn't want to put forward an alternative that isn't approvable, but he doesn't see their (clam fishery's) impact. How many alternatives would we need? He asked if it would be possible to make an alternative where the areas where most of the epifauna occur are closed to fishing.

The chair commented that was the decision for today – what alternatives do we want to have developed. It would be prudent to not have a plethora of alternatives to be timely about framework development. I hope NMFS would give advice on alternatives that are not approvable.

Dr. McKenzie commented that we didn't talk about mitigation in OHA2. We took 12 years to develop that action, including this area. He expressed concerns about evaluating mitigation options. There are a lot of people potentially impacted, and the discussion could blow up into an amendment. It would be a big deal to change the boundaries of the HMA.

Mr. Stockwell asked if the PDT has the data to develop alternatives, expressing concern about the timeline. Ms. Bachman commented that while there's always more information that could be gathered, we have a fair amount to make reasonable inferences. We may be able to get VMS data as well. Today, we are looking for some sense from the Committee about where on the spectrum of tradeoffs we should be working.

Mr. Hughes asked about a rotational management approach. Ms. Bachman responded that it should be the MAFMC's job to develop rotational closures in this fishery. Given what we understand about impacts and recovery rates from impact, the rotational intervals would need to be 5+ years, which doesn't seem practical.

Vincent Balzano asked if more fine-scale information would help us to allow the fishery to continue working in the area as they are now. Ms. Bachman responded that it could help to provide some clarity, but it is unlikely that we would get additional data in time to inform the

framework on its current schedule. Data we have is at the scale of a few kilometers between drop camera image stations or clam survey stations, and as noted above the distribution of fishing effort is also available at these scales. A panel of the SSC did review two reports on the clam survey, and one of their responses was that fine scale habitat data would be ideal (you would need corresponding fine scale fishing effort data to match). He followed up to ask if such fine scale information could be gathered through an experimental fishery. Mr. McDonald said yes, an experimental fishery would legally be an option, but not sure if that would help here. Mr. Balzano followed up that he can't tell from the charts what type of bottom these gears fish on. The edge between sand and hard bottom is often minute. Looking for a solution here – we cannot assess the situation given the data we have available.

Mr. Chiarella asked how small areas would be managed. While it's possible that the fishery works around discrete patches of complex habitat, even if we knew what that looked like, we can't manage on scales that are too fine.

Mr. Alexander asked if having plots of tows would be helpful, understanding that management areas can't be too small. Mr. Hughes noted that the industry has brought data forward. (As previously noted, there are vessel tracks/polls in the database developed in 2016 by Dr. Eric Powell).

The chair asked for public input and a summary of the MFMGA letter.

Audience member Ron Smolowitz asked about the cod data, assuming the primary purpose of the area was to protect cod habitats. Ms. Bachman agreed that it was – he asked about the length of fish represented on the maps provided. Age 0 cod were up to 10 cm in spring and up to 13 cm in fall, and age 0/1 (not yet 2 years old) were up to 24 cm in the fall and 34 cm in the spring.

John Verissimo (Executive Director MFMGA) commented that it is hard to know what's going on in specific areas without more research. They are suggesting a VMS unit that polls more frequently to alleviate concerns about where exactly these boats go. Mr. Grout confirmed that their suggestion was to use a different VMS that pings more frequently. Mr. Verissimo agreed. Mr. Alexander asked about the chart at the end of their letter and whether the VMS could ping every minute. Mr. Verissimo confirmed the ping rate and noted that the bottom is dynamic and changes erratically. These devices are linked in with the vessel's hydraulics such that polls can be binned into fishing/non-fishing and would provide additional information for monitoring. He responded that vessels would consider using this unit alongside their NOAA-approved units.

Mr. Balzano asked if these units could be installed now in addition to existing VMS. Similarly, Melissa Smith commented that Maine is using these units for research in the sea urchin fishery, specifically to understand spatial patterns in effort and urchin distribution, as well as what drives fishing choices. That program uses a 2-minute ping rate which provides very fine scale data, which the company has been willing to provide. She asked if there is anything stopping the clam vessels from installing these now and suggested it would be helpful in this case to start gathering data. Mr. Verissimo responded that nothing was stopping them. It's affordable. Could be installed in a day.

Dr. deFur asked if this approach was a viable alternative.

Mr. Olszewski asked if the line in the northwest quadrant of the complex habitat map was due to a lack of sampling. Ms. Bachman responded that while there are some abrupt breaks in the habitat related to the shapes of the shoals, there are also areas that are not well sampled where complex habitats are probably not being mapped.

Dr. McKenzie expressed concern about managing at such fine scales.

1. Motion: Stockwell/Reid.

Task the PDT to analyze the Advisory Panel consensus statement as an alternative. This motion refers to the second consensus statement from page 7 of the April 3, 2018 summary.

Dr. McKenzie agreed to support the motion for analysis, but NMFS has been clear that they have concerns. Ms. Etrie agreed, noting she wanted alternatives that have minimal need for mitigation. Dr. deFur asked if the PDT's analysis would consider approvability.

Ms. Bachman responded that the basic analysis of these alternatives would include revenue inside any closure area over time, for comparison with totals for the HMA, plus number of permits and owners with activity overlapping the area. For habitat attributes, we have point-based data of various types, so there could be a proportion or likelihood analysis of encountering complex habitats inside vs. outside the area. We can also generate absolute metrics such as area size and total area of cobble/boulder habitat encompassed. The PDT will try to discuss approvability of alternatives.

Audience member Ron Smolowitz commented that he suggested adding the area along the eastern edge – it should be wider as defined by boulder habitat, without cutting into where the fishery may be working. I also suggested that industry identify an area of small clams as a 3-year closure. I want to emphasize something about this area – western side of channel different from channel different from eastern side of the channel. The area is important because of the water column – it's like a fish aggregating device. Need a closure for undersized clams that would open at a time certain. NMFS will not issue an exempted fishing permit for a habitat closure.

Audience member David Wallace expressed support for the motion, and emphasized that we are running out of time quickly and need to stay focused.

Motion #1 carried 11/0/0.

2. Motion: Stockwell/Alexander

Task the PDT to analyze the rate of encounter of complex habitat and the relative magnitude of surfclam revenues quadrant by quadrant. Quadrants are shown in April 24, 2018 PDT memo, Map 5.

Rationale: to provide the Committee with additional information to balance impacts to habitat/fishery. Additional analysis will aid our understanding.

Ms. Bachman commented that the PDT can compare areas using various habitat metrics. The revenue analysis for these quadrants has already been completed.

Motion #2 carried 10/1/0.

Mr. Alexander asked if it would be possible to craft an alternative based on the areas highlighted in the map provided in the MFMGA letter.

3. Motion: Alexander/Balzano

Task the PDT to develop an alternative based on closure of the cobble and boulder dominated areas identified in April 25, 2018 correspondence from Massachusetts Fishermen's Mobile Gear Alliance.

Ms. Bachman clarified that the letter made specific mention of 'cobble-boulder dominated habitats'.

Mr. Stockwell was opposed, only because the analysis will be nested within the prior motion's analysis. Not to take away from the value of the proposals, but we should wait until we have more information.

Mr. Alexander agreed that the prior motion would show similar results but expressed concerns that it would be more difficult to identify additional areas (e.g. subsets of the quadrants) as the next meeting – better to get some analysis now. Ms. Bachman commented that if there was any sense that the committee wanted to subdivide the quadrants in specific ways it would be the most helpful to get suggestions on the table now, vs. waiting. While we can visually inspect the data on the fly, the PDT would like to be quantitative about evaluating these sub-areas whenever possible.

Mr. Chiarella asked for clarification about the areas of focus of the motion – Mr. Alexander said the blue areas on the chart, but it was hard to tell where these are since there was no latitude and longitude. Mr. Bachman said she felt she had enough information to go on, since the areas on the chart were based on some 2013 PDT work.

Audience member Ron Smolowitz commented that his recollection was that the data set isn't good enough. Don't waste time. The fishery works in cobble on the charts. We should look at where the cod are being caught and where the seals are. We have 50,000 seals in this area – there used to be very few. They have a greater impact on cod than a few clam boats.

Motion #3 carried 9/1/1.

4. Motion: Hughes/Alexander

Task the PDT to analyze a time/area rotation scheme for the fishery in the Great South Channel Habitat Management Area.

Dr. McKenzie asked if we can we use this scheme for an FMP that we don't have under our jurisdiction. The chair commented that his first take it that it would need to be a joint action. Mr. McDonald agreed that it would be best informed by the surfclam fishery. Can analyze a rotational approach for habitat protection, which is simply adding a time component to habitat closures.

Dr. McKenzie commented that he doesn't understand how we can allow the gear in an area that the rest of the fisheries have been excluded from. This gear is incompatible with habitat conservation.

Mr. Hughes commented that there are other, highly successful fisheries that have rotational management. Historical precedence in HMAs. This is not new.

Ms. Bachman commented that in the scallop fishery, we do not have scallop rotational access in HMAs. That was a sticking point around the disapproval of the Council's recommendations for the northern edge of Georges Bank. Given the estimated recovery rates, the closure period to allow recovery from clam dredge impacts would need to be a lengthy interval. Mr. McDonald agreed that rotational management has not been applied to HMAs, and that this situation would likely be different. Time area management in the scallop fishery is for achieving optimum yield. Here, optimum yield would be a factor, but the primary design would be for habitat protection.

Audience member Ron Smolowitz thought it was a good motion. On OHA2, we lacked the information on habitat benefits, however we have made the [scallop] fishery more efficient, with less habitat impact. A 3-year closure rotational closure would be viable.

Audience member Gib Brogan commented that they have concerns about rotational management. He asked if the intent here was just for the GSC HMA, or for Georges Bank too? Mr. Hughes clarified that he meant the GSC HMA only, and the motion was edited.

Mr. Stockwell asked if it was realistic to consider these issues given the current timeline and other work. Ms. Bachman explained that what we would end up here is a sketch of how this might work, with some thought towards the time interval of rotation, and some comments on how the fishery already shifts its distribution over time to target biomass effectively. A concern about this type of work is that our existing rotational fishery for scallops has a very precise accounting of biomass in an area. The federal surfclam survey isn't at the same scale at all to be able to estimate yield in small areas. We don't have those sorts of data for clams.

Ms. Coakley agreed that the clam dredge survey isn't designed for fine spatial management. The survey is actually being redesigned to fewer, larger, strata, focused on a broader scale. But that addresses the clam resource component. The other question that might be harder to wrestle with is the habitat issue – how would rotational management meet habitat protection objectives?

Dr. deFur commented that he was unsure how Mr. Stockwell's question would be addressed. Would it make sense to base the rotational interval on the time frame required for habitat recovery? Not sure what PDT will do.

Ms. Bachman commented that it really depends on the direction the Committee is trying to take. If the intent is to only allow so much fishing in all or most of the habitat areas that are more complex, that's one thing, because the amount of fishing in complex habitats would be reduced. Essentially, we would design a very habitat-oriented [and presumably long time interval] rotational scheme. However, if we are trying to use surfclam data to optimize yield, and some grounds are closed while others remain open, and there are complex habitats in each, a rotational system could reduce fishing in some complex habitats and increase it in others. We don't really have the data to assess those sorts of tradeoffs.

Motion #4 carried 7/2/2.

5. Motion: Hughes/Alexander

Task the PDT to analyze potential exemptions for mussel dredges in the northwest quadrant only.

Rationale: This is a small fishery. Could exist in a small area for an extensive time period. Mussel dredge is much less invasive than clam dredge.

Mr. Stockwell commented that this is an exploratory fishery – the number of participants and other factors are unknown. We are getting ahead of the game. Would favor aligning with the surfclam options [vs. developing additional options for this gear].

Audience member Domenic Santoro spoke in support of the motion. During this whole OHA2 process, the mussel fishery wasn't given consideration at all. Would be important to include now. A square mile mussel fishing area could be fished for years.

Motion #5 carried 6/5/0

AGENDA ITEM #2: OFFSHORE ENERGY DEVELOPMENT

Ms. Bachman reviewed two draft letters on the Vineyard Wind project and BOEM's path forward for additional wind area leasing. She emphasized that she and Ms. Coakley had been working NMFS staff to draft comments. The Committee made some additions to the letters and agreed to forward revised drafts to the Executive Committee for review¹. Mr. McGuire summarized the Advisory Panel discussion on offshore wind engagement.

Between the January meeting and this one, Committee members Matthew McKenzie, Eric Reid, and Terry Alexander reviewed the MAFMC's policies on best practices to minimize the effects

¹ Final versions of these letters are posted here http://s3.amazonaws.com/nefmc.org/180502_NEFMC_to_BOEM_re_Proposed-path-Forward.pdf and here http://s3.amazonaws.com/nefmc.org/180430_NEFMC_to_BOEM_re_Vineyard-Wind-LLC-proposed-facility.pdf.

on offshore wind and oil and gas development on fish and their fisheries and habitats. Mr. Reid conveyed their unanimous endorsement of the MAFMC's document. The policies are well written and would apply to our needs. No need to reinvent the wheel. Also, the group supported having a uniform Council policy in the Greater Atlantic Region on these issues. The chair asked if there were any adjustments required, and Mr. Reid responded that it would be better as a joint document from both Councils.

Ms. Coakley added that there are general policies that related to the policies on specific topics.

The Council chair commented that the upcoming NRCC meeting would be an opportunity to discuss the idea of making these joint policies with MAFMC leadership. The Committee chair reminded the group that the Council would need to adopt these policies.

6. Motion: Hughes/Alexander

The Habitat Committee recommends that the Council adopt the Mid-Atlantic Fishery Management Council's policies on offshore wind and oil and gas development. The Committee also recommends that the Council request that the Northeast Regional Coordinating Committee discuss any administrative issues around adopting these items as a joint policy.

Audience member George Lapointe recommended looking at all the policies, vs. restricting the discussion to just energy development.

Audience member Ron Smolowitz asked who developed the best practices. Ms. Coakley responded that they were written by their habitat/ecosystems advisory panel as informed by invited experts on each topic. He responded that the devil is in the details will all of these issues. For example, BOEM's instructions on costs and surveys are insufficient.

Mr. Alexander commented that these two policies should be adopted first, and then the Council can decide on adopting others.

Motion #6 was approved by unanimous consent.

Next the Committee received presentations from developers on specific projects, including (1) Deepwater Wind's South Fork Wind Farm and Revolution Wind, (2) Vineyard Wind, (3) Bay State Wind, (4) Statoil's Empire Wind, and (5) Emera's Atlantic Link. Highlights are reported below. The presentations are available here <https://www.nefmc.org/calendar/apr-26-2018-habitat-committee-meeting> under document 5.

- Deepwater Wind (Stephanie Wilson, John O'Keeffe, Rodney Avila (fisheries liaison))

Developing South Fork Wind Farm and Revolution Wind in RI-MA area. Wants South Fork to be operational in 2022. Adjusted planned cable routes and turbine placement given fishery concerns. Deepwater has the largest outreach program to the fishing industry. Working on a gear loss, prevention and claim policies.

- Vineyard wind (Rachel Pachter, Eric Peckar, Crista Banks (fisheries liaison))

Construction and Operations Plan is now available for review. Suggests a spacing of 0.8 nm between turbines. Jim Kendall has been a fisheries representative since 2006. Have an agreement with SMAST to conduct before/after studies. Interested in having a third party to help with data issues. The Committee chair clarified that the cable routes on slide 4 are potential alternatives, and Ms. Pachter agreed. Dr. Quinn asked about the cable route through Muskeget Channel – is a tidal energy project still planned for that location?

- Bay State Wind (Laura Morse and John Williamson (fisheries liaison))

The Bay State Wind Farm site is located south of Martha's Vineyard. The company also has a lease off of NJ. John has talked with 1,600 fishermen, and they have assembled a fishery advisory panel, where the members are paid for their time consulting on the project. They are considering two cable locations. Mr. Reid asked why they couldn't run the cable to Martha's Vineyard, then over the island, and out the other side, to have a shorter route that required less cable on the seafloor. He observed that cable under the ocean is more expensive, and the shortest distance is best. He asked about the firm capacity of the wind farm.

Dr. Quinn asked if it was possible to share cables between wind farms. Ms. Pachter from Vineyard Wind addressed the question, commenting that there is only so much offtake capacity at a given location where the offshore cables connect to the grid, and that a single connection point would be insufficient for offtake of power from two 800 MW facilities.

- Statoil's Empire Wind (Martin Goff, Stephen Drew (fisheries liaison))

Statoil is based in Norway and has several wind farms in Europe.

Dr. Quinn asked if this was the location where the law suit pending, and Mr. Goff acknowledged that it was. Dr. Quinn commented that the New Bedford scallopers have argued that they weren't consulted with prior to leasing, and that \$6M impact to that fishery is an underestimate.

- Emera's Atlantic Link (Gerald Weesen, Nick Welz)

Atlantic Link is a proposed cable project that would carry hydropower-generated electricity from Atlantic Canada across the Gulf of Maine to Plymouth MA. The RFP to MA was not approved, so the project on hold.

Dr. McKenzie confirmed that the intent is buried to cable. Don't recommend threading the cable through deep sea coral habitats. Mr. Welz responded that they had discussed the route with Dr. Peter Auster and have a few fine scale options to consider to avoid coral areas. Dr. McKenzie suggested consulting with the offshore lobster industry. Mr. Weesen responded that David Borden had put them in contact with relevant individuals.

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Mr. Alexander noted that there is a lot of fishing activity just north of Provincetown where the cable will cross the bottom of Stellwagen Bank National Marine Sanctuary. Mr. Weesen agreed that it was a very dynamic area and noted that they have been talking to the MA Fishermen's Partnership, which has been helpful. - There's a lot of activity just north of p town. The MA Fishermen's Partnership have helped. It's a dynamic area.

Mr. Alexander pointed out some specific areas of hard bottom that the cable would go through.

There was a short discussion of the use of unmanned survey vessels to assess the Bay State Wind lease area. The Committee was assured that the unmanned vessels remain visually in sight of the primary manned survey vessel at all times.

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The meeting adjourned at approximately 4:00 p.m.