



**New England Fishery Management Council  
DRAFT Habitat Oversight Committee Meeting Summary**

**April 6, 2012  
Providence, RI**

**Committee members:** David Preble (chair), Dave Goethel (vice chair), Moira Kelly, Peter deFur, Mark Gibson, Doug Grout, Peter Kendall, Sally McGee, Terry Stockwell.

**Council staff:** Michelle Bachman (PDT chair)

**Others:** 10 additional audience members, including some habitat advisors

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The Habitat Committee met to:

- (1) Discuss/modify area-based management options to minimize the adverse effects of fishing on Essential Fish Habitat (EFH)
- (2) Receive a presentation about a proposal to designate an ecological research area in Stellwagen Bank National Marine Sanctuary (SBNMS), and receive a status update on Plan Development Team (PDT) work related to dedicated habitat research areas,
- (3) Discuss management alternatives for deep-sea coral protection that will be forwarded to the Council for consideration on April 26, 2012.

Documents 1 and 2, reports from the 2/23/12 Committee and 3/07/12 PDT meetings, were included with the meeting materials and provide a summary of Committee requests and PDT work related to both adverse effects areas and coral areas.

**Management Options to Minimize the Adverse Effects of Fishing on EFH**

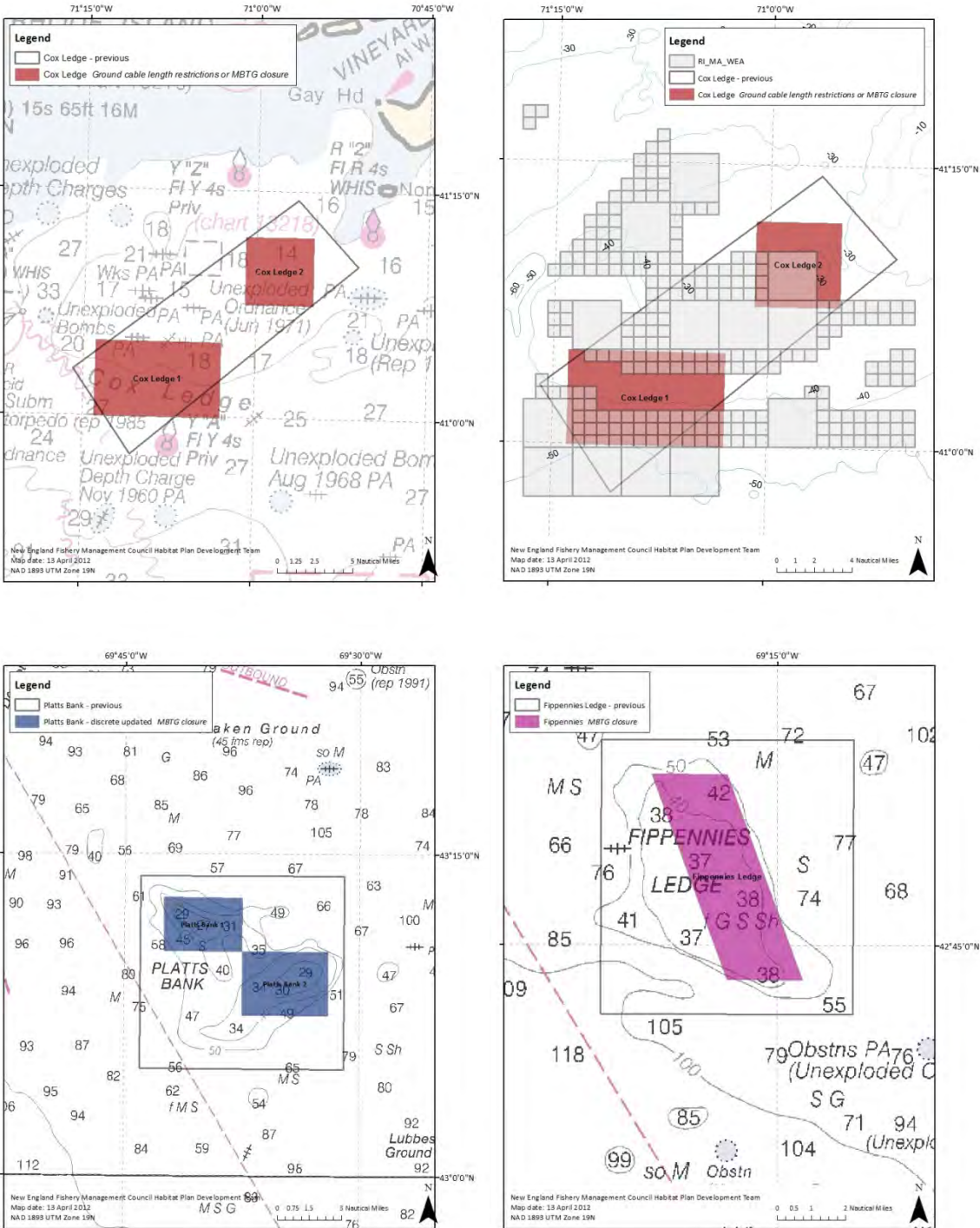
Documents for this part of the meeting included:

- Adverse effects options decision document updated after the 2/23/12 Committee meeting and 3/07/12 PDT meeting (doc 9)
- Committee and PDT meeting summaries

Staff reviewed the changes requested by the Committee at their previous meeting, and the suggested boundary updates provided by the PDT. On Cox Ledge, the Committee requested that the area boundaries focus on Cox Ledge itself as well as on 19 fathom bank. On Platts Bank and Fippennies Ledge, the Committee requested updated boundaries that avoided the edges of the features and deeper water areas, which two sub areas for Platts a single area running north/west to south/east for Fippennies. The updated boundaries are shown on the figures below. The Committee discussed that they wanted more time to review the updated area boundaries and will revisit formal adoption of the updated areas as habitat options to minimize adverse effects at a

later meeting. The Committee also discussed the overlap between the Cox Ledge areas and potential offshore wind energy leasing areas

**Figure 1 – Updated boundaries for Cox Ledge, Fippennies Ledge, and Platts Bank adverse effects minimization habitat areas. Also shown is the overlap between the Cox Ledge areas and the Massachusetts-Rhode Island wind energy area.**

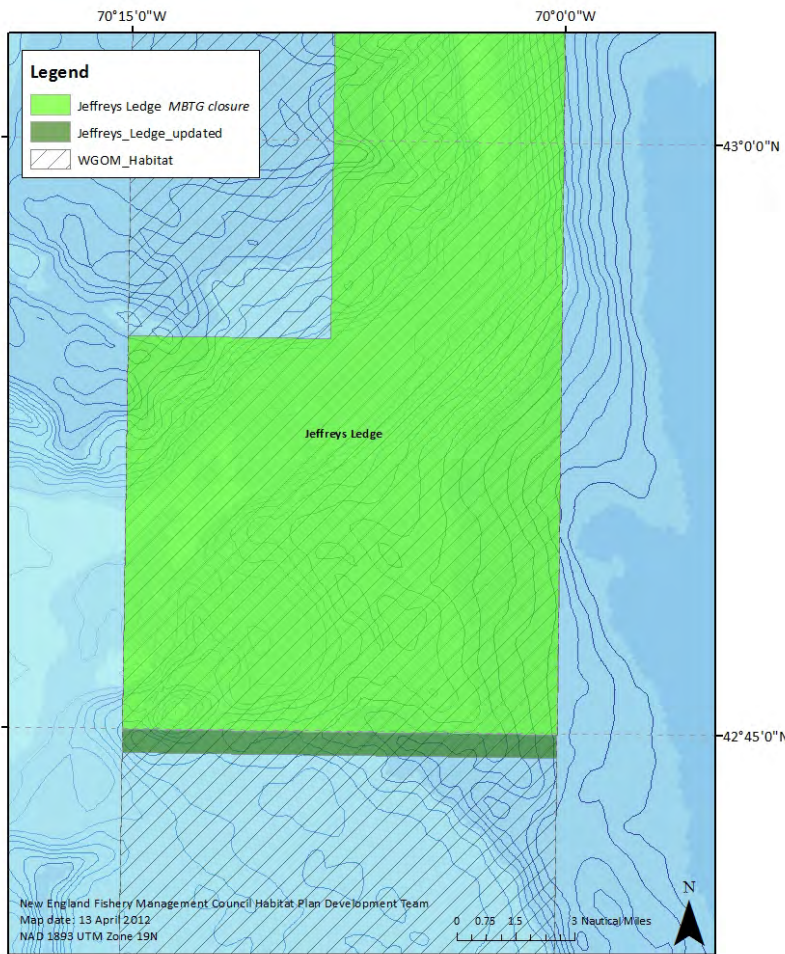


Staff also raised an issue identified by PDT member Peter Auster about the southern boundary of the proposed Jeffreys Ledge habitat area. The boundary is currently at 42° 45' N latitude, and Dr. Auster stated that moving the boundary south to 42° 44.4' N latitude would encompass an area of boulder/muddy sand habitat that harbors a rare species of pom-pom anemone, *Liponema multicornis*, as well as large specimens of cod and cusk. Considering both historic and current data sets, the anemone has only been documented a handful of times in locations throughout the Gulf of Maine. The species is delicate, shedding its adhesive tentacles when handled, such that it would be expected to be susceptible to damage by fishing gears.

**Motion 1 (Goethel, Grout) Adjust the southern boundary of the Jeffreys Ledge area to reflect the boundary recommended by the PDT to 42 degrees 44.4 minutes N latitude from 42 degrees 45 minutes N latitude. (7/0/1)**

There was no additional Committee or audience discussion of the motion. The area in question is shaded in dark green in the figure below.

**Figure 2 - Updated boundaries for the proposed Jeffreys Ledge habitat area. Only the southern part of the area is shown. The current Western Gulf of Maine habitat closure is also shown.**



Finally, the Committee discussed the process for moving these options forward to the Council. The intention is to develop packaged alternatives that combine habitat area management options with a series of yet-to-be-designed options to meet groundfish objectives. These groundfish options may include retaining, modifying, or eliminating the current groundfish management areas, as well as designation of new areas. The groundfish areas will be evaluated with respect to a range of different objectives, which are listed in the groundfish PDT report dated 3/23/12. The groundfish PDT is currently working this issue, but progress has been slowed as PDT resources have been spread amongst a range of other issues.

Habitat staff presented the proposed habitat areas to the groundfish PDT at their March 13 meeting. While it is anticipated that groundfish PDT recommendations will be developed independent of the range of habitat options, knowing about the habitat proposals early in their process may facilitate the process of merging the two sets of options into comprehensive alternatives. Once the Groundfish Committee has developed their own range of area management options, there will be a joint process with the Habitat Committee to develop alternatives for Council consideration.

The Habitat Committee emphasized the importance of characterizing each of the potential habitat areas, including the habitat types and features, managed species, and fishing activities present, using SASI and extra-SASI information. Based on this assessment, a case for the habitat benefits of implementing fishing restrictions in each area can be made. One Committee member noted that it will be especially important to characterize the edges of each area, as boundaries are likely to be adjusted at the margins.

Audience member and habitat advisor Greg Cunningham (Conservation Law Foundation) asked about progress on analyses that link habitat areas to individual species. Staff responded that the PDT has been working on an assessment of habitat associations for each species, and was considering a more quantitative overlay of potential management areas and EFH layers. However, after discussing initial work at their March 7 meeting, the PDT had some reservations about the utility of this approach, and felt that a more qualitative evaluation was preferable. For each managed species, the PDT will provide a discussion about what the species habitat associations are, and then describe which of the candidate habitat areas contains those habitat types, and also whether each area is within the range of each species. This will allow for a qualitative assessment of the potential benefits of each area.

A Committee member noted that since we do not have habitat-specific production rates, the eventual approval of habitat management areas will be a faith-based exercise. Because the links between species and habitat are not clear, it was further noted that the Council should be cautious in terms of its expectations about the benefits associated with habitat management actions. There are many other factors besides benthic habitat availability/quality that contribute to species production (food availability, predation, water quality, fishing, etc.), and evaluating the benefits of management actions designed to protect specific habitats will be challenging. Another Committee member contrasted the close associations of species to tropical reef habitats/marine protected areas with the mobile nature of the species in our region. He noted that the effects of our current fishery management areas on fish production remain unclear.

Another Committee member wondered if it was time to step back a bit and refocus the conversation. She reminded the group that EFH is defined as ‘those waters and substrate necessary for spawning, breeding, feeding, and growth to maturity’. Considering these elements individually may allow for a more concrete evaluation of existing and proposed areas.

Audience member and Habitat Advisor Ron Smolowitz (Fisheries Survival Fund) wondered who was researching big picture fishery production issues. As an example, a Committee member cited a couple of studies examining the relationship between gadid and elasmobranch production in Southern New England.

### **Dedicated Habitat Research Areas**

Documents for this part of the meeting included:

- Stellwagen Bank National Marine Sanctuary (SBNMS) Ecological Research Area (SERA) presentation (doc 10)
- SBNMS research area proposal document (doc 11)
- Letter from SBNMS Advisory Council recommending proposal (doc 12)

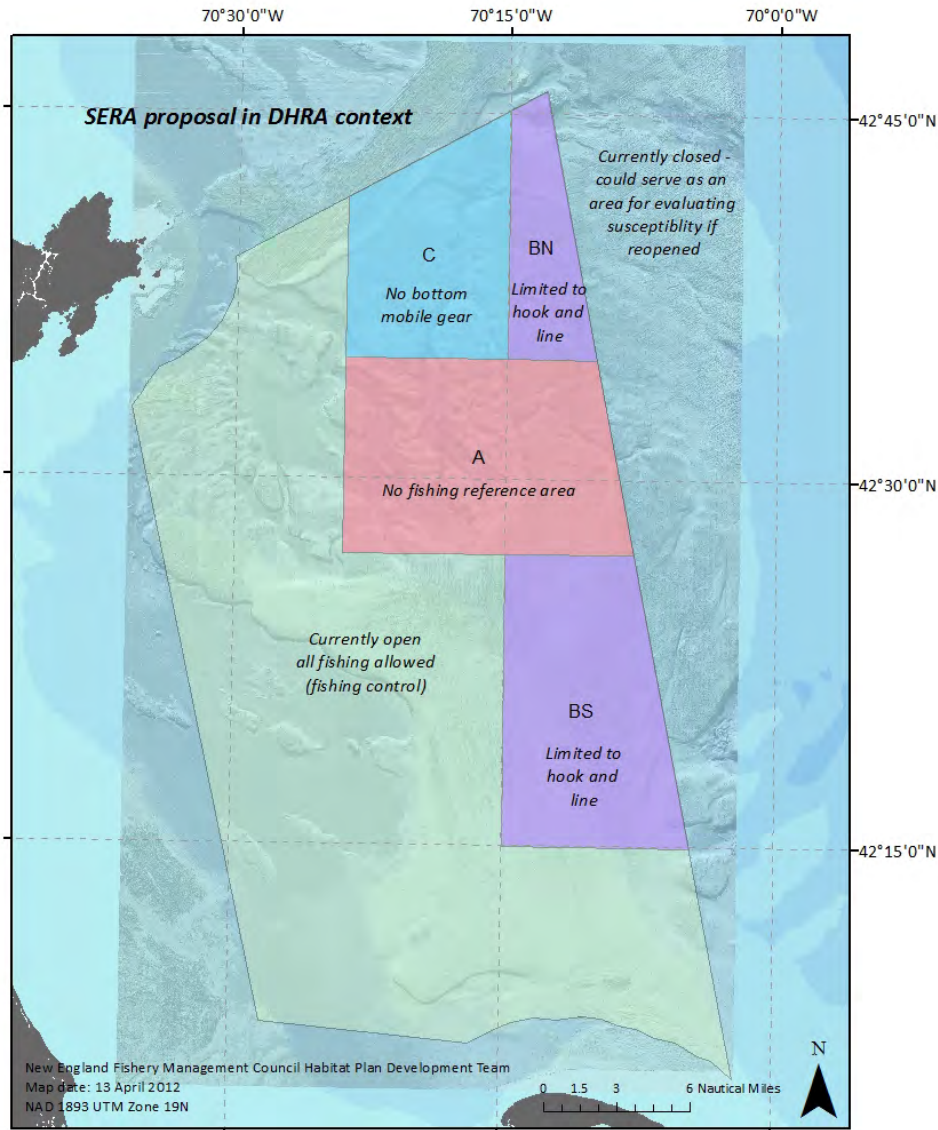
The superintendent of SBNMS, Dr. Craig MacDonald, presented the SERA proposal to the Committee. The SERA proposal was developed over an approximately two year period to meet the objectives of both the Sanctuary final management plan and the Magnuson Stevens Act. Although there is an formal mechanism through which Sanctuaries can propose fishing regulations to Fishery Management Councils (the National Marine Sanctuaries Act 304(a)(5) process), the intention here is to more informally provide a proposal that can be evaluated and adapted by the Committee, PDT, and Advisory Panel during development of the EFH Omnibus Amendment.

The SERA includes the area of overlap between the Sanctuary and the WGOM habitat closure (known informally as ‘the sliver’), as well as additional areas to the west. Three treatments are proposed in areas A, B (north and south), and C, as shown in the figure below. Dr. MacDonald noted that the proposed SERA boundaries do not go beyond the edges of SBNMS, because that is their area of jurisdiction, but he recognized that adjustments will probably occur if and when the proposal is adapted by the Council to meet Omnibus Amendment research objectives.

A Committee member discussed that while he thought the design was conceptually sound, the area would be very difficult to implement as currently designed given the importance of Area C to smaller, mobile gear vessels. Specifically, he stated that very high catches of haddock and yellowtail flounder per unit effort occur in the area. He noted that it is possible that VTR data underrepresent fishing effort in the area, because in his experience vessels tend to fish elsewhere on a given trip and then do a few tows only in that area, but since VTRs report a single location per trip, the reporting location may likely be outside the Sanctuary. Apparently the area is only accessible during good weather, such that the window of opportunity to fish there on any trip is typically narrow. Dr. MacDonald acknowledged this comment, but noted that the SERA expands on the sliver area in order to encompass a mix of habitat types that is more

representative of the Sanctuary. Specifically, deep water mud habitats are poorly represented in the sliver, but better represented in Areas A and C, particularly in Area A.

Figure 3 - Sanctuary Ecological Research Area



One component of the presentation was an evaluation of the fishing effort that occurs within the Sanctuary, broken down according to SERA treatment and the part of the Sanctuary outside of the SERA proposal. This analysis relied on Vessel Trip Report data, as these data are available for all effort types including party/charter. Dr. MacDonald noted that there is good correspondence between VTR data and Vessel Monitoring System and at-sea observer data. He also noted that within the Sanctuary, fishing patterns during the first year of sectors (2010) do not seem to be substantially different from those observed previously.

Another Committee member acknowledged that the economic analyses will be very helpful as the Committee evaluates the proposal, but stated that a big picture, regional look might miss

things, such as identifying vessels that are highly dependent on fishing within the proposed research area.

**Motion 2 (McGee, deFur) Move to include three DHRA alternatives for the Western Gulf of Maine in the Omnibus Amendment**

- 1) The SERA proposal, and**
- 2) An alternative that only includes areas A and BN and BS**
- 3) An alternative that only uses the sliver.**

**All alternatives would be subject to further modification, including further input from the SBNMS, PDT, including further consideration of CPUE.**

**All alternatives would also be considered in the context of potential changes to year round and seasonal groundfish mortality closures.**

**Motion was perfected to read: Request the PDT to review the SERA proposal including consideration of socio-economic impacts.**

**Perfected motion failed (3/4/1)**

*Committee discussion:* One member felt that the motion was premature, and was concerned about endorsing the proposal at this stage. Another was concerned that the wording of the motion might constrain the PDT as they develop research proposals for the western Gulf of Maine and elsewhere, although the maker noted this was not her intention. She noted further that while she appreciated that the proposal is contentious, she wanted to see an evaluation of the proposal because it will be important to design research areas that can give the Council needed answers about fishing/habitat interactions, and other topics. There was some talk about presenting SERA at the Council meeting, but this line of discussion was eventually dropped.

*Audience discussion:* Maggie Raymond (Associated Fisheries of Maine, also a Habitat Advisor) noted that the proposal is certain to be controversial, and asked for stakeholder input. Dr. Auster, who is chairing a PDT working group on DHRA development, stated that the PDT generated a set of research questions and is proceeding with development of DHRA proposals for the entire region. He feels it would be useful to evaluate the SERA proposal as part of the PDT process. A Committee member responded that the PDT can still consider the proposal as part of their DHRA work, even if the motion fails. Greg Cunningham wondered why it seemed that the Committee was treating the SERA proposal differently from other stakeholder proposals, and hoped that the Committee would forward it to the PDT for evaluation. Drew Minkiewicz (Fisheries Survival Fund) felt that the Committee should decide whether to forward the proposal to the PDT for evaluation, or not. He was pleased to hear the discussion about high CPUE areas and felt that was an important consideration. He was concerned that research areas are being used as a way to designate additional habitat closed areas, and thought that any research closure should include a sunset provision.

As a follow up to the SERA discussion, staff described ongoing PDT work on research areas. At the January and February Committee/Advisory Panel meetings, the PDT presented a list of research questions and a general schematic for area design. Dr. Auster noted that one element of this design is that each research area would include closure of currently open areas, and opening of currently closed areas. Also, he noted that any feedback from the Committee prioritizing research questions would be helpful to guide the PDT's work.

On April 3, a working group of the PDT met to develop a comprehensive list of potential research area locations. For each location, the group discussed habitat types present and research questions that could be addressed. The PDT discussed how the generic DHRA design could be applied to a specific area, focusing on Stellwagen Bank and the Western Gulf of Maine. The working group will continue to flesh out this comprehensive list, and also will work on more detailed proposals. The PDT will be updated at their next meeting, and the full PDT will be responsible for forwarding recommendations to the Habitat Committee. The amount of time needed to complete this work is not certain, but given the time required for the development of groundfish options, there should be time to complete this work before habitat/groundfish area management alternatives go to the Council, which will occur in September at a minimum.

### **Management alternatives for deep-sea coral protection**

Documents for this part of the meeting included:

- Enforcement Committee Summary (partial draft) (Doc 3)
- Deep-sea coral management alternatives decision document (Doc 5)
- Presentation on deep-sea coral areas and fishing restriction measures (Doc 4)
- Deep-sea corals of the Northeast Region: Species, habitats, and proposed coral zones, and vulnerability to fishing impacts (Doc 6)
- Committee and PDT summaries

First, staff gave a presentation reviewing the range of coral alternatives. The presentation highlighted the discrete zone boundaries developed by the PDT at their March meeting.

Next, the Committee discussed coordination with the Mid-Atlantic Council. Committee member Peter deFur, who chairs MAFMC's Ecosystems and Ocean Planning Committee, stated that he would like to provide information to his Committee at their April 10 meeting, and get feedback from his Committee and the entire Mid-Atlantic Council during their session on April 12.

One issue that has been raised is whether coral-related management actions should be implemented by each Council separately according to the inter-council boundaries. This could be challenging for the broad zones, if different minimum depths and restrictions were implemented on either side of the Mid-Atlantic/New England boundary. It would be a bit easier to manage discrete zones council by council, assuming that the boundary does not bisect one of the discrete zones.

Intercouncil boundaries are specified in the regulations:



§600.105 Intercouncil boundaries. (a) New England and Mid-Atlantic Councils. The boundary begins at the intersection point of Connecticut, Rhode Island, and New York at 41°18'16.249" N. lat. and 71°54'28.477" W. long. and proceeds south 37°22'32.75" East to the point of intersection with the outward boundary of the EEZ as specified in the Magnuson-Stevens Act.

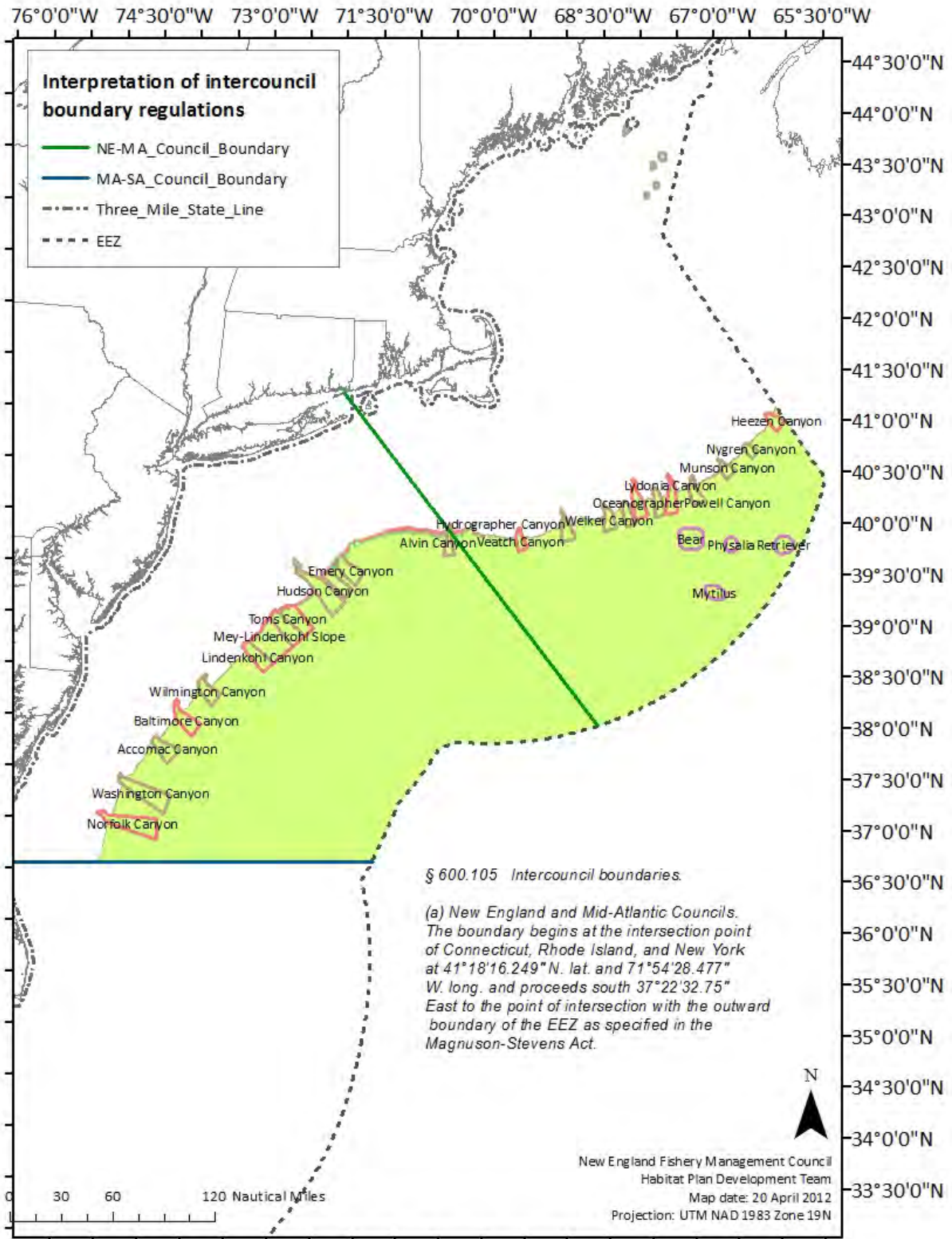
There has been some confusion in terms of interpreting this language and mapping the specified boundary. A Committee member noted that there is no reference in the regulations to whether the bearing is an angle from magnetic south or true south.

Additional time was spent on this issue after the meeting, and one possible interpretation of these regulations is shown below. This assumes that the language “proceeds south 37°22'32.75" East” should be interpreted as an angle of 37°22'32.75 from true south, such that the given angle is used as a bearing. While this is apparently a rather old fashioned way of specifying a bearing, it comports with staff recollections of what the boundary should look like. The language appears almost identical to the definition of the legal boundary defining the offshore waters of RI and NY at the mouth of Long Island sound, which traces back to either ~1942 or 1887 (D. Szumylo, NERO, personal communication). The boundary in the figure was drawn in ArcGIS using the coordinates (41°18'16.249" N. lat. and 71°54'28.477" W. long) as a starting point, running a line out along a fixed bearing, and then snapping the endpoint to the EEZ. While this boundary is not an official interpretation, it is hopefully a useful starting point for further Council discussion.

Regardless of interpretation, the Gulf of Maine and seamount coral zones fall within the New England council area, and the canyon and slope areas, as well as the broad zone, are split between the New England and Mid-Atlantic councils. If the boundary is correct as shown, the canyon and slope zones would be divided between the New England and Mid-Atlantic regions as follows:

<b><i>New England area</i></b>	<b><i>Along boundary line</i></b>	<b><i>Mid-Atlantic area</i></b>
Heezen	Alvin	Emery
Nygren		Jones/Babylon
Munson		Hudson
Powell		Toms
Lydonia		Linden Kohl
Gilbert		Mey-Linden Kohl slope area
Oceanographer		Wilmington
Heel Tapper		Baltimore
Welker		Accomac
Hydrographer		Washington
Veatch		Norfolk

Figure 4 - Interpretation of the NE-MA Council boundary regulations



Note that there is no precedent for addressing inter-council issues that may arise when developing management measures based on the coral discretionary authority, since New England appears to be the first Council actively developing coral regulations based on this authority. In May 2010, NERO provided some guidance on the issue (see <http://www.nefmc.org/habitat/deep-sea%20corals/100524%20NMFS%20to%20NEFMC%20re%20Corals.pdf>). This guidance indicates that consultation is necessary if a Council implements measures for coral protection that affect fisheries managed by another Council, but does not specify what form that consultation should take. Note that if New England were to implement coral zones and associated gear based restrictions throughout the region via the Omnibus EFH Amendment or some other action, complementary regulations would not need to be implemented by MAFMC for the restrictions to apply to MAFMC-managed fisheries. This is somewhat analogous to the mobile gear restrictions in the four tilefish gear restricted areas, which were developed by MAFMC and are part of the tilefish FMP, but apply uniformly to all mobile bottom tending gears.

By the end of the discussion about coordination, the Committee had developed the following list of options for moving forward. Note that this wasn't a formal motion, but was approved by consensus. It was suggested that the issue of inter-council coordination on coral zones might be discussed at an upcoming NRCC meeting.

- 1. Establish a memorandum of agreement to clarify the way forward – this may make sense regardless of option**
- 2. Mechanism for coordination:**
  - a. Augment NEFMC habitat committee with additional members from MAFMC**
  - b. Establish a new committee that includes equal representation from MAFMC and NEFMC (likely a subset of their NEFMC habitat and MAFMC ecosystems committee)**
  - c. Split the region spatially and divide management of coral areas**
  - d. Establish and approve broad area jointly and establish discrete areas based on Council boundaries defined in regulations**

Following this meeting, on April 10 the Mid-Atlantic Council's Ecosystems and Ocean Planning Committee received a presentation outlining the coral-related management alternatives, as well as the coordination options outlined above. They made the following motions on April 12:

1. (Anderson/Zeman) Initiate the development of a memorandum of understanding with NEFMC and SAFMC to coordinate broad scale deep sea coral management measures. Motion carried.
2. (Anderson/Zeman) Initiate a plan amendment to protect deep sea corals within the Mid-Atlantic Council Management boundary. Motion carried.

Given the MAFMC discussion, and a review of the April 6 Habitat Committee discussion, NEFMC staff clarified this list of options as shown below. Options A-E are listed in order of least to greatest departure from the status quo process.

1. Establish a memorandum of agreement between the New England, Mid-Atlantic, and South Atlantic Councils to facilitate inter-council coordination on coral management issues
2. Mechanism for coordination:
  - a. *Status quo* – NEFMC lead; measures are developed as part of the Omnibus EFH Amendment; coordination via MAFMC membership on the Habitat Committee and Habitat PDT (one member each). An alternative that was discussed briefly was splitting coral measures out of the Omnibus EFH Amendment into a separate NEFMC Omnibus action, but the mechanism for coordination would remain the same.
  - b. Augment NEFMC habitat committee with additional voting members from MAFMC to increase their ability to provide input, but proceed with development of coral measures via the Omnibus Amendment. Again, the coral measures could be split out of the Omnibus Amendment with this option, but the mechanism for coordination would remain the same.
  - c. Develop alternatives for broad coral zones via a more explicitly joint process, and establish discrete areas based on their locations with respect to the inter-council boundary. If this option was selected, the discrete areas north and east of the inter-council boundary would remain as part of the Omnibus Amendment; presumably those to the south and west would drop out of the amendment. Consultation with MAFMC on the discrete zones within the NE area would still occur, as MAFMC-managed fisheries operate some of the proposed areas. A joint process for developing a broad coral zone would need to be developed.
  - d. Split the region spatially along the inter-council boundary and divide management of broad and discrete coral areas. Actions north and east of the inter-council boundary would be continue to be developed via the Omnibus EFH Amendment, presumably options south and west of the boundary would be dropped from consideration in the Omnibus Amendment and left to the Mid-Atlantic Council. No joint coordination process would be required, although inconsistency concerns between regions might arise with this approach if the two Councils developed dissimilar sets of measures. There would likely still need to be consultation between the two Councils as indicated in the NERO guidance, and gear-based restrictions on either side of the boundary would almost certainly affect fishing activities managed by both councils.
  - e. Establish a new committee that is a sub-committee of the NEFMC Habitat Committee and MAFMC Ecosystems and Ocean Planning Committee and have that Committee develop the coral measures to be implemented via a joint action between the two councils. Again, a joint process for developing a broad coral zone would need to be developed.

Next, the Committee discussed the boundaries of the broad zones, and requested that the PDT analyze two additional options: a depth contour based boundary for a broad coral zones that excludes 95% of current fishing effort, and one that excludes 99% of current fishing effort. Previously developed options are 300m, 400m, and 500m, and the objective associated with

these options is to protect corals without impacting current fishing activities. More empirically derived boundaries based on a spatial analysis of fishing effort data might better meet this objective.

Next, the Committee discussed comments made by the Enforcement Committee at their March meeting. The relevant section of their report is reproduced below:

*The Coast Guard finds either the broad or discrete zones challenging. The broad zone is an enormous amount of ocean, and there is doubt about effectively covering that much water, without more aircraft. The lesser of two evils, therefore, is the discrete zones because they're more focused for monitoring, particularly with VMS. Additionally, it is important to the Coast Guard that the discrete area boundaries are co-ordinate based (as they are in these proposals). Finally, it is important that restrictions apply to generic gear types like mobile bottom tending gear, rather than, say, differently for fish trawls versus squid trawls. All that the Coast Guard can observe from the air is that two wires go into the water (or not), and not what mesh size is being used or what species are being targeted.*

A Habitat Committee member who serves on the Enforcement Committee noted that the options will need to be essentially self-policing, given that additional enforcement resources are not likely to materialize. The Chair noted that this may not be a major concern, since experimental fishing areas are being considered rather than complete closures. Audience member and Habitat Advisor Gib Brogan (Oceana) asked whether the intention was to more fully develop the experimental fishery program as part of the Amendment (rather than leaving it to NMFS), and received an affirmative response.

Next, the Committee considered issues related to specific discrete area boundaries and fishing restriction options for all coral zones. There was minimal discussion of the motions. All of the coral alternatives will be forwarded to the Council for their consideration.

**Motion 3 (Goethel/Kendall) That the area under consideration for Mt Desert Rock be the smaller federal waters area to the west, only. (5/0/1)**

*Committee discussion:* The PDT had suggested two subareas around Mt Desert Rock; the eastern area covered some coral habitats within state waters but was suggested as a coral zone that would not have fishing restrictions associated with it. A Committee member wondered what the purpose was of designating an area as a coral zone without implementing any management areas. Staff responded on behalf of the PDT that the intent was to publically highlight the likely extent coral habitats in the vicinity of Mt Desert Rock, for informational purposes. Another Committee member noted that since the measures are likely to be controversial already, keeping them restricted to federal waters only seemed prudent.

**Motion 4 (Goethel/Grout) For the Western Jordan Basin area, limit consideration to the four discrete boxed (hatched on chart). (5/0/1)**

*Committee discussion:* The rationale for the motion was to avoid mud bottom and areas that are more likely to be fished, and to focus the coral zones in discrete hard-bottom areas that may be less likely to be fishable. There was no additional discussion on the motion.

**Motion 5 (Goethel/Kendall) Under coral zone restriction option A: Bottom-tending gears, formally adopt sub-option A1: Exempt the red crab fishery from coral zone restrictions. (4/1/1)**

*Committee discussion:* The rationale for the motion was to explicitly state for the record the Committee's desire to evaluate an alternative that would exempt the red crab fishery from coral area restrictions. The fishery regularly operates in waters beyond 300 meters.

*Audience discussion:* Gib Brogan clarified and the Committee agreed that no decision on this issue was being made now, and that this option would be forwarded to the Council for their consideration.

**Motion 6 (Goethel/Kendall) Under the list of possible exemptions to fishing prohibitions, that the PDT provide a list of requirements for an exploratory fishing permit. (5/0/1)**

*Committee discussion:* The maker of the motion stated he thought it was important to be as specific as possible when developing these requirements. Another Committee member noted that he thought it was important to be explicit about the goals of the exploratory fishery program. The maker felt it was important that experimental fishery permit requests for coral areas be considered carefully, and that he viewed this process as an important opportunity to gather feedback early in the development of new fisheries, rather than after the fact.

*Audience discussion:* Gib Brogan commented that two additional questions on a permit application should be target species and species previously caught in the area.

**Motion 7 (Grout/Goethel) That options A and B under the list of frameworkable provisions be included in the document (6/0/0)**

*Committee discussion:* The rationale for the motion was to explicitly state for the record the Committee's desire to allow fishing restriction and experimental fishery provisions to be implemented by framework. There have been motions on this issue at past meetings, but the Committee decided it was easy enough to make the motion again for clarification.

**Motion 8 (Goethel/Gibson) That the committee accepts for further analysis the coordinates developed for the discrete seamount, canyon, and slope zones. (6/0/0)**

These boundaries were developed by the PDT based on bathymetry and slope, as described in the March 7 PDT meeting summary.

The meeting adjourned at 2 p.m.