

# Omnibus Essential Fish Habitat Amendment 2 Draft Environmental Impact Statement – Decision Document

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*New England Fishery Management Council · December 18, 2013*

Purpose: to guide the Council through the draft EIS and inform selection of preferred alternatives, if any. At their December 2013 meeting, the Council is scheduled to approve the draft EIS for initial submission and public hearings, pending completion of the impacts analyses and other administrative elements of the document.

**DOCUMENT STRUCTURE .....3**

**COUNCIL DISCUSSION PLAN ..... 4**

**APPROACHES USED IN IMPACTS ANALYSIS ..... 6**

**SUMMARY OF ALTERNATIVES AND RESULTS OF IMPACTS ANALYSIS ..... 8**

**OTHER CONSIDERATIONS AND ISSUES ..... 30**

**EXAMPLE GROUPINGS OF ALTERNATIVES .....33**

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## **Document structure**

The draft Environmental Impact Statement is organized into five volumes as follows:

### **Volume 1:**

- **Section 1:** Executive summary (to be written prior to initial submission)
- **Section 2:** Contents of volume
- **Section 3:** Need and purpose for action, goals and objectives, background and management history
- **Section 4:** Affected environment

### **Volume 2:**

- **Section 1:** Contents of volume
- **Section 2:** EFH and HAPC designation alternatives (additional alternatives considered but not selected in 2007 will be added prior to initial submission)
- **Section 3:** Environmental impacts of EFH and HAPC designation alternatives (additional analysis required; will be completed prior to initial submission)

### **Volume 3:**

- **Section 1:** Contents of volume
- **Section 2:** Spatial management alternatives (descriptions, maps, and rationales)
- **Section 3:** Considered and rejected spatial management alternatives
- **Section 4:** Environmental impacts of spatial management alternatives (additional analysis required; will be completed prior to initial submission)
- **Section 5:** Cumulative effects (to be written prior to initial submission, will require updates for the final draft)

### **Volume 4:**

- **Section 1:** Contents of volume
- **Section 2:** Compliance with MSA, including EFH provisions of MSA and associated EFH regulations (to be written for FEIS; some sections e.g. adverse effects determination will be drafted prior to initial submission)
- **Section 3:** Compliance with NEPA (partially written, completion for FEIS)
- **Section 4:** Compliance with other applicable law (to be written for FEIS)

### **Volume 5:**

- **Appendices;** additional items to be added include scoping materials and comments

## Council discussion plan

### Order of discussion topics

1. Habitat management area alternatives
  - a. Eastern Gulf of Maine
  - b. Central Gulf of Maine
  - c. Western Gulf of Maine
  - d. Georges Bank
  - e. Great South Channel/Southern New England
2. Groundfish spawning management area alternatives
  - a. Gulf of Maine
  - b. Georges Bank/ Southern New England
3. Dedicated Habitat Research Area alternatives
4. Framework adjustments and monitoring alternatives
5. EFH/HAPC designation alternatives
6. Other issues section, if topics not already discussed

### Selecting preferred alternatives

#### *Habitat management*

**Select one alternative set of areas per sub-region.** Choices include no action (current areas), no areas, and various additional combinations of areas (between 2 and 4 choices, depending on sub-region). The WGOM sub-region also includes a possible add-on measure to identify a 12-inch roller gear size limit as a habitat management measure (there are two choices for areas within which this might apply).

**Identify a fishing restriction option for each of the areas (Options 1-4, below).** Some areas are restricted to options 1/2 or options 3/4. These areas are noted in the alternatives descriptions in Volume 3, Section 2. The Ammen Rock area is also a special case.

1. No mobile bottom-tending gears
2. No mobile bottom-tending gears, with an exemption for hydraulic clam dredges
3. Ground cable length capped at 45 fathoms per side for bottom trawls and elevating disks on ground cables required; no restrictions on dredges or other gears
4. No ground cables permitted on trawls, bridles capped at 30 fathoms per side; no restrictions on dredges or other gears

#### *Groundfish spawning*

**Select one alternative set of areas per region.** Choices include no action (current areas and seasons) or modified list of areas and seasons. In the GOM, there is a new area proposed for the winter season (Massachusetts Bay).

**Identify a fishing restriction option for each of the areas from options A or B, below.**

- A. Restrictions similar to those currently in effect\*\*
- B. Restrictions similar to those currently in effect; additional restrictions on recreational groundfish fishing

\*\* The Council should consider carefully whether current restrictions are appropriate to the objective of minimizing impacts on groundfish spawning activity.

**Dedicated Habitat Research Areas**

Select either: no action (no DHRAs designated) or one or more of Alternatives 2, 3, and 4 (each alternative is a distinct area). If Alternatives 2, 3, and/or 4 are selected as preferred, identify whether alternative 5 (sunset provision) is the preferred implementation approach.

**Framework adjustments and monitoring**

Select either no action (Alternative 1) or updated approach (Alternative 2). Note that this section was drafted after the September Council meeting so the Council has not seen the language in the document yet.

**EFH and HAPC designations**

No Council action is required at this time since the Council selected alternatives in 2007 following public hearings and comment on that section of the DEIS. There have been minor updates to the maps and text descriptions since 2007 approval.

<b>General issues to consider when identifying preferred alternatives</b>
General habitat and ecosystem effects of fishing (or restrictions on fishing)
Habitat effects on critical life stages of groundfish (i.e. age 0/1)
Groundfish population effects
Economic impacts (both positive (new areas open) and negative (new areas closed to mobile bottom-tending gear)) that increase or decrease fishing costs on groundfish and other stocks
Long term economic impacts from (hopefully) increasing MSY and stock rebuilding on groundfish and other stocks
Increases in gillnet and other non-mobile bottom-tending gears in Habitat Management Areas and Dedicated Habitat Research Areas
Direct impacts (e.g. gear conflict) on customary fishing locations: <ul style="list-style-type: none"><li>• Lobster gear in Closed Area II</li><li>• Recreational fishing in the reference area</li><li>• Changes in exempted areas due to overlap or new opportunities</li></ul>
Social impacts on communities dependent on local areas that might be closed to mobile bottom-tending gear or re-opened to fishing
Impacts on Protected Resources due to shifts in locational or gear-based shifts in fishing effort
Impacts on Habitat Areas of Particular Concern that were designated specifically because of the vulnerability to fishing

## **Approaches used in impacts analysis**

### **Physical/biological VEC**

Analysis is general across species, focus on seabed habitats

#### ***Seabed impacts analysis***

- Data and information developed/reviewed:
  - Distribution of dominant substrate (data used in SASI and other sources)
  - High/low energy characterization
  - Habitat impacts literature that informed SASI vulnerability assessment
  - Habitat vulnerability maps by gear type and habitat vulnerability by management area
  - Realized adverse effects maps by gear type
  - Literature describing fish associations with habitat, especially seabed habitats, and how habitat contributes to fish survival and growth
  - Published literature and results of a NE region pilot study related to gear modifications as they relate to habitat conservation
- Approach to analysis (much of this analysis is pending):
  - Compare SASI estimates of seabed vulnerability between areas and alternatives, accounting for heterogeneity in data support and other sources of information not included in the model
  - Evaluate historical realized adverse effects by gear type for areas currently fished to address the magnitude of reduction in adverse effects
  - Describe seabed types encompassed within various habitat management areas
  - Assess potential for redistribution of fishing effort and changes in area swept

#### ***Diversity considerations***

- Calculated diversity indices for all species, all managed species, and all large-mesh groundfish to compare species diversity across areas and alternatives

### **Managed species VEC**

Separate analyses were used for large mesh (and small mesh) groundfish, although the hotspot approach used may also inform impacts analysis for selected additional stocks.

Scallop analyses are being coordinated by Scallop PDT (initial results provided in separate memos).

Impacts on other managed species will be completed after the December Council meeting.

#### ***Large mesh groundfish***

- Data and information developed/reviewed:
  - Hotspot analyses
    - Young juveniles – lengths corresponding to age 0/1
    - Large spawners – lengths corresponding to top 20% of 2002-2012 biomass
  - Survey biomass per tow
  - Fine-scale effort distribution on observed trips
  - Juvenile cod and yellowtail flounder distribution models
  - Literature on fish habitat use, especially spawning habitats

- Approach to analysis:
  - Compare number of hotspots for different species between areas, accounting for any data gaps identified in the hotspot analysis
  - For certain species, evaluate their distribution during the past 10 years relative to specific areas, for comparison with hotspot results
  - Assess potential for redistribution of fishing effort and how this might affect fish concentrated outside of the areas included in a particular alternative

### **Scallops**

- Evaluate short-term and long-term potential scallop yield by management area
- Evaluate specific area closure scenarios using Scallop Area Management Simulator model
- Evaluate seasonal variation in meat weight to evaluate impacts of spawning closures

### **Human communities and the fishery VEC**

Individual-level economic impacts and community impacts discussed separately.

#### ***Economic impacts***

- Focus to date on potential displacement of fishing effort by area and alternative
  - VTR analysis where revenues are distributed using a confidence interval approach based on gear type and trip duration
  - VMS analysis using Records and Demarest approach to estimate fishing time
  - Analysis is at the gear and individual (=permit) level
- Additional work to be completed to estimate the potential costs and benefits of fishing in any reopened areas

#### ***Community impacts***

- Approach to analysis:
  - Determine affected communities based on potentially displaced effort identified in economic analysis
  - Qualitative discussion of impacts, focused on possible displacement and redistribution of fishing effort, considering:
    - Sustained participation
    - Community vulnerability
    - Attitudes, beliefs, and values of fishermen and other stakeholders

### **Protected resources VEC**

- Qualitative evaluation of how potential displacement and redistribution of effort may affect protected resources including turtles, marine mammals, and Atlantic sturgeon, considering:
  - Species distributions
  - Fishing gears that have interactions with protected resources identified
- Relationship to other management approaches (e.g. pingers) discussed

## **Summary of alternatives and results of impacts analysis**

This section summarizes the alternatives and highlights key discussion points or conclusions of the impacts analysis identified to date.

Alternatives follow the order shown in Volume 3 and Volume 2.

Maps are provided as a separate handout to facilitate viewing alongside the decision document.



### **Volume 3 Section 2.1: Habitat Management alternatives**

Habitat Management Alternatives are identified within five sub-regions, Eastern GOM, Central GOM, Western GOM, Georges Bank, and Great South Channel/Southern New England.

**If desired, the Council may select as preferred either Alternative 1 (no action) or an action alternative for each region, and should identify a fishing restriction option (1, 2, 3, or 4) for the selected alternative.**

- **Select one alternative set of areas per sub-region.** Choices include no action (current areas), no areas, and various additional combinations of areas (between 2 and 4 choices, depending on sub-region). The WGOM sub-region also includes a possible add-on measure to identify a 12-inch roller gear size limit as a habitat management measure (there are two choices for areas within which this might apply).
- **Identify a fishing restriction option for each of the areas (Options 1-4, below).** Some areas are restricted to options 1/2 or options 3/4. These areas are noted in the alternatives descriptions in Volume 3, Section 2. The Ammen Rock area is also a special case.
  1. No mobile bottom-tending gears
  2. No mobile bottom-tending gears, with an exemption for hydraulic clam dredges
  3. Ground cable length capped at 45 fathoms per side for bottom trawls and elevating disks on ground cables required; no restrictions on dredges
  4. No ground cables permitted on trawls, bridles capped at 30 fathoms per side; no restrictions on dredges

## Volume 3, Section 2.1.1.1: Eastern Gulf of Maine

### Alternatives under consideration

1. No action (there are currently no habitat management areas)
2. Large Eastern Maine and Machias
3. Small Eastern Maine, Machias, and Toothaker Ridge

### Fishing restriction options, Alternatives 2 and 3

1. Closed to mobile bottom tending gears
2. Closed to mobile bottom tending gears, except hydraulic clam dredges
3. Maximum ground cable length of 45 fathoms
4. No ground cables

### Important considerations, DEIS references

#### Seabed habitat considerations (VEC 1)

- There is very little difference between **Alternatives 2 and 3** in terms of the protection of vulnerable bottom habitats from the adverse effects of fishing.
- **Alternatives 2 and 3:** All four areas include some habitat that is vulnerable to mobile bottom tending gear, but the two eastern Maine areas likely have greater percent coverage of vulnerable habitats, especially the smaller of the two.
- **Alternative 2:** Data support for substrates is poor in the more offshore portions of the Large Eastern Maine area, but non-SASI data including summer 2013 surveys show that the deeper portion of this area includes steep, rocky, complex habitat types (Auster, personal communication)
- **Alternatives 2 and 3:** An exemption for hydraulic clam dredges (Option 2) would not have any effect on habitat impacts since only 'dry' clam dredges are used in the eastern GOM.
- **Alternatives 2 and 3:** Limitations on ground cable length (Options 3 and 4) would provide no habitat benefits since bottom trawling would continue and the effects of ground cable adjustments on total seabed contact are very uncertain

#### Groundfish considerations (VEC 2)

- **Alternatives 2 and 3** both considered to have positive impacts on groundfish habitat and populations
- The Small Eastern Maine HMA in **Alternative 3** is not as large as the Large Eastern Maine HMA in **Alternative 2**, but may provide benefits of similar magnitude
- **Alternatives 2 and 3:** Possible conservation synergy with the Penobscot River Restoration Project
- **Alternatives 2 and 3:** Eastern ME Area dominated by hotspots for age 0/1 redfish and witch flounder
- **Alternatives 2 and 3:** Concentrations of age 0/1 cod in the Machias Area
- **Alternative 2** includes areas with more hotspots of groundfish typically found in areas with softer substrates

**Economic considerations (VEC 3)**

- **Alternative 2:** Between 5%-7% of total revenue estimated to fall within the Lg. E. Maine and Machias areas generated by MBTG (\$150,927 - \$220,062 annually 2010-2012).
- **Alternative 3:** 9% of the total revenue estimated to fall within Sm. Eastern Maine, Machias, and Toothaker Ridge is generated by MBTG. This is equal to \$170,000 annually in the years 2010 – 2012.
- **Alternative 2/3:** Dominant MBTG in Machias is the dry clam dredge, which is not exempted by Option 2 as currently written, and represents the gear with the greatest of both revenue and trips affected for this Alternative (VTR analysis).
- **Alternative 2/3:** The dominant MBTG in Lg. Eastern Maine, Sm. Eastern Maine, and Toothaker Ridge is a mix of bottom and shrimp trawl.
- **Alternative 2/3:** Both the VMS and VTR analysis indicate that fishing effort by MBTG in Machias and Lg. Eastern Maine (Alt 2) and Machias, Small Eastern Maine, and Toothaker Ridge (Alt 3) are on the periphery of more productive fishing grounds, as opposed to centers of fishing themselves.

No significant **protected resources** issues identified (**VEC 4**).

## Volume 3, Section 2.1.1.2: Central Gulf of Maine

### Alternatives under consideration

1. No action: Cashes Groundfish and Habitat, Jeffreys Bank Habitat
2. No Habitat Management Areas
3. Modified Cashes, Modified Jeffreys Bank, Ammen Rock, Fippennies Ledge, Platts Bank
4. Modified Cashes, Modified Jeffreys Bank, Ammen Rock

### Fishing restriction options, Alternative 3 and 4, except Ammen Rock Area

1. Closed to mobile bottom tending gears
2. Closed to mobile bottom tending gears, except hydraulic clam dredges
3. Maximum ground cable length of 45 fathoms
4. No ground cables

### Important considerations, DEIS references

#### Seabed habitat considerations (VEC 1)

- **Alternative 1:** The no action groundfish closure on Cashes Ledge does not include much vulnerable hard substrate
- **Alternatives 1, 3 and 4:** Habitat recovery on Cashes Ledge and Jeffreys Bank that has accumulated over the past 10-12 years would be maintained if these areas, or significant portions of them, are kept closed to mobile bottom tending gear.
- **Alternatives 3 and 4:** The modifications to the no action habitat closed areas (Cashes Ledge and Jeffreys Bank) provide roughly the same amount of protection for vulnerable habitat.
- **Alternatives 3 and 4:** There are unique features on Ammen Rock that may warrant increased protection.
- **Alternatives 3 and 4:** Platts Bank and Fippennies Bank HMAs were designed specifically to include hard bottom portions of these two offshore shoals; alternative 3 would protect more vulnerable habitat than alternative 4 because it includes these areas.
- **Alternatives 3 and 4:** Data support is generally high for the areas included in these alternatives.
- **Alternatives 3 and 4:** An exemption for hydraulic clam dredges (**Option 2**) would not have any effect on habitat impacts since only 'dry' clam dredges are used in the eastern GOM.
- **Alternatives 3 and 4:** Limitations on ground cable length (**Options 3 and 4**) would provide no habitat benefits since bottom trawling would continue and the effects of ground cable adjustments on total seabed contact are very uncertain

#### Groundfish considerations (VEC 2)

- **Alternative 1:** No action for the Central Gulf of Maine region is considered to have slightly positive impacts on large-mesh groundfish. Over the long term the impacts on groundfish stocks is expected to be positive. No action is unlikely to improve groundfish habitat, because existing areas have been closed for ten or more years and other areas with important age 0/1 groundfish habitat are fished harder than they would be if the Western Gulf of Maine, Cashes Ledge, and Jeffreys Bank were not closed.

- **Alternative 2** does not include proposed Habitat Management Areas and therefore has less groundfish habitat benefits and negative groundfish population impacts than either No Action or Alternative 3.
- **Alternative 3** has less groundfish conservation benefits than No Action, but this assessment is uncertain due to survey under sampling around Cashes Ledge, Fippennies Ledge, and Platts Bank.
- The Platts Bank and Fippennies Ledge HMAs in **Alternative 3** may however improve groundfish habitat conservation and have positive groundfish habitat conservation benefits and positive impacts on groundfish populations compared to No Action.
- As compared to Alternative 3, **Alternative 4** is expected to have less conservation of groundfish habitat and lower benefits for groundfish stocks.

### **Economic considerations (VEC 3)**

- **Alternative 2:** Relatively small increase in revenue/decrease in costs of fishing expected, generating a small positive benefit to individuals currently excluded from fishing in Jeffreys Bank and Cashes Ledge.
- **Alternative 2:** Although Jeffreys Bank and Cashes Ledge are relatively near shore, their size and fish productivity suggests that, if opened, only local effort is likely to flow into their waters.
- **Alternative 2:** Slightly negative impacts associated with increased gear interactions between recreational and commercial fishermen, given recreational fishing currently reported within the Cashes Ledge closure.
- **Alternative 3/4:** 20-24% of total revenue estimated within currently open portions of Modified Jeffreys Bank and Platts Bank are generated by MBTG. This is between \$84,000 and \$101,000 annually during 2010 – 2012.
- **Alternative 3/4:** Dominant MBTG in the currently open portions of Modified Jeffreys Bank and Platts Bank is a mix of Bottom and Shrimp Trawl.
- **Alternative 3/4:** In the currently open areas, the majority of the revenue and effort estimated through both the VTR and VMS analysis are associated with Modified Jeffreys Bank.

No significant **protected resources** issues identified.

### Volume 3, Section 2.1.1.3: Western Gulf of Maine

#### Alternatives under consideration

1. No action: WGOM groundfish and habitat closures
2. No Habitat Management Areas
3. Large Bigelow Bight, Large Stellwagen
4. Large Bigelow Bight, Small Stellwagen, Jeffreys Ledge
5. Small Bigelow Bight, Small Stellwagen, Jeffreys Ledge
6. Large Stellwagen
7. Make roller gear area a habitat measure (7a), or apply in an alternative area (7b). Intended as add-on measures to another alternative.

#### Fishing restriction options, alternatives 3, 4, 5, and 6

1. Closed to mobile bottom tending gears
2. Closed to mobile bottom tending gears, except hydraulic clam dredges
3. Maximum ground cable length of 45 fathoms
4. No ground cables

#### Important considerations, DEIS references

##### Seabed habitat considerations (VEC 1)

- **Alternatives 3 and 4:** The Jeffreys Ledge and Small Stellwagen Bank areas were selected for adverse impact minimization based on the presence of vulnerable bottom habitats.
- **Alternatives 3, 4, and 5:** Vulnerable habitat is also present in the large and small Bigelow Bight areas.
- **Alternatives 3 and 6:** Among all the areas included in the alternatives being considered in this sub-region, the large Stellwagen Bank area has less hard substrate in the SASI-based tables, but data sources not used in the SASI model show that there are rocky reef habitats in this area.
- **Alternative 4** includes more area than any of the other action alternatives – a prohibition on the use of mobile bottom tending gear would protect more vulnerable, hard-bottom habitat than would be protected by any of the other alternatives.
- The existing areas that constitute the no action **Alternative 1** are not as large as **Alternative 4**, but have the added advantage of having been closed to fishing for the past 15 years, so bottom habitats have had a chance to recover.
- **Alternative 6, Option 1** (Large Stellwagen closed to mobile bottom tending gear) would maintain existing habitat protection in about 50% of the existing habitat closed area.
- **Alternatives 3, 4, 5, and 6:** Limitations on ground cable length (**Options 3 and 4**) would provide no habitat benefits since bottom trawling would continue and the effects of ground cable adjustments on total seabed contact are very uncertain
- Data support in the areas being considered in this sub-region is moderate, with the exception of the northern portion of Jeffreys Ledge where it is high.

##### Groundfish considerations (VEC 2)

- **Alternative 1:** No action for the Western Gulf of Maine region is considered to have slightly positive impacts on large-mesh groundfish. Over the long term the impacts on groundfish

stocks is expected to be positive. No action is unlikely to improve groundfish habitat, because existing areas have been closed for ten or more years and other areas with important age 0/1 groundfish habitat are fished harder than they would be if the Western Gulf of Maine, Cashes Ledge, and Jeffreys Bank were not closed.

- **Alternative 2** is expected to have lower benefits for groundfish stocks than either **Alternative 1** (No Action), or any of the other alternatives for this sub-region.
- **Alternative 3** areas contain considerably more age 0/1 groundfish hotspots than areas included in **Alternative 1** (No Action), weighted more heavily for stocks that have low biomass and/or have a high affinity for coarse and hard substrates. The total weighted hotspots are similar to the totals for **Alternative 4**, but higher than those for **Alternatives 5 and 6**.
- **Alternatives 3, 4, and to a lesser extent 5** include a proposed habitat management area off Northern MA to Southern ME, called the Bigelow Bight Area. There are a variety of hard and soft substrates found in these proposed Habitat Management Areas. Some fisheries target species like whiting and shrimp in this area, generally avoiding harder substrates, but fishing nonetheless occurs in the harder substrates.
- **Alternatives 3-5** include more age 0/1 cod and haddock hotspots than **No Action** or **Alternative 6** do.
- **Alternative 6** is smaller and contained entirely within the existing Western Gulf of Maine EFH closure. Impacts are therefore negative relative to No Action, do not improve groundfish habitat conservation, and have negative impacts on groundfish populations, particularly those that are at low biomass and/or associated with coarse and hard substrates
- Cod hotspots are found inshore of the Western Gulf of Maine EFH Closure and the Large Stellwagen Bank area because the analysis focuses on age 0/1 fish, which are considered to be a critical life stage that relies on and is associated with complex bottom habitat. Older juvenile cod, which are more frequently observed in commercial fishing gears, are found further offshore, overlapping the Western Gulf of Maine EFH closure and the proposed Large Stellwagen Bank Area.
- Analyzing Alternative 7.1, it generally appears that fishing with small-mesh trawls for whiting, herring, and shrimp tends to already occur on mud-silt and sand bottom and does not generally correspond with the age 0/1 groundfish hotspots. Additionally, the large-mesh trawl fishing offshore of the Western Gulf of Maine Closed Area does not correspond with the hard substrate types, nor with the age 0/1 groundfish hotspots. On the other hand, LM trawl fishing for groundfish and monkfish south and west of the Western Gulf of Maine Closed Area does seem to correspond with areas having harder substrates and with age 0/1 groundfish hotspots.
- Relying only on an expanded roller gear restriction in the area for this alternative is likely have negative or detrimental impacts on groundfish habitat, compared to Alternative 1 (No Action) which closes a large area of vulnerable substrates to mobile bottom-tending gear fishing.
- **Similar to Alternative 7.1**, it does not appear that requiring 12" or less diameter roller gear in a smaller area of the Western Gulf of Maine (**Alternative 7.2**) will change fishing behavior to avoid areas with vulnerable groundfish habitat.
- Compared to No Action which prohibits fishing with mobile bottom-tending gear in an area that has vulnerable groundfish habitat, **Alternative 7.2** is likely to have a negative or detrimental impact on groundfish habitat if selected as the sole management measure (i.e. in conjunction with **Alternative 2**).

### **Economic considerations (VEC 3)**

- **Alternative 2:** Observed hauls indicate that substantial amount of effort occurs within a 10 nautical mile buffer of the current Western GOM area closures, for a varied mix of gear types.
- **Alternative 2:** Statistical area 514, overlapping the Western GOM closure, in particular

generates the largest annual landings for multispecies bottom trawl, gillnet, and longline gears, though separator trawls are more active in other statistical areas.

- **Alternative 2:** Some of this effort would redistribute into the current closure if Alternative 2 was chosen. Furthermore, the sheer size and position of the Western Gulf of Maine management areas suggest that their reopening could induce currently inactive fishermen back into the fishery, for the purpose of exploratory fishing if not more sustained undertakings.
- **Alternative 2:** Fishermen currently excluded from the WGOM management areas are likely to benefit from decreased costs of fishing, as opposed to substantial increases in revenue, if Alternative 2 is selected.
- **Alternative 2:** Increased interactions would be expected between recreational and commercial fishing gear in the WGOM management areas, particularly given the amount of recreational fishing reported within these waters, leading to a negative impact on the recreational fishing fleet.
- **Alternative 3:** Thirty-five percent of the total revenue estimated to fall within the boundaries of Large Bigelow Bight is generated by MBTG. This is equal to \$2,256,200 annually in the years 2010 - 2012.
- **Alternative 3/4/5:** Bottom and shrimp trawls are the dominant MBTG currently used within both Large Bigelow Bight and Small Bigelow Bight.
- **Alternative 3/4:** Both the VMS and VTR analysis indicate that Large Bigelow Bight is a center of fishing effort for Bottom and Shrimp Trawls.
- **Alternative 3/4/5:** The impact of this alternative on New Hampshire fishermen in particular is likely to be acute, given the existing state ban on mobile gear fishing.
- **Alternative 4:** Thirty-five percent of the total revenue estimated to fall within the boundaries of Large Bigelow Bight is generated by MBTG, equal to \$2,256,200 annually in 2010 - 2012.
- **Alternative 5:** Thirty-five percent of the total revenue estimated to fall within the boundaries of Small Bigelow Bight is generated by mobile bottom tending gear. This is equal to \$1,093,667 annually in the years 2010 - 2012.
- **Alternative 5:** Small Bigelow Bight encompasses 37% of the estimated MBTG revenue within Large Bigelow Bight, and excludes the area in the latter most intensively fished by shrimp trawl.

No significant **protected resources** issues identified. Potential negative impacts on harbor porpoise of shifts in gillnet effort possible under Alts 2-6 likely mitigated by pinger usage.



### Volume 3, Section 2.1.2.1: Georges Bank

#### Alternatives under consideration

1. No action: CAI and CAI groundfish and habitat closures
2. No Habitat Management Areas
3. Northern Edge
4. Northern Edge and Small Georges Shoal gear modification area
5. Georges Shoal Large gear modification area, Georges Shoal MBTG closure

#### Fishing restriction options for Northern Edge Area:

1. Closed to mobile bottom tending gears
2. Closed to mobile bottom tending gears, except hydraulic clam dredges
3. Maximum ground cable length of 45 fathoms
4. No ground cables

#### Important considerations, DEIS references

##### Seabed habitat considerations (VEC 1)

- **Alternative 1:** With the exception of the northern portion of CAII and the central portion of CAI, the bottom habitats in the existing groundfish closures on Georges Bank are not especially vulnerable to the adverse effects of mobile bottom tending gear.
- **Alternatives 3, 4, and 5:** Gear modification alternatives alone would likely not provide a sufficient amount of habitat protection in this sub-region because bottom fishing would continue.
- **Alternative 5:** The small, no MBTG Georges Shoal area included in alternative 5 is located in a shallow, high energy portion of the bank that is not expected to benefit from a prohibition on the use of mobile bottom tending gear.
- **Alternatives 1, 3, or 4, with options 1 or 2 selected for alternatives 3 and 4** would maintain some amount of habitat protection for GB.
- The Northern Edge HMA (**Alternatives 3, 4**) is smaller than the status quo HMA and would protect less vulnerable bottom habitat from the adverse effects of mobile bottom tending gear. The existing Juvenile Cod Habitat Area of Particular Concern (HAPC), which covers the majority of the Northern Edge Habitat Management Area, was created specifically because of the second HAPC criterion (the extent to which the habitat is sensitive to human-induced environmental degradation (EFH OA1, 1998)). Allowing mobile bottom tending gear in the especially vulnerable portions of this HAPC would compromise the habitat recovery that has already occurred there during the past 20 years.
- Hydraulic clam dredges are used on Georges Bank, so an exemption (**Option 2**) could be considered in this sub-region. This exemption would likely result in a slight increase in habitat impacts as compared to **Option 1** (no MBTG), provided clam dredging is limited to sand habitats.
- **Alternatives 3, 4, and 5:** Limitations on ground cable length (**Options 3 and 4**) would provide no habitat benefits since bottom trawling would continue and the effects of ground cable adjustments on total seabed contact are very uncertain
- Data support throughout this sub-region is high.

##### Groundfish considerations (VEC 2)

- Impacts are more difficult to assess for Georges Bank than elsewhere due to the effects of existing special access programs.
- It is not apparent that Closed Area II is protecting critical cod habitat, except possibly for the Northern Edge and the northern portion of the Cod HAPC. In the fall surveys, it appears that the juvenile cod have left the shallower portions of the bank and most of Closed Area II, except for some age 0/1 and larger sub-legal cod along the Northern Edge into Canada.
- Age 0/1 and larger sub-legal haddock appear to be well mixed in the shallower areas of the bank and along the northern edge of the bank, from well west of the Cod HAPC to areas in Canada to the east. Closed Area II appears to provide protection to a substantial fraction of juvenile haddock on Eastern Georges Bank during the spring.
- There is a strong positive impact of the No Action alternative on the groundfish resource. Since much of these areas is comprised of mobile sediments and these areas are open to special access program fishing, the impact of the No Action alternative on age 0/1 groundfish habitats is slightly positive.
- **Alternative 2** is expected to have lower benefits for groundfish stocks than either No Action, or any of the other alternatives for this sub-region. It will have negative effects on groundfish habitat compared to No Action and other alternatives in this section.
- **Alternative 3** would have negative effects on groundfish habitat relative to No Action. The amount of protection of habitat for age 0/1 and larger sub-legal cod is about the same as No Action, but the protection of habitats where age 0/1 haddock are present is considerably less than No Action
- The total weighted hotspots for **Alternative 4** are the same as **Alternative 3**, with slightly more red hake hotspots. Weighted age 0/1 hotspots are also considerably less than those for **Alternative 1** (No Action). The expected impacts on groundfish habitat and groundfish stocks are therefore negative compared to No Action, and about the same as Alternative 3
- **Alternative 5** impacts on groundfish habitat and groundfish stocks is expected to be negative compared to No Action, and possibly worse than **Alternatives 2 and 3** depending on whether mobile bottom-tending gear is prohibited in the Northern Edge habitat management area.

### **Economic considerations (VEC 3)**

- **Alternative 2:** Previous analysis suggests larger, more concentrated, haddock within CAII. SAP allows some access, but some additional benefit likely to accrue by increased access.
- **Alternative 2:** Increased access to non-target species such as lobster in CAII and scallops in both CAI and CAII would likely also provide some benefit from groundfish gear capable of catching, and for individuals capable of retaining, these species.
- **Alternative 2:** Increased interactions between lobster pots and mobile gear likely to induce slightly negative impacts, but magnitude depends on overlap of fishing grounds and care taken in avoidance.
- **Alternative 3:** Eighty-nine percent of the total revenue estimated to fall within the currently open portions of Northern Edge is generated by MBTG (mainly LA scallop dredge and bottom trawl), equal to \$13,771,429 annually in 2010 - 2012.
- **Alternative 3/4/5:** These areas were opened to the clam fishery in August of 2013, with only exploratory fishing represented in the VTR analysis, and only in the 2010 – 2012 series. Relevant to **Alternative 5**, a substantial portion of this exploratory Clam Dredge fishing is attributed to the Georges Shoal MBTG area.
- **Alternative 4:** Seventy-eight percent of the total revenue estimated to fall within the currently open portions of Northern Edge and Georges Shoal Small GMA are generated by mobile bottom tending gear. This is \$16,049,301 annually in the years 2010 – 2012.
- **Alternative 4:** LA scallop dredge and bottom trawl are the dominant MBTG within the

currently open portions of the Northern Edge and Georges Shoal Small GMA that would be impacted by Alternative 4.

- **Alternative 5:** Thirty-one percent of the total revenue estimated to fall within the currently open portions of the Georges Shoal Large GMA and Georges Shoal MBTG areas would be impacted by the options currently under review for this alternative. This is equal to \$10,045,734 annually in the years 2010 – 2012.
- **Alternative 5:** The Georges Shoal Large GMA is a center of bottom trawl fishing effort, with only 11% of this gear's revenue estimated to fall within the nested Georges Shoal MBTG area.
- **Also see scallop PDT analyses related to Alternatives 1, 2, 3, and 4**

No significant **protected resources** issues identified.

**Volume 3, Section 2.1.2.2: GSC-SNE**

**Alternatives under consideration**

1. No action: NLCA and NL habitat closure
2. No Habitat Management Areas
3. Great South Channel and Cox Ledge
4. Great South Channel East and Cox Ledge
5. Nantucket Shoals and Cox Ledge
6. Nantucket Shoals West MBTG closure, GSC gear modification area, Cox Ledge

**Fishing restriction options – except Alternatives 1 and 6**

1. Closed to mobile bottom tending gears
2. Closed to mobile bottom tending gears, except hydraulic clam dredges
3. Maximum ground cable length of 45 fathoms
4. No ground cables

**Important considerations, DEIS references**

**Seabed habitat considerations (VEC 1)**

- **Alternative 1:** Bottom habitats in the existing groundfish and habitat closed areas in this sub-region are not especially vulnerable to the adverse effects of mobile bottom tending gear.
- The sizes of the areas being considered for gear restrictions in **Alternatives 4-6** are very similar and there are no significant differences in habitat vulnerability or substrate composition between them. The GSC East area (**Alternative 3**) is slightly larger and has more hard substrate.
- Gear modifications (**Alternative 6, Alternatives 3, 4, 5 with Options 3 or 4**) would not provide sufficient protection of vulnerable bottom habitats because mobile bottom tending gear fishing would continue
- Hydraulic clam dredges are used on Georges Bank, so an exemption (**Option 2**) could be considered in this sub-region. This exemption would likely result in a slight increase in habitat impacts as compared to **Option 1** (no MBTG), provided clam dredging is limited to sand habitats.
- The two Cox Ledge areas are very small, with a small percentage of vulnerable, hard-bottom substrate.
- Data support throughout this sub-region is high, with the exception of the shallower area just east of Nantucket Island.

**Groundfish considerations (VEC 2)**

- **Alternative 2** is expected to have lower benefits for groundfish stocks than either No Action, or any of the other alternatives for this sub-region. It will have negative effects on groundfish habitat compared to No Action and other alternatives in this section.
- **Alternative 3, 4, and 5** include areas that are undersampled by surveys and not heavily fished on observed commercial trips. There is however bottom within the area that are likely to contain juvenile cod, based on survey data inshore and offshore of the area.
- The effect of this **Alternative 3** on groundfish habitat and on groundfish stocks is therefore highly uncertain.
- The effect of **Alternative 4 and 5** on groundfish habitat and on groundfish stocks is also highly

uncertain. Due to less overlap with cod distribution in the Great South Channel, it is likely to have less habitat benefit than **Alternative 3**.

- The effect of **Alternative 6** on groundfish habitat and on groundfish stocks is also highly uncertain. It could have positive effects on groundfish habitat conservation, depending on the effectiveness of proposed trawl gear modifications coupled with exemptions for fishing with scallop and clam dredges. However, the habitat impacts of these gear modifications are uncertain.

### **Economic considerations (VEC 3)**

- **Alternative 3:** 91% percent of the total revenue estimated to fall within the Great South Channel East and Cox Ledge areas are generated by MBTG, averaging between \$33,981,254 and \$34,000,597 annually in 2010 - 2012.
- **Alternative 3:** Scallop dredge is the dominant MBTG in Great South Channel East, generating 82% of all revenue estimated to be generated by mobile bottom tending gear in both Cox Ledge and GSC East together. The VMS analysis indicates that LA permits represent the majority of this scallop effort. See Scallop PDT analysis also.
- **Alternative 3/4/5/6:** Bottom Trawl is the dominant mobile bottom tending gear in Cox Ledge.
- **Alternative 4:** 92% percent of the total revenue estimated to fall within the Great South Channel and Cox Ledge areas are generated by MBTG, averaging between \$15,414,981 and \$15,428,271 annually in 2010 - 2012.
- **Alternative 4:** The revenue estimate for scallop dredges in this area is likely overestimated, for reasons detailed in the DEIS. Nevertheless, scallop dredge is the dominant mobile bottom tending gear in the Extended Great South Channel, generating 67% of all revenue estimated to be generated by mobile bottom tending gear in both Cox Ledge and GSC area together.
- **Alternative 4:** The VMS analysis indicates that LA and GC permitted scallop effort in GSC area is respectively 10% and 3% of what is estimated for the GSC East, and this, rather than the VTR revenue metric, is likely a more accurate reflection of the displacement of effort in Alternative 4.
- **Alternative 5:** 88% of the total revenue estimated to fall within the Nantucket Shoals and Cox Ledge areas are generated by MBTG, averaging between \$8,894,083 and \$8,908,154 annually in 2010 - 2012.
- **Alternative 5:** Clam and scallop dredge dominate the revenue estimated to be generated within both Nantucket Shoals and Cox Ledge, respectively composing 46% and 42% of the total mobile bottom-tending gear revenue in these areas.
- **Alternative 5:** The VMS analysis indicates that GC permitted scallop effort in Nantucket Shoals is 1% of that in GSC East and 45% of that estimated for GSC, 3% and 28% for LA scallop.
- **Alternative 6:** Sixteen percent of the total revenue estimated to fall within the Nantucket Shoals West, Great South Channel GMA and Cox Ledge areas are generated by MBTG. This averages between \$12,339,026 and \$12,363,675 annually in the years 2010 - 2012.
- **Alternative 6:** Clam and scallop Dredge dominate the revenue estimated to be generated within Nantucket Shoals West, Great South Channel GMA, and Cox Ledge, respectively composing 37% and 41% of the total revenue that would be impacted by Alternative 6 in these areas.
- **Alternative 6:** The VMS analysis indicates that GC permitted Scallop effort in Nantucket Shoals West is 1% of that in GSC East, 53% of that estimated for GSC, and 118% of Nantucket Shoals. The VMS analysis indicates that LA permitted scallop effort in Nantucket Shoals West is 4% of that in GSC East and 45% of that estimated for GSC, and 124% of Nantucket Shoals.

No significant **protected resources** issues identified.

## **Volume 3 Section 2.2: Spawning Management alternatives**

The spawning management alternatives are described by region, i.e. Gulf of Maine and Georges Bank/Southern New England.

With the exception of the Massachusetts Bay area in GOM Alternative 2, all action alternative areas are a modification of existing areas and measures.

**If desired, the Council may select as preferred either Alternative 1 (no action) or an action alternative for each region, and should identify a fishing restriction option (A or B) for the selected alternative:**

- **Select one alternative set of areas per region.** Choices include no action (current areas and seasons) or modified list of areas and seasons. In the GOM there is a new area proposed (Massachusetts Bay).
- **Identify a fishing restriction option for each of the areas from options A or B, below.** The Council should consider carefully whether current restrictions are appropriate to the objective of minimizing impacts on groundfish spawning activity.
  - A. Restrictions similar to those currently in effect
  - B. Restrictions similar to those currently in effect; additional restrictions on recreational groundfish fishing

**Volume 3, Section 2.2.1: GOM**

**Alternatives under consideration**

1. No action: Western Gulf of Maine and Cashes Ledge groundfish closures year round, sector and common pool rolling closures, GOM Cod Spawning Protection Area
2. Sector rolling closures, GOM Cod Spawning Protection Area, Massachusetts Bay Area

**Fishing restriction options**

1. Current restrictions
2. Massachusetts Bay same as Whaleback, rolling closure as current (Option A), or add recreational restrictions (Option B)

**Important considerations, DEIS references**

**Seabed habitat considerations (VEC 1)**

- Alternative 1: Seasonal restrictions do not have a substantial positive effect on habitat

**Groundfish considerations (VEC 2)**

- The impacts on groundfish habitat and productivity from the No Action alternative is likely positive because these areas appear to protect a considerable amount of spawning activity in the Western Gulf of Maine and potentially affect groundfish productivity.
- **Alternative 2 (Options 1 and 2)** essentially would protect spawning in the same areas and seasons as No Action, but provides less protection to spawning around Cashes Ledge. Some additional spawning protection may be provided by the Mass Bay cod spawning protection area.
- Recreational fishing in spawning areas could cause spawning fish to disperse or avoid areas with many recreational vessels and it certainly contributes to removals of large spawning fish from the population before they have been able spawn in that year.
- Considering these effects described above, the impact of Alternative 1 on groundfish habitat is neutral or slightly negative compared to No Action. The impact on groundfish productivity is expected to be positive compared to No Action and to **Alternative 2**, Option A.

**Economic considerations (VEC 3)**

- **Alternative 2:** Seventy-two percent of the total commercial revenue estimated to fall within the currently open portions of the Massachusetts Bay Cod spawning protection area between Nov. 1 and Jan. 31 would be impacted by Alternative 2.
- **Alternative 2:** Bottom/SAP Trawls represent 81% of the commercial revenue generated in this area between Nov. 1 and Jan. 31.
- **Alternative 2:** Option B would impact the \$162,817 of recreational revenue calculated to fall within these waters during the Nov. 1 – Jan. 31 timeframe.

No significant **protected resources** issues identified.

**Volume 3, Section 2.2.2: GB-SNE**

**Alternatives under consideration**

1. No action: CAI, CAII, NLCA year round, May seasonal closure
2. CAI and CAII as spawning closures Feb, Mar, Apr
3. CAI North and CAII as spawning closures Feb, Mar, Apr

**Fishing restriction options**

1. Current restrictions
2. Current (Option A), or add recreational restrictions (Option B)

**Important considerations, DEIS references**

**Seabed habitat considerations (VEC 1)**

- **Alternative 1:** Seasonal restrictions do not have a substantial positive effect on habitat

**Groundfish considerations (VEC 2)**

- The existing year round groundfish closed areas provide a relatively high level of protection from spawning, except in areas that are open to fishing under specific groundfish and scallop access programs. The scallop access program currently allows scallop dredge fishing in these areas during the spring, which would continue under the No Action alternative.
- The No Action alternative likely has positive impacts on managed large mesh groundfish because the probable benefits to groundfish productivity are considered to be relatively high, especially for cod, haddock, winter flounder, yellowtail flounder (and probably a considerable number of non-groundfish species).
- While a relatively small amount of recreational groundfish fishing effort occurs in Closed Area I and II during February and April, Alternative 2 Option B provides some added protection for spawning cod and haddock, both primary recreational target species.
- Compared to No Action, **Alternative 2** has slightly positive impacts on groundfish productivity in the spring season (due partially to the elimination of the scallop access program during February to April and prevention of recreational fishing for spawning cod and haddock) and large negative impacts on fish that spawn in other seasons. Although there are access programs that affect groundfish habitat in parts of the Nantucket Lightship Area and Closed Area I and II, Alternative 2 would have a large negative impact on groundfish habitat.
- Compared to No Action, **Alternative 3** has slightly positive impacts on groundfish productivity in the spring season (due partially to the elimination of the scallop access program during February to April and prevention of recreational fishing for spawning cod and haddock) and large negative impacts on fish that spawn in other seasons. Although there are access programs that affect groundfish habitat in parts of the Nantucket Lightship Area and Closed Area I and II, this alternative would have a large negative impact on groundfish habitat. Relative to **Alternative 2 (Option A and B)**, **Alternative 3** has a small negative impact on groundfish habitat because the bottom substrate in Closed Area I South is almost entirely high energy sand.

No significant **protected resources** issues identified.



### Volume 3 Section 2.3: Dedicated Habitat Research Area alternatives

One approach to address information needs is to designate Dedicated Habitat Research Areas (DHRAs) in concert with Habitat Management Areas.

These DHRAs would be the focus of research activities to provide information to managers, improve understanding of the ecological effects of fishing across a range of habitats, and ultimately inform future habitat management.

Under DHRA Alternative 1 (No Action), no DHRAs would be designated.

If one or more of the action alternatives in this section (Alternatives 2, 3, and 4) are selected, the Council would designate up to three separate DHRAs in Gulf of Maine and Georges Bank locations. Any combination of these alternatives could be selected.

In all cases, the DHRAs overlap with other management areas that currently exist or are proposed in this amendment. The structure of the alternatives in this document implies that DHRA designations would be considered as separate but overlapping management area designations, potentially with different restrictions on fishing activity than the habitat or spawning areas that they overlap with.

Alternative 5, if selected, would implement a sunset provision for all of the designated DHRAs, and presumably for any future DHRAs as well.

#### Volume 3, Section 2.3.1: Alt 1

##### Alternative under consideration

No DRHA designations

##### Important considerations, DEIS references

##### Groundfish considerations (VEC 2)

- While possibly not as beneficial as one or more of the DHRA alternatives, the impact of not deliberately designating DHRAs (i.e. No Action) on groundfish habitat and productivity may only be slightly negative.

No significant **protected resources** issues identified.

**Volume 3, Section 2.3.2: Alt 2**

**Alternatives under consideration**

Designate Eastern Maine DHRA and close to MBTG

**Important considerations, DEIS references**

**Groundfish considerations (VEC 2)**

- Setting aside this area for dedicated habitat research, particularly on those projects focusing on groundfish productivity changes, would be beneficial and have positive impacts on groundfish resources compared to Alternative 1 (No Action). The impacts on groundfish habitat would be the same as Alternative 1 (No Action) if the Eastern Maine Small habitat management area already prohibits the use of mobile bottom-tending gear, but positive if no habitat management area is designated or if the restrictions in that area are ground cable modifications only. These impacts could be very positive and important for groundfish stocks in Eastern Maine and related fisheries in neighboring communities, in particular.

No significant **protected resources** issues identified.

**Volume 3, Section 2.3.3: Alt 3**

**Alternatives under consideration**

Designate Stellwagen DHRA and maintain current restrictions throughout, i.e. no MBTG, no longlines, gillnets; additionally no recreational groundfishing in reference sub-area

**Important considerations, DEIS references**

**Groundfish considerations (VEC 2)**

- Research in the proposed DHRA may address the habitat use by different cohorts of sublegal cod and possibly other groundfish. Many of the smaller age 0/1-sized cod are typically well inshore of the larger sublegal cod in both the spring and fall surveys. To a lesser extent, the same is true for juvenile haddock. The inshore half of the reference area appears to contain a higher biomass of legal size cod in both the spring and fall, although similar to the amounts of legal size cod found elsewhere in the Stellwagen DHRA (and elsewhere inshore of the Western Gulf of Maine Closed Area). These DHRA areas appear to be ideally suited for comparative research with control and experimental designs, although the effects on overall stock productivity may be difficult to detect in small areas.
- Compared to Alternative 1 (No Action) which would have no specific habitat research areas, but would have either existing EFH Closures or new habitat management areas, Alternative 3 would provide considerable opportunity to test habitat model assumptions and refine future management. This alternative therefore would have positive impacts overall, and also relative to Alternative 1 (No Action).

No significant **protected resources** issues identified.

**Volume 3, Section 2.3.4: Alt 4**

**Alternatives under consideration**

Designate Georges Bank DHRA and close to MBTG

**Important considerations, DEIS references**

**Groundfish considerations (VEC 2)**

- The proposed DHRA had no age 0/1 groundfish hotspots which suggests that any positive impact on groundfish habitat and productivity may be low. Looking more broadly at all levels of survey catch of cod and haddock for both age 0/1 and sublegal fish, this DHRA does not appear to be well suited to evaluate the effects of fishing (or not fishing) on groundfish habitat and productivity. The abundance of age 0/1 and large sub-legal cod and haddock are less abundant in this area than in other portions of Closed Area I or in the open fishing areas of the nearby Great South Channel.
- Relative to No Action) the impacts on groundfish habitat and productivity are slightly positive, but do not compare well with Alternative 2 and 3.

No significant **protected resources** issues identified.

**Volume 3, Section 2.3.5: Alt 5**

**Alternatives under consideration**

Defines sunset provision for DHRAs

**Important considerations, DEIS references**

**Groundfish considerations (VEC 2)**

- Relative to Alternatives 2 and 3, this alternative has a negative impact, but relative to Alternative 1 (No Action), it has a positive impact because there would be at least a three-year opportunity to conduct groundfish habitat research.

No significant **protected resources** issues identified.

### **Volume 3 Section 2.4: Framework adjustment and monitoring alternatives**

A regular framework adjustment process would ensure that reevaluation of spatial management performance and effects on groundfish productivity would be conducted in a holistic rather than piecemeal fashion.

It also establishes the expectation that habitat and groundfish spawning management via area-based fishery restriction will be periodically reviewed so that the restricted areas that are selected are those areas that provide the greatest potential for protecting essential fish habitat and helping stocks rebuild.

Current sources of data will likely not be sufficient to monitor the proposed closed areas due to their small sizes. Identification of monitoring and research needs specific to spatial management issues would promote and enhance collection of data and scientific analyses that would inform future decisions.

The Council may select either no action (Alternative 1) or updated approach (Alternative 2). This section was drafted after the September Council meeting so the Council has not seen the language in the document yet.

#### **Volume 3, Section 2.4:**

##### **Alternatives under consideration**

1. Current ad-hoc initiation of actions to adjust of spatial management measures, current monitoring
2. Planned framework adjustment process, request for additional monitoring:
  - Specify additional spatial management measures as frameworkable in various NEFMC FMPs,
  - Develop a regular, strategic process to review the effectiveness of spatial management measures, and
  - Define a series of research priorities related to the review and development of spatial management measures.

##### **Important considerations, DEIS references**

- This section was drafted after the September Council meeting so the Council has not seen this alternative language yet
- Ten year review is timeframe identified in the document

## Volume 2 Section 2: Essential Fish Habitat and Habitat Area of Particular Concern designation alternatives

**No Council action is required at this time** since the Council selected alternatives in 2007 following public hearings and comment on that section of the DEIS.

### Volume 2, Section 2.1: EFH designations

#### Alternatives under consideration

- No action: current designations (Section 2.1.1)
- Designations approved in 2007, with recent adjustments to maps and text descriptions as discussed by Habitat Committee (Section 2.1.2)
- Additional designations not selected in 2007 (Section 2.1.3, to be completed)

#### Important considerations, DEIS references

- Designations viewed as administrative actions; impacts associated with how they are used in the consultation process to recommend habitat conservation measures for federal projects

### Volume 2, Section 2.2: HAPC designations

#### Alternatives under consideration

- No action: Atlantic salmon HAPC, Cod HAPC on Northern Edge of Georges Bank (Section 2.2.1)
- Action alternatives (Section 2.2.2): Inshore Juvenile Cod HAPC, Great South Channel Cod HAPC, Cashes Ledge HAPC, Jeffreys Ledge/Stellwagen Bank HAPC, various deepwater canyon and seamount HAPCs, including: Bear and Retriever Seamounts HAPC, Lydonia/Gilbert/Oceanographers Canyons HAPC, Hydrographer Canyon HAPC, Veatch Canyon HAPC, Alvin/Atlantis Canyon HAPC, Hudson Canyon HAPC, Toms/Middle Toms/Hendrickson Area HAPC, Wilmington Canyon HAPC, Baltimore Canyon HAPC, Washington Canyon HAPC, Norfolk Canyon HAPC
- Additional designations not selected in 2007 (Section 2.2.3, to be completed)

#### Important considerations, DEIS references

- As above, designations viewed as administrative actions; impacts associated with how they are used in the consultation process to recommend habitat conservation measures for federal projects
- Sensitivity to human impacts noted as a rationale for some HAPCs; in some cases fishing impacts were cited specifically. Overlap between HAPCs and habitat alternatives should be considered during decision making.

## **Other considerations and issues**

These issues will be identified in the public hearing document accompanied by any policy guidance provided by the Council at their December meeting. This is not a complete list of issues; if others are identified by the Council they could also be discussed in the public hearing document.

## **What happens upon implementation in terms of scallop fishery access?**

One question that has been raised is what happens in terms of scallop fishery access when the amendment is implemented. Currently much of that fishery is managed rotationally, and there are areas that might reopen under OA2 that would make sense as rotational access areas, not as open areas. However, OA2 does not include provisions to identify new or modified access area boundaries; a possible likely action in which to develop these boundaries would be the 2015 scallop specifications framework. If there is a window of time between implementation of OA2 and implementation of this framework, the Council may wish to state that reopening of certain areas to the scallop fishery would be delayed until the framework is in place. It would be helpful for the Council to indicate such a recommendation at this meeting or in the near term. There is some discussion of this issue at the end of the memo from the Scallop PDT (Document 7).

## **Status of Multispecies Special Access Programs**

There are SAPs within both the CAI and CAII groundfish closed areas that would become somewhat moot if these areas are only closed seasonally. The Council may wish to reconsider or modify these programs in a trailing action if as a result of OA2 the areas no longer exist on a year round basis.

## **Status of exemption areas**

Some fisheries operate within exemption areas specified in the Multispecies FMP, for example the small-mesh whiting fishery and the scallop general category fishery. If habitat and/or year round groundfish closures change, it may make sense to reconsider some of these exemption area boundaries, as they abut one another, and different exemption areas might be appropriate without the constraint of existing closures. Such modifications would be appropriate as a trailing action to OA2.

## **Regulation of lobster fishing**

There has been discussion during development of this action as to whether the Council can or should regulate lobster fishing for the purpose of habitat management, groundfish spawning management, or research, in the context of both the seabed impacts of lobster trap gear and the potential for the gear to capture benthic species including groundfish. This issue has been raised specifically in the context of the Ammen Rock HMA, which is proposed as a habitat closure to all gear types, and the Stellwagen DHRA reference area, which would be closed to many but not all types of gears with the intent of limiting most groundfish removals from the area. Formal guidance on the Council's ability to regulate lobster gear is not yet available, but NERO has advised that lobster fishing could be restricted within NEFMC management plans if the Council can demonstrate such a restriction is needed to successfully manage a species in one of its FMPs. There should be meaningful coordination with the ASMFC Lobster Board when developing any measures to restrict the lobster fishery.

## **Restrictions in spawning areas**

The no action and action alternative spawning areas described in this document have a variety of restrictions and exemptions identified, depending on the measures currently employed in the various

areas. Because these measures vary currently, the action alternative measures vary by area as well. This may or may not be the Council's intent but the issue should be clarified if possible before public hearings begin. Specifically, the current Gulf of Maine Cod Spawning Protection (Whaleback) Area and the new Massachusetts Bay are proposed as fairly restrictive areas where many types of fishing would be prohibited, while there are more exemptions allowed in the rolling closures and CAI and CAII as the alternatives are currently written. This may be appropriate given area size, season, groundfish bycatch rates, and potential for various gears to impact spawning behavior, but fewer exemptions would provide more complete spawning protection.

### **Bycatch monitoring in the herring fishery in year-round closures**

Currently herring vessels have bycatch monitoring requirements when fishing in the year round groundfish closed areas. If these areas are removed or made seasonal, the Council should consider whether different monitoring areas are necessary for herring fishing in the Georges Bank region. There is a herring action to be completed in 2014 that will address monitoring issues in the fishery.