

## **19.0 COMMENTS**

### **19.1 Scoping Comments**

Meeting summaries and scoping comments are included in Appendices 2 and 7.

### **19.2 Written Comments on the Draft Amendment and EIS**

Written comments received during the DSEIS comment period are included in Appendix X.

### **19.3 Public Hearing Summaries**

Appendix XI includes summaries of the seven public hearings that the Council conducted to accept comment on Draft Amendment 10 and the DSEIS.

### **19.4 Response to Comments**

The following responses to written public comment is based on the analyses of preferred alternative and non-preferred alternative in the DSEIS, the analyses of the final alternatives chosen by the Council, and the Council's rationale for choosing the final alternatives.

#### **19.4.1 Comments on definition of overfishing, DAS & trip allocations, and area rotation**

- 1. The status quo overfishing definition has effectively promoted rebuilding of the resource and no changes are therefore needed. If the day-at-sea allocations associated with the annual target mortality rate is too high, the Council has the authority to set a lower target than indicated by the overfishing definition. Sea scallops should be managed as one stock, throughout the range, regardless of closures and area rotation.*

The Council agrees with this strategy and has approved final alternatives that are consistent with it. Future framework adjustments may adopt lower fishing mortality targets than the status quo overfishing definition indicates and apply area-specific DAS allocations to achieve OY. NMFS has recommended a single set of biological reference points to apply to the scallop resource, which has been included in the FSEIS.

- 2. Amendment 10 should not include a change to the overfishing definition.*

The Council recommended that the status quo overfishing definition be maintained. The rationale for this decision is found in Section 5.1.

- 3. Close area in Mid-Atlantic with high concentration of small scallops.*

The Council recommends that the "Elephant Trunk" area be closed beginning in 2004, through

February, 2007. The rationale for this closure is provided in Section 5.1.

**4. *The rotation area management policy should not require areas to be closed every year, only allow consideration of area closures when exceptionally strong year classes occur in specific areas.***

The Council agrees and has adopted an adaptive strategy that will evaluate areas for closures when exceptional strong recruitment occurs in a reasonably-sized area that can be defined. If it becomes necessary, the Council may also close areas that had been depleted and where few large scallops exist to conserve small scallops and achieve plan objectives, producing OY. Except in an exceptionally bad year, there are always some areas that experience above-average recruitment. Therefore while the Council may decide to take no action to close new areas in certain years, it appears that there will usually be one or more closed rotation management areas in place at any time.

**5. *How long would the initial proposed rotation closures exist before they re-open to fishing?***

The length of rotation area management closures will depend on resource conditions, which will be evaluated at least bi-annually in a regular framework adjustment. When significant growth potential exists if an area remains closed longer to fishing and there is sufficient resource available to the fishery, the Council may extend the closure for a longer period, and vice versa. In general, the SEIS analyses (Section 8.2.1) suggest that a three-year closure will provide substantial benefits, but that longer closures could provide marginally higher yield. It all depends on the size frequency of scallops when an area closes, the recruitment the area receives while closed, and the local growth rates that are characteristic of scallops in the closed area.

**6. *The document contains no description of the environmental impact of each alternative and makes no forecasts beyond 2004.***

The environmental impact of the preferred and non-preferred alternatives were evaluated in Section 8.0, both individually and in reasonable combinations. Projections and estimates were carried out in the short-term (2004 – 2007), in the intermediate term (2004-2014), and in the long term (2022 – 2031). The forecasts incorporated uncertainty by performing 400 bootstrap iterations that allowed recruitment to vary according to statistical characteristics observed in each rotation management area during 1982 – 2001.

**7. *The proposed overfishing definition does not comply with National Standard 1 guidance because there isn't a single measure of whether overfishing is occurring***

The Council approve continuing to use the status quo overfishing definition, but nonetheless believes that the alternative overfishing definition complies with the Magnuson Act and National Standard 1, as explained in a July 29, 2003 document. Compliance with National Standard 1 is discussed in Section 6.1.1, but does not address the proposed overfishing definition (Section 3.4.1), because the Council approved continued use of the status quo overfishing definition in the Scallop FMP.

**8. *The proposed overfishing definition provides insufficient flexibility to manage the scallop resource.***

It was for this reason that the Council decided to continue using the status quo overfishing definition, even though to achieve OY, it would require the Council to use a different fishing mortality objective in future actions than the fishing mortality target included in the status quo overfishing definition.

**9. *The status quo overfishing definition does not maximize sustainable yield from the resource, without re-accessing areas that are deemed long-term closures.***

This is at the same time true and one of the problems with the status quo overfishing definition. If the fishery cannot re-access long-term closure areas (which would be an oxymoron), the Council will need to adopt more conservative fishing mortality targets than that which is defined in the status quo overfishing definition. The Council therefore strengthened the framework adjustment process to ensure that future adjustments will optimize yield.

**10. *Analysis of the status quo overfishing definition without access or rotation is an unrealistic, academic exercise, because the Council can determine a lower day-at-sea target even though the definition may allow higher amounts.***

While it is certainly true that the Magnuson Act and National Standard 1 allows (even recommends) that Councils may establish optimum yield targets that are lower than the maximum fishing mortality threshold, it has to be recognized that justifying such an action has been difficult and related action is often rare. Instead, it has been much more acceptable to establish a fishing mortality target that is slightly under the maximum fishing mortality threshold, as a risk adverse strategy to prevent overfishing and maintain biomass near MSY conditions.

Nevertheless, the Council should be aware of and analyze foreseeable actions that may have an adverse impact. One of these is if the status quo DAS allocation continued and the fleet began utilizing 100% of the DAS allocations. Under such a scenario, the analysis shows that fishing mortality in open areas, particularly in the Mid-Atlantic region, would rise and total area swept (a useful indicator of adverse impacts) would increase considerably from present levels.

**11. *The issues with the status quo overfishing definition are long term and are unlikely to cause problems in the short term.***

Problems that will cause the Council to use lower fishing mortality targets than indicated by the status quo overfishing definition appear to become problematic as early as 2006. The Council will re-evaluate the current allocations and fishery management in the next framework action for the 2006 fishing year. If the Amendment 10 action is more conservative than we expect, or scallop recruitment is better than expected, the Council may be able to continue using the present fishing mortality target. Otherwise, it will need to adjust this target or take other actions to achieve OY and minimize adverse impacts on the environment.

**12. *DAS reductions are unnecessary, but if they are needed, effort should be reduced through a buyout program.***

Area-specific DAS adjustments are needed to keep fishing effort and scallop mortality in balance with the productivity of the resource to produce optimum yield. The scallop resource and the fishery have benefited from above average recruitment recently, but there is no reason to expect that above average recruitment will continue indefinitely.

The Council has therefore adopted an adaptive policy of setting DAS allocations, which may require reductions or possibly allow an increase compared with current DAS allocations. Capacity reductions were considered by the Council in the late 1990s and resoundingly rejected by the fishing industry. In future actions, the Council may re-consider capacity reductions, but cannot allocate or obligate funds for a buyout. Congress may authorize a buyout or the industry may initiate a buyout program, which could go hand-in-hand with permit stacking or consolidation through a future FMP action to

provide the remaining fleet with more profitable allocations.

13. ***Actual DAS use should be counted in controlled access programs, taking into account factors such as breakdowns, weather, and medical emergencies.***

Amendment 10 has liberalized the ability for a vessel to apply for a DAS rebate for trips that are terminated early due to factors such as the ones listed. A DAS tradeoff is applied to controlled access trips to allow vessels to fish at a more deliberate pace where catches are high, offering the vessel the ability to carry fewer crew members, fish more safely, seek areas with the most valuable scallops, and/or avoid areas with high bycatch.

14. ***Changing the fishing year from March 1 to September 1 would be a hardship to industry, because of the effects of weather in the fall and poor yield due to scallop spawning.***

The Council agreed and retained the current scallop fishing year despite the short window between the release of survey results and the start of the next fishing year, allowing too little time to prepare a SAFE Report and prepare a framework adjustment. As a result, some analyses for the framework adjustment will depend on the prior year's scallop survey results, augmented where possible with more recent data.

15. ***Several comments opposed new closed areas.***

Scallop area closures are a necessary and integral part of area rotation. At the present time, there are no new area closures where there are small scallops that should be protected while they grow to optimal size. With access to the Georges Bank closed groundfish areas and no closures, there would be no new areas to open under the area rotation program when the controlled access program for the Hudson Canyon Area no longer applies.

As part of area rotation, the Council determined that closed areas may be necessary to protect large concentrations of small, vulnerable scallops. Accordingly, the Council recommends a closed area to the south of the existing Hudson Canyon Access Area to be called the "Elephant Trunk" area, based on a large concentrations of small scallops that would benefit from 3 years of closed area protection.

16. ***Many comments supported area rotation and specific area rotation alternatives and policies. Some commenters supported fully adaptive rotation, while others supported more simple approaches such as mechanical rotation. Many comments supported the inclusion of access to the Georges Bank groundfish closed areas in area rotation programs. Some supporters of area rotation only supported area rotation if access to the groundfish closed areas is allowed.***

The Council recommends the fully adaptive area rotation program (Section 5.1.3.2) based on the expectation that the program will provide the most benefits to the resource and the industry, while providing flexibility for managers and integration of industry-based cooperative resource surveys. The rationale for the Council's selected area rotation program is provided in Section 5.1.

17. ***The number of area access trips must be increased from the projections included in Amendment 10.***

Increasing the number of trips for controlled access areas would require either an increase in the TAC or a decrease in the possession limit and/or number of days-at-sea charged per trip. Raising the TACs would cause scallop biomass to decline quicker than is desired and reduce TACs and trip allocations in 2005 and future years. Reducing the scallop possession limit and/or the DAS charge per trip would

increase fishing costs and reduce benefits to the fishery. Strong support for either approach was not apparent in public comment.

Framework Adjustment 16 that is under development to consider alternatives to minimize finfish bycatch will also re-estimate the projected biomass using updated survey data from the annual NMFS resource survey and from a new SMAST video survey, which will become available for analysis. Re-estimating biomass may allow the FMP to allocate additional trips, or it may reduce the allocations where biomass has declined in comparison to projections in Amendment 10.

**18. *Do not reduce DAS from 120.***

The Council established DAS allocations based on the fishing mortality objective required by the FMP, most recent resource status information, and the area rotation program included in Amendment 10. Current analysis indicates that a 120 full-time vessel DAS allocation may not achieve plan objectives and fishing mortality targets. DAS may be lower or higher than 120 DAS for full time scallop vessels, as adjusted through the biennial framework process, based on the condition of the resource and the area rotation measures in place or recommended in each framework. If average scallop recruitment is higher than estimated from the 20-year time series, higher DAS allocations than estimated by Amendment 10 may be sustainable. If the rotation area management program works better than anticipated, it also may support a higher DAS allocation. Current projections, however, indicate that allocations of 120 days or more are not sustainable and would not prevent overfishing, unless large amounts of scallop biomass are unavailable to the fishery and local overexploitation occurs on scallops that remain accessible (causing catch per DAS to drop).

**19. *Allow broken trip exemption.***

The Council agrees and recommends the broken trip exemption program described in Section 5.1.2.4.

**20. *Replace Amendment 7 DAS schedule.***

Amendment 10 replaces the rigid DAS schedule with an adaptive process that response to resource conditions, mortality caused by a DAS, and the amount of vessels fishing to achieve the fishing mortality rate associated with optimum yield. In the absence of this adaptive process through bi-annual framework adjustments, the 2006 DAS estimates in Amendment 10 will replace the default DAS allocations from Amendment 7.

## **19.4.2 Comments on other scallop management proposals**

**21. *Some comments urged the Council to maintain 3½” rings while others supported 4” rings either in selected areas/situations or in all areas.***

Analysis shows that the benefits of requiring a 4-inch ring greatly exceed the cost of the change-over. Extensive experiments and field trials show a substantial increase in efficiency and yield (Section 8.2.8), increasing yield-per-recruit by 5 percent and increasing catch efficiency by 10-15%. The Council approved delaying full implementation to September 1, 2004 to allow industry to adjust and allow for replacement of existing equipment as gear wears out.

**22. *Use standard bags and bag tags.***

The Council disagrees that standard bag and bag tag programs are sufficiently developed at this time to apply to the entire fishery. A pilot study in cooperation with Law Enforcement agencies may be needed to evaluate the program's utility and cost (or savings).

**23. *Amendment 10 should include restrictions on net boats.***

Many opposed these proposed restrictions, because it would unfairly penalize a fishery sector that was incapable of switching to more selective gear. The Council will encourage research on improving the selectivity of scallop nets and the FMP will retain the opportunity for vessels with net-authorized limited access permits to switch to dredges, including an upgrade in the DAS category when using small dredges and fewer crew.

**24. *Amendment 10 does not take into account how the proposed alternatives affect families and will be unfair.***

The economic and social impacts are analyzed and discussed in Sections 8.7 and 8.8, and an analysis of fairness and equity is provided in Section 6.1.4. The proposed action is expected to improve yield and economic benefits to fishermen and coastal communities, even though less fishing may be required. Some reduction in landings to sustainable landings may be required, however, but these landings are expected to be higher than those estimated to occur under current regulations.

**25. *Scallop management is a success story and no major changes are needed.***

The Council disagrees that changes are unnecessary. Scoping comments indicated that the FMP was not doing enough to maximize yield from the scallop resource, to minimize bycatch and bycatch mortality, and to minimize impacts on EFH. Furthermore, NEPA requires NMFS to update the EIS and analyze the cumulative effects of the FMP on the human environment and NMFS was under a court order to re-evaluate the EFH components of the EFH, considering alternatives to minimize adverse effects on EFH.

Amendment 10 has been in development for over 3 years in order to devise an effective area rotation management scheme to improve yield from the scallop resource through area-based management. The rationale for the Council's selection of alternatives is provided in Section 5.1.

### **19.4.3 Comments on fishing under general category rules**

**26. *Area rotation closures could have direct and indirect effects on small, general category vessels that target sea scallops inshore. The proposed area rotation alternatives could close some traditional inshore areas and vessels are not well equipped to travel to other offshore areas to fish. Indirectly, rotational closures could cause large limited access vessels to target scallops in these small inshore beds, where it would deplete the resource for the small inshore vessels.***

The Council agrees, but will consider this issue on a case-by-case basis when evaluating the size and boundaries of area rotation closures under the flexible boundary rotation area management system.

**27. *If the rotation management area system includes inshore areas where small general category vessels fish, the boats should be exempted from the closure or have a lower possession limit while the area is closed to limited access vessels. Areas near Cape Cod should be split into two or more parts, so that the entire part of the rotation management area doesn't close at once.***

The Council decided that the best way to respond is through evaluation of flexible area boundaries. Exempting general category scallop vessels from rotation area management closures could create enforcement problems and cause a reduction of benefits from the closures.

**28. *Prohibiting scallop day fishing for vessels with limited access scallop permits is unfair and discriminates against scallop fishermen.***

The Council decided to prohibit vessels from targeting scallops by a single vessel under both limited access and general category regulations to close a loophole and promote conservation. This will prevent the erosion of limited access DAS allocations if this practice increases fishing mortality, and as a result vessels with limited access scallop permits will benefit. Vessels with limited access scallop permits that day-fish will need to do so on a scallop DAS or may relinquish the permit to obtain a general category scallop permit and continue fishing day-trips, since the general category permit does not prohibit this practice.

The action does not discriminate against scallop fishermen because this practice (targeting a species both on and off a DAS clock for commercial purposes) is allowed in no other federally-managed fishery. When the Council developed and adopted the general category permit in 1993 within Amendment 4, it was meant to serve a dual role: to allow vessels that opportunistically fished near-shore concentrations of sea scallops to continue to do so and to allow vessels on long trips catching other species to land the small amount of daily scallop bycatch. Many vessels that day-fished nearshore concentrations of scallops (like those in Maine or near Cape Cod) continued fishing under a general category permit and did not apply for a limited access scallop permit. When DAS allocations were higher and scallops less abundant, few limited access scallop vessels day-fished when not on a scallop DAS. During the last few years, more limited access vessels have been doing so because the DAS allocations have declined and scallop abundance has correspondingly increased.

Ultimately, the action is not meant to discriminate against fishermen, but to enhance the yield and economic value of the resource to fishermen.

**29. *General category provisions should not be changed. Others commented that the Council should adopt additional measures for general category vessels including VMS requirements and increased possession limits.***

Official data reports suggest that scallop fishing by vessels with general category permits has declined recently, possibly in response to declining scallop prices. For the time being, the Council decided to adopt the status quo for scallop fishing by vessels with a general category permit, but this situation will be closely monitored and future actions may be possible.

**30. *Requiring VMS on vessels with general category permits is not feasible – the cost is too high.***

The Council decided not to require vessels that target sea scallops under general category rules to obtain and operate VMS equipment. Future framework actions that allow vessels with general category permits to fish in controlled access areas may require VMS, however. The benefits and costs of doing so will be assessed if and when such an action is proposed.

**31. *Vessels with general category permits should be able to participate in controlled access programs, especially if they were unable to fish for scallops during a rotation closure.***

The Council agreed with this policy and Amendment 10 includes a provision to allow vessels with general category scallop permits to retain and land the scallop possession limit when fishing under a

special access program – for scallops or another species. Special reporting requirements and/or a scallop TAC may be needed in future actions allowing controlled access, however.

32. ***There should be a moratorium on general category vessels.***

The Council determined that a moratorium on general category vessels was not appropriate for consideration in Amendment 10. The original purpose of the general category was to provide for open access opportunity for vessels that depend on catching a variety of species and to accommodate the ability for vessels to land customary scallop bycatch when targeting other species on long trips. Boats that opportunistically target scallops while participating in a variety of other fisheries include but are not limited to small boats and vessels that historically fished scallops before the limited access program was implemented in 1994, but that did not qualify for a limited access permit. This fishery provides a variety of economic and social benefits to fishing-dependent coastal communities.

#### 19.4.4 Protected species

33. ***The Council did not consider any management actions that are designed to protect the barndoor skate from being captured/injured/killed during scallop fishing, nor does it discuss equipment modifications, if any, being considered that may prevent skate capture. The DSEIS did not indicate if any fishery data existed showing skate fatality following capture in a scallop dredge, or if there are survival estimates.***

Due to the following considerations and the fact that no gear modifications are available to prevent skate capture, besides the ones that are in place, the Council was unable to develop and analyze measures to specifically address barndoor skate. Nonetheless, skate conservation is very important and the Council considered many alternatives in Section 5.3.5 to minimize bycatch of finfish and some may help conserve barndoor and other skate. The measure that is probably the most effective is keeping total fishing time and area swept down, which can be achieved by fishing on large scallops in controlled access areas and the DAS tradeoff. Also important is an approved measure that will increase sea sampling, allowing a better determination of the distribution and amount of barndoor skate bycatch in all areas.

Barndoor skate is a candidate species for listing as a threatened or endangered species under the Endangered Species Act, but recent survey data indicate that there are far more barndoor skate than previously thought and there may be data that indicate such a listing is unnecessary. Following a petition to list barndoor skate as a threatened or endangered species, analysis of the population found it was neither threatened or endangered.

Barndoor skate bycatch estimates (Section 8.3.1) suggest that Georges Bank area access contributes a very small amount of mortality on the barndoor skate population. Furthermore on short tows that are characteristic of the commercial fishery in the controlled access areas (especially those on Georges Bank), barndoor skate appear to survive capture in good condition better than most species (personal observation). Barndoor skate may, however, experience post-release mortality from injuries encountered in the dredge or on deck that isn't obvious on release.

34. ***The Council did not consider management alternatives to protect sea turtles from death or injury during scallop fishing, such as the development of experimental sea turtle exclusion devices.***

The amendment promotes additional sea sampling, funded by scallop set asides, that will allow for more observation and better estimates of the amount and distribution of sea turtle interactions with

scallop dredges. Also, the amendment also promotes scallop-related research, funded by scallop set-asides that may be used to develop new fishing methods or gear modifications to protect sea turtles from death or injury during scallop fishing. One of the primary research priorities for the use of scallop research set aside funding is for investigating the potential causes of and solutions for sea turtle interactions with scallop fishing.

In fact, some of these funds have already been used to investigate why sea turtle interactions are occurring and explore gear modifications that will reduce encounters. Perhaps this new research could have been identified in the document better, but the research is in the initial stages and has not been completed or analyzed at this time.

Also important is the ability to adapt and react in a pro-active way when new protected species issues arise and/or new methods to minimize interactions become available. Rather than rely solely on a Biological Opinion and further analysis to address the issue, the amendment includes a protected species proactive adjustment process (Section 5.1.7) to allow the Council to react quickly and adjust fishery regulations by framework action when the need arises.

**35. *The Hudson Canyon Area might be a possible venue for test implementation of turtle exclusion devices.***

The Council agrees and has allocated Hudson Canyon Area set-aside funding for this purpose. The turtle interactions may however happen in other areas in the future. Both set-aside programs to fund more observers and scallop research (including those related to protected species interactions) have been expanded in Amendment 10 and would allow for research over a broader area where problems may exist.

## **19.4.5 Finfish bycatch**

**36. *The DSEIS fails to adequately assess the potential adverse impacts to overfished groundfish stocks from accessing groundfish closed areas***

This assessment has been augmented in the FSEIS using data and analysis from sea sampling during a previous access program, originally included in the FSEIS for Framework Adjustment 15. These data suggest that except for monkfish and some species of skates, the finfish bycatch was a very small proportion of standing finfish biomass. The rules in place for access during the 2000 fishing year were very successful in keeping finfish bycatch down to insignificant levels.

Amendment 10 includes a rather broad range of alternatives for minimizing bycatch, either in controlled access areas or in regular, open fishing areas (Section 5.3.5). Some of the alternatives (for example area-specific finfish possession limits, TACs, and seasons) were very broad and could encompass a wide range of options and/or specifications. Much analysis is hampered by a lack of adequate data, so in some cases pooling over years (i.e. the 28,000 tows) was done to evaluate spatial and seasonal patterns, rather than trends across time. In other cases, more detailed analyses were included using sea sampling from a shorter time frame (for example in controlled access areas having enhanced sea sampling from a scallop TAC set-aside). Based on these data and analyses, candidate options that could have a potential beneficial effect by avoidance of high levels of bycatch were identified.

In the end, after public hearings, the Council decided that specific area and seasonal closures to avoid bycatch were too draconian. Instead, the Council approved a proposed action to increase the twine

top mesh, increase ring size, and allocate DAS in ways that minimized bottom contact and therefore bycatch. All are expected to have a positive, but difficult to quantify, effect on many species of overfished groundfish (at least ones vulnerable to capture by scallop dredges).

Sections 7.2.4.1 and 8.3 evaluate past and potential future impacts on groundfish stocks, from fishing in groundfish areas. These analyses were brought forward and updated in the FSEIS based on the analyses in the SEIS for Scallop Framework Adjustment 15, using sea sampling data from enhanced observer coverage in controlled access areas funded by the scallop TAC set-aside. Although these estimates indicate that the direct impacts on most species of groundfish are minor during the time when fishing occurred during previous access programs, the Council will consider additional measures to minimize bycatch and bycatch mortality for finfish within Framework Adjustment 39.

**37. *Access to the groundfish closed areas cannot be granted through an amendment to the Scallop FMP.***

Such an action would require an amendment or framework to the Multispecies FMP, under current regulations. Although the Council is considering a special access program in Amendment 13, it has initiated Framework Adjustment 39 to consider alternatives and analyze the effect of access on beleaguered groundfish stocks. To the extent possible, Amendment 10 has analyzed the environmental effects with and without access of the closed groundfish areas, but a framework action will be required to allow access to these groundfish areas, since it was not deemed practical to add a companion groundfish framework to the scallop amendment, nor has it been possible to develop a separate groundfish framework action in time for Amendment 10 approval and implementation. Instead, the Council has initiated Framework Adjustment 16/39 in November 2003, with a final meeting expected in late February and implementation in late summer or early fall of 2004.

Even though the Council adopted measures in Amendment 10 to minimize bycatch and bycatch mortality, other alternatives may be used in controlled access programs to further limit the impact. Such measures in Amendment 10 include area-specific finfish TACs, gear restrictions and modifications, seasons for access to avoid times when bycatch would be high, and finfish possession limits. As planned for Framework Adjustment 16/39, the Council will consider and evaluate new alternatives for access to the Georges Bank closed groundfish areas to minimize this bycatch during a scallop controlled access program.

## **19.4.6 General comments on the documents or procedures**

**38. *The documents describing the fishery industry are complex technical assessments and are difficult to read. The dependent and independent variables which impact this complex interaction are numerous, difficult to describe, and even harder for the public to comprehend. The DSEIS might also be shortened with technical material being placed in an appendix***

Amendment 10 addresses complex issues via a broad range of alternatives, leading to a more complex document than those for previous actions. Nonetheless some improvements have been made in the FSEIS to summarize these complex interactions and describe the mechanisms that cause adverse impacts. A new cumulative effects section has been added (Section 8.1) that summarizes the pathways causing impacts on valuable environmental components in the area being managed. It also includes a table that summarizes these impacts over time and effect. Although much technical material remains, more technical material has been relegated to the appendices to reduce the

complexity of the document.

**39. *Several comments were submitted in response to the DSEIS that are outside of the scope of Amendment 10, and no specific response is included in this FSEIS.***

Commenters are reminded that Amendment 10 contains measures to achieve the specific goals and objectives specified in Section 4, "Purpose and Need." In addition, some comments suggested that the analyses included in Amendment 10 are not based on the best available science. The Council disagrees that Amendment 10 is based on insufficient, inadequate, or outdated science.. A description of how the Council complies with National Standard 2 to use the best available science and with the new Data Quality Act is found in Sections 6.1.2 and 11.0, respectively.

**40. *The Council was urged to keep Amendment 10 simple.***

The Council faces complex and sometimes competing issues when it manages a resource and the effects of the fishery on the environment. Often, alternatives to address these complex issues have interactive effects which are hard to analyze and explain in simple terms, while providing the necessary detail to transparently explain how analyses were done and report on the results. Since Amendment 10 introduces a new adaptive management strategy, there will be a wide range of outcomes depending on future conditions.

Since Amendment 10 introduces an adaptive strategy and addresses many issues ranging from changes in allocations, impacts on bycatch species, and effects on EFH, as well as scallop research and monitoring, the Council recommended a suite of management measures to NMFS that includes some complex management schemes.

Packaging these alternatives for the DSEIS would have been impractical, because doing so would have either caused the Council to preclude certain combinations, or make the number of potential combinations horrendously long. Much of the complexity of the measures included in the DSEIS, that might have been combined in numerous final actions, however, has been eliminated with the Council's final selection of alternatives. Nevertheless, in order to ensure that area rotation and new management measures combine to make an effective management plan, some complexity remains.

**41. *Access to groundfish areas cannot be implemented through scallop plan amendment.***

The Council agrees and is proceeding with the joint Framework 16 to the Scallop FMP and Framework 39 to the Multispecies FMP to address this issue. Future access actions might be processed as a new special access program (SAP) through specifications approved by the Council for Amendment 13 to the Multispecies FMP.

## **19.4.7 Comments on EFH alternatives or analysis**

**42. *The analysis and estimated benefits are insufficient to justify using closures to minimize impacts on habitat. The benefits to the resources from the proposed closures have not been adequately estimated or described. On the other hand, habitat closures are one of the least practicable choices compared with other ways (effort reduction and gear modification) to minimize impacts, much of which has been achieved through existing or planned management measures. Gear substitution is totally impracticable for the sea scallop fishery; because no other scallop gear is available that doesn't cause greater habitat impacts.***

The Council agrees that it is difficult to quantify the benefits of using closures through habitat closures, but the evidence and expert opinion suggests that area closures for certain fishing gears, primarily bottom-tending mobile gear, is the most effective way to conserve EFH for vulnerable, benthic species. Other management strategies such as reducing the quality and amount of bottom contact can help minimize impacts, but area closures are more effective because most of the adverse habitat impacts occur from the first passage of gear over the bottom. In areas with complex, hard bottom habitat it sometimes takes years or even decades to recover, making effort reduction a less effective choice

The Council took a careful look at the practicality of the various area closure alternatives. Although important scallop resources appear within the boundaries of Habitat Alternative 6, this alternative appears to be the most effective because it continues the habitat recovery there that began in 1994 with the year-around groundfish area closures that overlap this alternative. It also appears to be practicable because these areas are presently closed and will be closed in Amendment 13 to gears capable of catching groundfish, unless partially re-opened in a future special access program in the Multispecies FMP or a controlled access program in the Scallop FMP. Therefore the costs of classifying these areas as habitat closures is very low relative to the benefits of continuing habitat recovery in them.

The Council also agrees that gear substitution is impracticable, because there are only two gears that catch commercial quantities of sea scallops: dredges and bottom trawls. Both have adverse impacts on sensitive habitat and trawls are very likely to increase bycatch and bycatch mortality, because they fish like a flatfish net used to catch yellowtail and other flounders.

***43. There is insufficient analysis and discussion of the adverse habitat impacts of the status quo and the potential positive impacts of scallop management alternatives in the document.***

The adverse habitat impacts of the status quo are described in the Gear Effects Evaluation, Section 7.2.6.2. Moreover, status quo management is also analyzed in Section 8.5.7.1. Much of the information in these sections has been revised and clarified.

***44. There is insufficient analysis of human, i.e. non-fishing, impacts on essential fish habitat.***

The SEIS identifies the type of non-fishing impacts that would have an adverse effect on scallop EFH, primarily activities that degrade water quality or clarity in offshore continental shelf areas where scallops reside. It would be more appropriate to assess the non-fishing impacts on finfish EFH under the plans that regulate finfish species.

***45. The SEIS does not analyze the relationship between habitat effects and the distribution of scallop fishing effort.***

This is not at all true. The document analyses the distribution of scallop fishing effort relative to substrate categories associated with habitats that are deemed to be adversely impacted by dredges and trawls as well as EFH designations for species that are characterized as being moderately or highly impacted by dredges and trawls. Moreover, the Habitat Technical Team received an analysis that showed the statistical association of juvenile and adult EFH designation data with the Poppe et al. (1989) habitat types. This analysis was not included in the SEIS because it encompassed a broader region than the NAAA, and it did not collapse the Poppe et al. (1989) sediment classifications in the same way that the EFH metrics analysis did.

The FSEIS furthermore analyses the probable distribution of fishing effort under area rotation, with and without access to the Georges Bank areas, in comparison with the factors used in the EFH metrics analysis. This new analysis was included in the final document to address this issue.

**46. *Amendment 10 does not consider or contain reasonable alternatives to minimize habitat impacts that were recommended during scoping.***

Two strategies were recommended during scoping that the Council developed based upon available substrate, EFH designation, and scallop effort distribution data. These analyses were performed in response to scoping comments and recommended strategies to evaluate EFH importance and balance that with fishery productivity, to determine where habitat closures would be most effective, taking into account the cost of preventing fishing in identified areas. These analyses led the Council to adopt in the DSEIS, habitat alternatives 5a to 5d and 7. As another option, only one concrete proposal with boundaries and specifications was offered by the public during scoping while the Council was developing these alternatives. This proposal, developed jointly by the Council advisors, came very late in the process, which prevented analysis in the Amendment 10 DSEIS but is under consideration in Amendment 13 to the Multispecies FMP.

### **19.4.7.1 Process/Legal Comments**

**47. *Habitat alternatives represent a reasonable range of alternatives under NEPA***

The Council and NMFS concur.

**48. *Amendment 10 fails to include a number of alternatives that were recommended through the scoping process.***

NMFS published a Notice of Intent (NOI) to prepare a supplemental EIS for the EFH components of the Northeast Multispecies and Atlantic Sea Scallop Fishery Management Plans on February 1, 2001 (66 FR 8568). The public comment period was open until April 4, 2001. Based on the original Amendment 13 and Amendment 10 scoping a letter, dated April 13, 2001, the following proposals were recommended to protect EFH:

- Develop a precautionary management approach to protecting EFH
- Establishment of Habitat Research Areas
- Creation of a systematic and effective HAPC designation process

The Council received another letter from the same group dated March 4, 2002; almost a year later and outside the scoping period that summarized the proposals identified through scoping. The second letter contains the original three proposals included during the scoping period and an additional six (6) proposals, which include:

- Make a primary goal of rotational management minimizing the effects of scallop dredging on habitat by: (1) excluding dredging from gravel “hard bottom” areas and (2) restricting scallop dredging to those areas that are the most productive and leaving other less-productive areas inaccessible to the scallop fishery.
- Establish area-based gear restrictions prohibiting dredging and trawling in sensitive habitats, including known-hard bottom on Jeffrey’s Ledge, Stellwagen and George’s Bank (in juvenile cod EFH).

- Establish harvest incentives for fixed gear (i.e. access to mobile gear restriction zones). The incentives should try to protect sensitive hard-bottom cod EFH, protect benthic invertebrates (major groundfish food source) and protect the complexity of these habitats to promote recruitment.
- Create spawning sanctuaries to improve scallop recruitment.
- Prohibit scallop dredging in areas containing sensitive EFH for overfished species.
- Create a rotational-area management system that keeps areas closed for six (6) years.

All of the above-proposed alternatives submitted within or outside of the scoping period have been considered in the development of the Amendment 13 and/or Amendment 10 DSEISs. If the proposals were considered but rejected for full analysis in the DSEIS, a rationale is provided in the Alternatives Considered But Rejected Section of the DSEIS. Moreover, the Council's technical staff and scientists made a good-faith effort to try to develop the vague recommendations into viable alternatives, which resulted in four (4) separate habitat closed area alternatives in the document.

***49. DEIS fails to demonstrate that any potential adverse effects of fishing in New England reach the legal standard of being “identified” and “adverse.”***

We disagree. The NMFS technical guidance on the implementation of the essential fish habitat components of the Magnuson-Steven Act states that, “for the identification and description of adverse effects on EFH, FMPs should provide a scientific basis for concluding that the potential or known adverse effects are a result of the identified activities. Examples of scientific justification include, but are not limited to: peer-reviewed articles and reports; resource agency publications that have been subjected to internal agency review; agency data products, such as research findings, on-going evaluations and scientific knowledge of species, ecosystems, or watershed systems; ocean temperature, dissolved oxygen and salinity logs; fish landings reports; satellite and aerial imagery data products; and testimonies of individuals with a demonstrated expertise regarding the appropriate resources.” This guidance is followed and implemented successfully in the FSEIS through the thorough Gear Effects Evaluation and Adverse Impact Determinations.

***50. Amendment 10 is not an appropriate vehicle for creating year-round habitat closed areas***

The Council and NMFS agree that creating year-round habitat closed areas within individual FMPs when concurrent action is not taken in other Council managed FMPs is problematic. However, because the scallop fishery is adversely impacting EFH for several species and life stages, the Amendment 10 action must implement measures to minimize those effects to the extent practicable in order to meet the requirements of the Sustainable Fisheries Act. Amendment 10 does implement year-round indefinite closures to scallop dredge gear within the existing year-round groundfish closed areas with the exception of the Framework 13 Scallop Access Areas. Finally, the Council will be initiating an omnibus habitat amendment that will seek to, among other things, integrate habitat protection measures across all Council managed FMPs.

***51. The DSEIS ignores extensive legal guidance regarding the significant environmental issues and how to best reduce adverse impacts of scallop dredging on EFH.***

We disagree. The FSEIS contains a detailed account of the effect of fishing and non-fishing related impacts on EFH and other environmental and natural resources as required by the Magnuson-Stevens Act and the National Environmental Policy Act. The Council and NMFS feel confident that the FSEIS and related SFA actions taken in Amendment 10 will reduce the impacts of scallop dredging

on EFH to the extent practicable.

## **19.4.7.2 General Recommendations**

### ***52. Measures to protect deep water corals should be included.***

Due to the timing of Amendment 10, measures to protect deep-water corals are not included in the FSEIS. However, measures to protect deep-water coral from monkfish trawl gear, a fishery that prosecutes in deeper water where corals may be present, are included in the DSEIS for Amendment 2 to the Monkfish FMP. A copy of the Monkfish FMP Amendment 2 DSEIS will be posted to the Council's website once the document is submitted to the Agency in the coming weeks ([www.nefmc.org](http://www.nefmc.org)).

### ***53. None of the habitat closure alternatives are acceptable (not designed for the purpose of minimizing adverse impacts of fishing on EFH, none [of the alternatives] would do much to protect the most vulnerable habitats, it is possible that the net effect on EFH will be negative, proposed closures are inefficient since they would large areas of valuable fishing grounds with sandy seabeds in order to prevent fishing on small areas of mud, cobble, boulder, and bedrock, some closures are unenforceable, and some closures include areas in the Mid-Atlantic, which will cause conflict with the MAFMC).***

To minimize the adverse effects of fishing on EFH from the scallop fishery, the Council has chosen to implement Habitat Alternative 6 which will close the portions of the current year-round closed area not included in the Scallop Framework 13 Access Areas to scallop dredge gear indefinitely. This closure will assign the extra protection of a habitat closure to areas described as only 2.3% gravel, but that is a significant portion of the total amount of gravel in the region (17%). Critical and sensitive habitats occur within these area boundaries and protection of these areas from fishing with scallop gear will allow continued habitat recovery in these areas, particularly when other bottom tending mobile gear are prohibited to promote groundfish rebuilding and to protect groundfish spawning activities. Under the present management circumstances, selection of these closures for habitat protection carries little cost as long as the groundfish closed areas apply to scallop fishing. In terms of EFH protection, the percent of total vulnerable EFH in Alternative 6 ranks higher than most of the other alternatives, excluding habitat alternatives 7 and 9, which were not deemed to be practicable. Additionally, Alternative 6 contains high amounts of biomass for three bottom-feeding trophic guilds which is an important indication of what species live in this area, and how many. For example, more benthivore biomass (species that eat from the ocean bottom) is contained in Alternative 6 than any of the other alternatives, except for habitat alternatives 7 and 9.

### ***54. No Habitat closures should be part of Amendment 10.***

The Council considered this alternative but decided, with advice from NMFS, that this approach would not meet the requirements of the Magnuson-Stevens Act to minimize adverse effects of fishing on EFH.

### ***55. Offshore closures, Georges Bank, are impracticable because the cost of the lost scallop harvest outweighs any potential habitat benefits***

This was considered in the Amendment 10 analysis of the alternatives. Because it is extremely difficult to assign a market value to "any potential habitat benefits", the Council made its decision to

close offshore areas on eastern George's Bank (northern portion of Closed Area II) based on a trade off between potentially allowing access to the more sandy areas in the southern portion and protecting the more complex bottoms known to exist in the northern portion.

**56. *Need to defer additional consideration of more refined habitat closure options to a new Omnibus measure***

The Council and NMFS agree that creating year-round habitat closed areas within individual FMPs when concurrent action is not taken in other Council managed FMPs is problematic. However, because the scallop fishery is adversely impacting EFH for several species and life stages, the Amendment 10 action must implement measures to minimize those effects to the extent practicable in order to meet the requirements of the Sustainable Fisheries Act. Amendment 10 does implement year-round indefinite closures to scallop dredge gear within the existing year-round groundfish closed areas with the exception of the Framework 13 Scallop Access Areas. Finally, the Council will be initiating an omnibus habitat amendment that will seek to, among other things, integrate habitat protection measures across all Council managed FMPs.

**57. *There is no reason to close EFH for scallops since it is the belief of most industry that scalloping improves habitat for scallops.***

While some in the industry may believe this to be true, the gear effects evaluation and adverse impacts determination in the Amendment 10 FSEIS concluded that scallop fishing does not adversely impact scallop EFH. However, scallop fishing was found to adversely impact EFH for several other species and life stages. The Magnuson-Stevens Act requires the Council to approve measures that minimize the effect the scallop fishery has on the EFH of other federally-managed species. As such, there is ample reason for the Council to close areas to protect EFH for species which are adversely impacted by the use of scallop gear.

**58. *Areas closed for EFH for other species including MPAs should be developed through a comprehensive amendment affecting all species and gear types.***

The Council and NMFS agree that creating year-round habitat closed areas within individual FMPs when concurrent action is not taken in other Council managed FMPs is problematic. However, because the scallop fishery is adversely impacting EFH for several species and life stages, the Amendment 10 action must implement measures to minimize those effects to the extent practicable in order to meet the requirements of the Sustainable Fisheries Act. Amendment 10 does implement year-round indefinite closures to scallop dredge gear within the existing year-round groundfish closed areas with the exception of the Framework 13 Scallop Access Areas. The Council will be initiating an omnibus habitat amendment that will seek to, among other things, integrate habitat protection measures across all Council managed FMPs. Additionally, the Council is currently working to develop a Council policy on Marine Protected Areas through its Habitat/Marine Protected Areas Committee.

### **19.4.7.3 Specific Alternatives**

**59. *Supports Alternative 2 as long as Council states that they are not habitat management measures, but rather measures with ancillary benefits to habitat***

The Council chose to implement Habitat Alternative 2 (Benefits of Other Amendment 10 Measures) in order to partially meet its requirement to minimize adverse effects of scallop fishing on EFH. In

doing so, the Council recognizes that the measures to reduce days-at-sea, and implementing broken trip DAS and trip adjustments, four-inch rings and ten-inch twine tops, reduced possession limit for limited access vessels outside of scallop DAS and a 2% set-aside from TAC and/or DAS allocation to fund research and surveys will result in positive direct and indirect protection for EFH from scallop gear. As such, the Council acknowledges these measures as habitat management measures.

**60. *Joint Advisor's approach is preferred.***

The Joint Advisor's approach is not included as an alternative under consideration in Amendment 10 due to timing. It is, however, included in Amendment 13 to the Multispecies FMP as Habitat Alternative 10 and is a preferred alternative in the DSEIS.

**61. Of the habitat alternatives adequately analyzed by the Council, Alternative 3a comes closest to fulfilling [the habitat responsibilities].**

Alternative 3 includes the closure of the Great South Channel, which is impracticable due to the dramatic social and economic impacts. Further, the equity of impacts is uneven and is focused mainly in the New Bedford, MA port.

**62. *Reject the DSEIS (1,497 comments)***

Due to the requirements of both the Magnuson-Stevens Act and the settlement agreement in the AOC vs. Daley EFH Lawsuit, the Council is unable to reject the DSEIS as suggested.

**63. *Habitat Alternatives 2 and 9 are virtually identical to the No Action/Status Quo***

Response: The difference between Alternative 2 (Status Quo/No Action) and Alternative 9 (Existing management boundaries for area closures would be used to protect habitat from harm by scallop fishing gear) is the inclusion of the Cashes Ledge closure year round in Alternative 9. Additionally, Alternative 9 would afford the existing year-round groundfish closed areas the added protection of a "habitat closure." As such, it would not be subject to automatic opening or access during a rebuilt groundfish complex condition.

**64. *The JAR alternative will damage sensitive habitats and should not be included in the DSEIS.***

The "JAR" alternative is not included in the DSEIS due to timing issues with Amendment 10. It is, however, included in Amendment 13 to the Multispecies FMP as Habitat Alternative 10 and is a preferred alternative in the DSEIS.

**65. *Vessel Monitoring Systems seem to be a burden with little benefit.***

Implementing a Vessel Monitoring System throughout the fleet will enable the Council to better evaluate the effect of the fishery on EFH in the future by producing more accurate estimates of extent, duration and intensity of impacts on EFH.

**66. *Opposes restrictions on rock chains because of safety issues***

The Council agrees that safety risk associated with limiting rock chains outweighs the habitat benefits that might be realized. Furthermore, the intent of limiting rock chains is to change fishing behavior such that less fishing activity occurs over hard bottoms. This may or may not occur and if it does not, removal of rock chains may increase adverse impacts on habitat because more rocks and hard bottom

would be hauled to the surface in dredges.

- 67. *Amendment 10 should reject the requirement of 4”rings because it may result in the inability to catch a reasonable number of scallops and in certain weather conditions it would mean more tows and effect the habitat more adversely. However, more escapement of fish and small scallops are a tremendous benefit.***

The Council has chosen to implement the requirement of 4-inch rings everywhere for the scallop fishery. Particularly in areas having predominately large scallops, like a re-opened controlled access scallop rotation area, this measure will decrease bottom contact time to take the same number of scallops and achieve the fishing mortality targets. This result can help reduce habitat benefits, particularly when it reduces the ‘footprint’ of the fishing activity by reducing effort in areas that are fished infrequently. With vessel DAS at a premium, scallop fishing vessels are unlikely to spend time targeting smaller scallops in marginal areas with a dredge that is designed to allow more escapement of smaller scallops. Since the distributional effects of this measure are difficult to quantify, it could reduce fishing in areas that are infrequently fished or it could simply reduce fishing intensity in areas that would continue be dredged. In the latter case, the habitat benefits would be lower than if the measure eliminated fishing in some areas that are infrequently fished.

- 68. *Supports alternative for TAC set-aside for habitat research***

The Council has chosen to implement this measure (Habitat Alternative 12) in Amendment 10. Up to 2% of the TAC set-aside would be used to conduct both scallop and habitat-related scallop research, including cooperative industry surveys to monitor the resource and rotation area management.

- 69. *Supports recognition of benefits of rotation on seafloor***

The FSEIS recognizes that a well-constructed rotational area management program, which takes into account the need to minimize adverse effect of scallop fishing on EFH, does benefit EFH.

- 70. Should reconsider the use of some of the considered but rejected alternatives such as alternatives to create more shelter or an alternative to increase and enhance growth of dense epifauna and related communities by active intervention.**

As is stated in the FSEIS, these alternatives within the context of Amendment 10 are not possible. It is likely that the Council will re-visit these suggestions during the development of the upcoming Omnibus Habitat Amendment #2.

- 71. *The DSEIS should include measures to protect known areas of deep-water corals in New England.***

Because scallops filter-feed on phytoplankton, very little scallop fishing occurs in areas where deep-water corals are likely to be found. Most scallop fishing occurs from 20-35 fathoms, with occasional fishing in deeper areas down to 50 fathoms. In contrast, most deepwater corals are found near the heads of canyons in depths over 100 fathoms. Including alternatives in Amendment 10 to protect deepwater corals would therefore be superfluous.

#### **19.4.7.4 Other**

- 72. *The DSEIS does not contain alternatives specifically designed consistent with the EFH Technical Team's recommendation to protect all known hard-bottom habitats or to protect sensitive juvenile cod EFH in any comprehensive way.***

The measures approved in Amendment 10 to protect habitat specifically close hard-bottom and sensitive juvenile cod EFH indefinitely from the impacts of scallop dredging. It is not practicable to protect all known hard-bottom habitats or all juvenile cod EFH within Scallop Amendment 10.

- 73. *The DSEIS fails to include an adequate range of alternatives to minimize the adverse impacts of scallop dredging on EFH for a number of key groundfish species (2)***

This is not true. The groundfish species that are adversely impacted and their level of protection (percent-of-total) are listed in Section 7 in the FSEIS and represent a wide range of alternatives that adequately protect EFH from scallop dredging for groundfish species that are adversely impacted. For the proposed action that includes Habitat Alternative 6, the protected for the life stages that are adversely effected, as illustrated using "percent-of-total" statistic and are American plaice (8.0-8.63%), cod (17.4%), halibut (15.3%), haddock (12.1-14.9%), ocean pout (7.7-11.1%), pollock (8.58%), red hake (6.56%), redfish (6.56-7.7%), silver hake (7.1%), white hake (8.3%), winter flounder (12.2%), witch flounder (2.8-7.28%), and yellowtail flounder (9.6-12.3%).

Within the 13 habitat alternatives that involve the use of closed areas to minimize adverse effects to EFH and using juvenile cod as an example, total juvenile cod EFH protection ranges from 1.4% for Habitat Alternative 8a to 67.1% for Habitat Alternative 7 (see Table 203 in Section 8.5.2.2). This clearly represents a wide range of alternatives.

#### **19.4.7.5 Analysis Comments**

- 74. *The only EFH-designated ten minute squares that are included in analyses are those based on survey data – thus, analyses exclude inshore areas.***

This was an analytical error. This is an accurate comment and excluding the inshore areas with EFH was an oversight that was not discovered until the end of the public comment period for Amendment 10. Unfortunately, the EFH metric analysis could not be redone to incorporate inshore areas in the time permitted. Thus, the square nautical miles of EFH in an alternative presented in the analysis is accurate, but the percent of EFH values are overestimated in most cases. For example, if one alternative contains 330 square nautical miles of haddock EFH, or 12% of the total haddock EFH in the region, that 12% may be an overestimate because the square nautical miles of inshore ten minute squares are not included in the analysis calculations. Of all the revisions that had to occur in the time between approval and submission of this document, this issue raised during public comment was not considered as high a priority as some of the others because the overall rank of alternatives were not going to be impacted by including internal waters. Since the area of inshore waters was excluded from the EFH analysis of all the alternatives, the oversight was consistent across all alternatives. For example, it is possible that the percent of haddock EFH contained in the same alternative described above may change from 12% to 11% when the inshore areas are included, but that change in percent will be reflected in all the other alternatives under consideration since none of the alternatives contain inshore closures. Therefore, from a NEPA perspective, this oversight does not change the way the

alternatives should have been analyzed or how they compare to each other.

- 75. *There is no reason to believe that scallop EFH is adversely affected by scallop fishing gear (dredges or trawls), therefore closed areas should only be evaluated (and designed) according to how well they would protect EFH of other species from scallop fishing.***

The determination that scallop EFH is adversely impacted by bottom-tending mobile gear has been re-evaluated and removed from the adverse impacts determination section of the FSEIS. As such, closed areas are evaluated according to how well they would protect EFH of other species EFH from scallop fishing.

- 76. *Amendment 10 should consider effects of scallop otter trawls, not all bottom otter trawls, on scallop EFH and EFH of other species; as a result, tilefish and witch flounder should be deleted from list of species with EFH that is vulnerable to mobile, bottom-tending gear because they do not inhabit depths/substrates where scallop dredges or trawls are used.***

Differential effects of scallop trawls and other types of bottom trawls will be spelled out in FSEIS, but EFH evaluations of closed area alternatives will likely not be changed by dropping two species from list of 24 species with vulnerable EFH.

- 77. *EFH metric analyses in A10 are crude, not as good as in A13, and should not be used.***

The EFH analyses in Amendment 10 FSEIS have been refined and corrected and are now consistent with the analyses included in the Amendment 13 DSEIS.

- 78. *Species and life stages identified as “adversely impacted” in Table 119 were used in analyses instead of those identified in vulnerability tables (Tables 79-117).***

The species and life stages included in the Adverse Impacts Determinations (DSEIS Table 119) are the same in other tables in the DSEIS and the FSEIS. DSEIS Table 119 was derived from the analyses in DSEIS Tables 15-56 as well as DSEIS Table 57.

- 79. *Methods used to determine which species/life stages are adversely impacted by mobile gear are too subjective and results are not credible.***

These determinations are inferences based on available published information. The evidence of a link between habitat alterations and resource productivity was not possible at the time and, therefore, this link was not used as a criterion. Instead, only indications that habitat function or value (e.g., in providing shelter or food) would potentially be impaired by fishing effects were used.

- 80. *Need to clarify that analyses only show how much EFH occurs within the closed area alternatives, not the net change in gear impacts on EFH that would result from such closures.***

This has been clarified in FSEIS.

- 81. *Need to total the EFH values for all species/life stages in each alternative in Tables 161 and 162 since it is the aggregate value that is important.***

This analysis has been completed and is included in the FSEIS.

- 82. *There are some errors in EFH area values in Tables 161 and 162: values can't be lower in alternative 9 than in alternative 6.***

EFH area values have been re-calculated in square miles from decimal degrees and the errors have been corrected.

- 83. *Analyses of EFH distribution, habitat features of proposed closures, gear effects, and the distribution of fishing activity by different gears needs to be integrated into a determination of what fishing is doing to benthic habitats and how these impacts would be minimized under various closed area alternatives.***

This improved analysis has been completed and is included in the FSEIS.

- 84. *Use of EFH – which already incorporates substrate – makes sediment analysis repetitive.***

Substrate features are not applied in EFH designations on a spatial basis.

- 85. *Method used to scale sediment data for area is biased for “rare events.”***

The “area-scaled” sediment values have been removed from the analysis.

- 86. *Biomass metrics don't address EFH protection objectives of MSA, and don't differ in any consistent way among alternatives, so they should be discarded.***

There is some variation in biomass components among alternatives that help to describe environmental impacts of alternatives for NEPA purposes. As the Amendment 10 document marries the SFA documentation and analyses requirements with that of NEPA, it is appropriate to include biomass metrics in the FSEIS.

- 87. *In the absence of “hard” evidence needed to evaluate benefits of closed areas, A10 could have identified alternatives that fall within acceptable economic cost boundaries.***

This is another possible alternative to identifying reasonable and practicable alternatives to minimize adverse impacts of fishing on EFH.

- 88. *There is no mention of habitat closed areas in enforcement analysis.***

This information has been incorporated into the FSEIS.

- 89. *Negative effects of fishing gears are qualitative and are not set in any quantitative context, without any mention of effects that were not seen.***

This is not true. Any effect that was tested for and found to be non-significant is reported in the gear effects tables.

- 90. *Identification of “potential” adverse effects in Section 3.3.2 are not relevant to EFH management objectives of MSA.***

Yes, they are relevant. The EFH Final Rule makes it clear that EFH protection measures can be evaluated in terms of “potential” effects.

- 91. *Habitat vulnerability ranks were assigned in a “risk-averse” manner (when uncertain, the higher rank was used): this approach is biased and produces misleading information.***

NMFS and the Council believe that the use of a precautionary approach is justified in this situation.

- 92. *The No Action alternative applies to the entire DEIS, not the habitat section, since it does not describe what would happen if the Council rejects all proposed habitat alternatives, but accepts other alternatives.***

If the Council rejected all proposed habitat alternatives, but accepts other alternatives, they will essentially be selecting habitat alternative 2. However, the Council has selected a number of Habitat Alternatives for implementation including: Alternative 2, 6, 11 and 12.

- 93. *Evaluation of habitat impacts of non-habitat-related management alternatives (Alternative 2) are vague: a better evaluation of the habitat benefits of rotational area closures should have been possible.***

It is difficult to produce more than a qualitative evaluation of rotational area closures unless it is known what specific areas (habitats) will be closed, for how long, and to what gears (if any) besides scallop gear. However, a quantitative analysis has been attempted and is included in the FSEIS.

#### **19.4.7.6 Scientific Comments**

- 94. *All conclusions in DEIS are based on hypothesis that the first pass of the gear is the primary concern: if that hypothesis is incorrect, conclusions are invalidated.***

This is not accurate. The FSEIS assumes that the level of disturbance diminishes by about 50% with each tow, but only in undisturbed areas and in a specific tow path. Habitat protection is reduced as fishing intensity throughout an area increases.

- 95. *Concept of recovery is invoked without sufficient explanation of what it means.***

This explanation has been improved in the FSEIS. Recovery of EFH is defined as a condition that supports production of MSY.

- 96. *Sediment data are not sufficiently detailed (low spatial resolution) to support analyses of sediment composition within closed area alternatives.***

Poppe et al. (1989) maps are inaccurate at small scales, but represent best available information on sediments for whole region. Problems with data were recognized in analysis and conclusions drawn regarding sediment composition of proposed closures.

- 97. *More attention needs to be given to mud as a vulnerable bottom type.***

This is probably true. However, EFH in mud habitats are not as vulnerable as gravel/rocky habitats as shown by the Gear Effects Evaluation and the Vulnerability Analysis.

- 98. *Bedrock is the most important bottom type to protect, but none of the closed area options contain any significant amount of bedrock (except #7, which is unreasonably large).***

Bedrock is poorly represented in sediment database because it is rare in offshore areas and poorly sampled. None of the alternative under consideration contain a large amount of bedrock because there is not a large amount of bedrock in the region. Only 150 square nautical miles of bedrock have been mapped based upon the Poppe et al (1989) sampling. This does not necessarily represent all bedrock that is contained within the Northeast, the majority of which is located in coastal waters. The fishing gear effects workshop (NREFHSC, 2002) reported that gravel/cobble/boulder habitat with emergent epifauna had the greatest habitat complexity and is the most susceptible to adverse effects from certain types of fishing gear.

Alternatives 3a, 3b, 4 and 9 contain between 10 and 13 percent of all the bedrock in the total region, 19, 19 15, and 15 square nautical miles respectively. It is true that Alternative 7 contains 139 of the total 150 square nautical miles of bedrock (93%), but this FSEIS contains a broad range of habitat closed area alternatives that vary in size.

Alternative 7 was developed specifically to redirect scallop dredging into highly productive scallop beds and out of productive EFH (as recommended by scoping comments). As such, this represents a large geographic area that would be prohibited to scallop dredges and therefore provides the greatest degree of EFH protection from scallop gear, protecting 67.1% of the juvenile cod EFH. However, the Council rejected this alternative because it would need to apply to fisheries using other bottom-tending mobile gear to be effective.

***99. Gravel is also important, but is defined to include gravel (less important) and cobbles and boulders (more important); closed areas are not designed to protect most vulnerable substrates.***

While the gravel substrate classification in Poppe et al. (1989) includes less important small gravel, it also includes large gravel, cobbles, and boulders that have been shown to have important characteristics for EFH. The DSEIS identifies many of the substrates falling in this classification as being adversely impacted by scallop dredging, hence its importance as an EFH metric to evaluate different habitat closure alternatives and the percent of gravel substrate within it classified by Poppe et al. (1989).

***100. Species metric is inappropriate for evaluating alternatives.***

There is some variation in biomass components among alternatives that help to describe environmental impacts of alternatives for NEPA purposes. As the Amendment 10 document marries the SFA documentation and analyses requirements with that of NEPA, it is appropriate to include biomass metrics in the FSEIS.

***101. Some details in gear descriptions need to be corrected.***

Corrections have been made in the FSEIS.

***102. Summaries in gear effects tables (literature review) mis-represent conclusions of some studies.***

The analyses were conducted very deliberately and carefully and only report conclusions/methods of each study that were reported in the publication.

***103. Some of the rationales cited in species vulnerability tables are flawed: some are not substantiated and others are based on incorrect assumptions or interpretations of published information.***

Technical experts based on specific criteria, identified in the DSEIS, reviewed and determined the classification of a species being vulnerable to adverse impacts from dredge and trawl fishing gear. The Council believes that the expert consensus on vulnerability represents the best scientific information available at this time. For some species, an internal review has modified the vulnerability classification and the EFH analyses have been modified to reflect these changes.

#### 19.4.7.7 **Additional Comments**

104. **Comment A:** *The DSEIS ignored extensive legal and scientific guidance regarding the significant environmental issues and how to best reduce adverse impacts of scallop dredging on EFH.*

We disagree with this commentator's general characterization of the DSEIS, although we note that the present FSEIS is an improvement over the DSEIS and further note that we have and will continue to consider the comments submitted during the NEPA comment periods for this document. The FSEIS was developed using the best available legal and scientific guidance. The NMFS believes that the document will serve the agency in its decisions to uphold national environmental policies and goals, including the minimization of adverse impacts of scallop dredging on EFH, to the extent practicable. These issues have been and will continue to be considered in the Amendment 10 decision-making process. For more specific responses to this comment and related comments, see responses to Comment C.

105. **Comment B:** *The DSEIS fails to fully analyze the environmental impacts of the No Action and Status Quo Alternatives and the analysis of Habitat Alternative 2 focuses only on the benefits of other measures in Amendment 10.*

Although the DSEIS did contain an analysis of impacts, analysis in the FSEIS has been revised, improved and clarified. The habitat impacts of the Status Quo and No Action alternatives are described in Section 8.5.4 - Environmental Consequences of Habitat Alternatives Under Consideration. Section 8.5.4.1 describes the differences between the No Action and Status Quo alternatives. Section 8.5.4.2 provides an analysis of Habitat Alternative 2 and describes impacts in terms of both the positive and negative effects to habitat.

106. **Comment C:** *The range of habitat alternatives is inadequate.*

The Amendment 10 FSEIS is a tool designed to assist the NMFS in making informed decisions regarding scallop management based on the environmental consequences of the proposed management actions. The Council, acting on advice and recommendations made by the Habitat Technical Team and the NEFMC Habitat Committee, and input received from the public during the scoping process and during the preparation of the amendment, considered a number of habitat management alternatives for inclusion in the Amendment 10 DSEIS. Thirteen alternatives (several of which have multiple options) were eventually included in the document. In selecting the habitat management measures that were included in Amendment 10, the Council made sure that they represented a wide range of "reasonable" alternatives. In order to be "reasonable," an alternative had to be feasible and had to meet the purpose and need of the amendment. As explained in more detail below, the NMFS presently believes that the FSEIS includes an appropriately wide range of reasonable alternatives and notes that the NEPA process is ongoing with further ability for public comment and agency review.

The habitat management alternatives in Amendment 10 were developed in accordance with the most

up-to-date scientific knowledge as presented in recent reports by a National Research Council Committee on the Ecosystem Effects of Fishing and by a panel of experts convened for a Northeast US Fishing Gear Effects Workshop. Both groups recognized that there are three fishery management tools available to mitigate the effects of trawls and dredges on seafloor habitats: fishing effort reduction, gear modifications, and area closures.

Relative to effort reductions, the FSEIS contains six strategies/alternatives described for rotational management in Amendment 10 (FSEIS Section 5.3.2.2 - 5.3.2.8). In addition to temporarily closing certain areas to allow for the recovery of exploited scallop beds, other alternatives restrict the use of days-at-sea in re-opened areas. These measures are incorporated into Habitat Alternative 2 (FSEIS Section 5.3.4.2).

As for gear modifications, several alternatives have been developed that mitigate impacts of scallop dredging to seafloor habitats. Two alternatives included increasing the minimum dredge ring size to 4 inches in all or select areas (Habitat Alternative 11). Increasing the dredge ring size allows more small scallops to escape capture and improves the gear's efficiency for catching larger scallops. This improved efficiency would benefit habitat by reducing the amount of area swept by scallop dredging (FSEIS Section 5.3.4.11). Another gear modification included in the DSEIS was a measure to restrict the use of rock chains on dredges (Habitat Alternative 10). It is thought that controlling the use of rock chains has the potential to reduce fishing in hard-bottom or rocky habitats that are more sensitive to disturbance (FSEIS Section 5.3.4.10).

Finally, relating to area closures, the majority of the alternatives developed solely to minimize or mitigate the adverse impacts of fishing on habitat utilize closed areas. Twelve distinct closed area options have been developed and analyzed. Three of them were developed specifically to protect hard-bottom areas (Habitat Alternative 3A, 3B, and 4). Four were developed to balance EFH protection with fishery productivity (Habitat Alternative 5A, 5B, 5C, and 5D) and one was developed to prohibit scalloping in low production scallop areas as well as highly productive EFH (Habitat Alternative 7). Two closed area options were developed to utilize existing groundfish closure areas to gain additional habitat protections (Habitat alternative 6 and 9), and two were developed to specifically provide habitat protection in and adjacent to the Habitat Area of Particular Concern for juvenile cod on eastern Georges Bank. (See FSEIS Section 5.3.4.3 - 5.3.4.9).

In sum, the Amendment 10 FSEIS considered alternatives that utilize each management tool (effort reduction, gear modification, and closed areas). The twelve closed area options range from the use of existing area closures, to expansion of those areas, to development of new closed areas that are not related to any previous area closures. In terms of the two most relevant habitat characterization metrics that were analyzed (percent EFH and percent hard bottom substrate in the Northeast region), these twelve closed area options provide a wide range of EFH protection. They contain, for example, 0-72% of total EFH area for species and life stages that were determined to be vulnerable to the adverse impacts of mobile, bottom-tending gear (trawls and dredges) and 0-72% of the hard bottom substrate in the region. For overfished groundfish species, the ranges of EFH protection (from scallop dredging) provided by the 12 habitat closed area measures are 1-76% for cod, 0-90% for American plaice, 0-82% for white hake, 1-63% for winter flounder, and 0-52% for yellowtail flounder. Accordingly, NMFS believes that the range of alternatives included in the Amendment 10 DSEIS is adequate and robust and will be of undoubted assistance to the agency as it considers the environmental consequences of its decisions in this matter.

107. **Comment C1.** *Many habitat closure alternatives are not tailored to address the significant impacts of scallop dredging in a comprehensive way.*

This is not true. All 12 habitat closed area options are comprehensive since they eliminate all the potential adverse effects of scallop dredging on all EFH and habitat types within the boundaries of each proposed closed area. These effects are identified in Section 7.2.6.3.4 of the FSEIS. Since scallop dredging affects benthic habitats for a number of federally-managed species in the Northeast region (but not for scallops), the closed areas were not designed to eliminate scallop fishing in essential habitat areas occupied by any particular species. Such an approach would be at odds with the MSA requirement to minimize adverse impacts on EFH for all species affected by the scallop fishery. Likewise, it would have made no sense to design closed area alternatives that only address specific impacts (but not all impacts) of scallop dredging. However, as specified in the response to C above, each closed area alternative was designed differently according to the goal of the closure.

108. **Comment C2:** *Habitat alternatives 2 and 9 are virtually identical to the No Action/Status Quo.*

There are significant differences between Alternatives 2 and 9 and the No Action/Status Quo Alternative. Alternative 2 relies on the incidental habitat benefits of all the other scallop resource management alternatives in Amendment 10 to minimize the adverse impacts of scallop fishing. Several resource management measures considered in Amendment 10 have habitat benefits that will be realized even if no habitat-specific management measures are adopted. These benefits will be in addition to those associated with the No Action/Status Quo Alternative, which would simply maintain the existing groundfish closures.

The difference between Alternative 1 (Status Quo/No Action) and Alternative 9 is that Alternative 9 would afford the existing year-round groundfish closed areas the added protection of “habitat closures.” Unlike the groundfish closures, which would be utilized to minimize the habitat impacts of fishing under the No Action/Status Quo Alternative, habitat closures would remain closed indefinitely. Groundfish closures are, by their very nature, temporary since they can be modified or eliminated completely once groundfish stocks recover and the closures are no longer needed to limit fishing effort or to protect spawning fish. Also, some gear types that adversely impact bottom habitats but do not capture groundfish (*e.g.*, shrimp trawls and clam dredges) are allowed in groundfish closed areas, and portions of the groundfish closures on Georges Bank have been opened on a limited basis to scallop dredging. In addition, Alternative 9 includes a year round closure around Cashes Ledge (in the Gulf of Maine) that is not included in Alternative 1.

109. **Comment C3:** *Many habitat closure alternatives are only slight variations of the No/Action status quo.*

As stated in the response to C2 above, the status quo/no action alternative does not close any areas to fishing for habitat protection purposes, meaning that some types of mobile, bottom-tending gear (*e.g.*, clam dredges and shrimp trawls) can be used in them, and they are only closed temporarily to limit groundfish mortality or as spawning closures, until groundfish stocks have recovered from the effects of overfishing. In addition, most of the habitat closed area alternatives close areas both inside and outside of existing groundfish closure areas, thus providing a significant increase in habitat protection as described in Section 8.5 of the FSEIS.

110. **Comment C4:** *The Councils Preferred Alternatives to reopen portions of the groundfish closed area will exacerbate environmental impacts, contrary to statements made in the DSEIS.*

Amendment 10 adopts a rotational, limited access strategy for portions of the groundfish closed areas that will be implemented in subsequent framework adjustments. The Council acknowledges that there will be negative habitat impacts of scallop dredging within the controlled access areas because they have not been disturbed by mobile, bottom-tending gear since 1999 and 2000 (see

Section 8.5.4.2 in the DSEIS), but also points out that these negative impacts may be offset by the positive effects of shifting fishing effort out of open access areas that are currently being heavily fished (Section 5.1.6.2 in the FSEIS). The other factor that may reduce overall habitat impacts is the reduced bottom time for dredge tows in the controlled access areas because of the large number and size of the scallops that accumulate in these areas after several years of no fishing.

111. **Comment C5:** *Alternative 5 is not scientifically supported and has been repeatedly criticized by the Habitat Tech team and others.*

The four closed area options in Alternative 5 were developed using the best scientific methodologies and information available. The above comment seems mistakenly to judge the scientific utility of an alternative against a standard of unquestioned scientific certainty. In other words, a lack of dispositive scientific evidence does not necessarily render an alternative arbitrary, nor does it create an obligation to conduct further experiments, or to gather additional information, or to design new scientific models. Additionally, an agency cannot sit idly by waiting for complete unanimity, particularly in the field of science where conflicting facts or opinions are a necessary part of the scientific process.

The closed area scenarios depicted in Alternative 5 were derived utilizing a model developed by NEFMC staff and many members of the Scallop PDT, Groundfish PDT, and Habitat Technical Team to evaluate optimal area closure configurations to optimize the tradeoff between EFH protection and losses in resource productivity associated. The Working Group model is based upon accepted mathematical treatment of spatial population dynamics for marine fish populations and incorporates widely accepted and published ecological theory of density-dependent habitat suitability (See Appendix IV for a full description of the methods used to develop the model, model assumptions, uncertainties and sensitivity analyses).

The Habitat Technical Team and the Habitat Committee raised some questions related to the weights assigned to the input parameters of the model (*i.e.*, assumptions regarding the relative importance of individual species) and the combination of productivity values used to optimize the tradeoff between habitat benefits and fishery costs. Neither group, however, criticized the model's use as being improper. Specifically, prior to using the model to generate closed area options, the Habitat Technical Team and the Habitat Committee recommended that various sensitivity analyses (changes in various model parameters) be conducted to see how the proposed closed areas would change based upon changes to the model parameters. Once these analyses were completed, the model was used to develop four habitat closed area options (Alternatives 5A, 5B, 5C, and 5D). The concerns of some Technical Team and Committee members were thereby addressed, while other individuals, although less concerned than before, remained uncertain. But a comfort level was reached and, despite the opinion of some that the correct parameters were not being used, the model was accepted as being the best available.

The Working Group model could have been used to develop habitat closures to protect just one or a few species, but the Council's joint working group did not do that. Instead it gave more weight to the input parameters and abundance distribution data for species whose bottom habitat was likely to be adversely affected by scallop dredging, as specified by the joint PDT/Technical Team working group. These weights and factors are described in Appendix IV for the five sensitivity analyses.

The Working Group Model has also been compared to a preliminary model (MARXAN) under development by the University of Connecticut for application to the design of multi-species habitat closed areas in the Northeast region. The Habitat Technical Team raised similar issues with the MARXAN model as with the Working Group Model. Therefore the MARXAN model was

subjected to similar sensitivity analyses as the Working Group Model. Although the Habitat Technical Team and the Habitat Committee were interested in utilizing both models to generate habitat closed area scenarios, the MARXAN model needed further development for use by the Council and additional financial resources were required to complete it.

Since the Working Group Model was the only model available at the time for use by the Council, they selected all four model outputs (Alternatives 5A - 5D) for full analysis and inclusion in Amendment 10. These five options contrast nicely with the other seven closed area options that were developed more qualitatively. The Council's decision to include all the closed area scenarios derived from this model adds credibility to the Working Group's approach and supports the Council's decision to rely on the model as a scientific tool.

112. **Comment C6:** *Alternative 7 shares similar flaws as Alternative 5.*

This alternative was developed based upon a scoping comment from an environmental organization that suggested restricting scallop dredging to areas that are the most productive (for scallops) and leaving other less-productive areas inaccessible to the scallop fishery. Alternative 7 specifically prohibits scallop dredging in ten-minute squares that have low scallop productivity and high EFH value. Confining the fishery to this area closes about 78% of the total region to scallop dredging. This alternative was considered to be a reasonable alternative and was included in Amendment 10 with a full environmental analysis. It was developed independently of the working group, but using the same model (see response to Comment C5) with some additional scallop distribution data that were not used to develop Alternative 5.

113. **Comment C7:** *Alternative 12 and 13 have not been developed, nor adequately analyzed in the DSEIS.*

Habitat Alternative 12 is to provide a scallop TAC set-aside to fund habitat research with a goal of improving our scientific knowledge of the habitats of the region. The Council selected this alternative for implementation in the FSEIS. The alternative was analyzed in Section 8.5.

Habitat Alternative 13 would further integrate habitat management with area rotation. This concept is outlined in Section 5.3.2.7, which is one of the scallop area rotation alternatives. Under this alternative, the frequency, duration, and intensity of scallop fishing in rotation management areas would be modified to minimize adverse habitat impacts. However, specific criteria for controlling the frequency, duration, and intensity of scallop fishing were not defined, because of a lack of scientific consensus about how these criteria should be specified. Specifically, there was considerable uncertainty about the effects of varying the amount of effort as a means to limit adverse impacts in small areas, and uncertainty about habitat recovery rates that would be needed to determine access frequency under this strategy. For this reason, the environmental consequences of this alternative were not analyzed and it was determined to be impracticable.

114. **Comment C8:** *The Councils preferred alternative - Addendum Alternatives 1-9 as prepared by the Joint Industry Advisors - will damage sensitive habitats and should not be included in this DSEIS.*

The Joint Industry Advisors alternatives 1-9 are not included for consideration as part of Amendment 10 or the FSEIS. These are alternatives under consideration in Amendment 13 to the Northeast Multispecies FMP and are contained in Addendum I for informational purposes only. These alternatives were developed too late in the process for inclusion in Amendment 10.

115. ***Comment C9: The DSEIS does not contain alternatives proposed during the scoping meeting or in later comments.***

NMFS published a Notice of Intent (NOI) to prepare a supplemental EIS for the EFH components of the Northeast Multispecies and Atlantic Sea Scallop Fishery Management Plans on February 1, 2001 (66 FR 8568). The public comment period was open until April 4, 2001. Based on the original Amendment 13 and Amendment 10 scoping letter, dated April 13, 2001, the following proposals were recommended to protect EFH:

- Develop a precautionary management approach to protecting EFH
- Establishment of Habitat Research Areas
- Creation of a systematic and effective HAPC designation process

The Council received another letter from the same group dated March 4, 2002; almost a year later and outside the scoping period that summarized the proposals identified through scoping. The second letter contains the original three proposals included during the scoping period and an additional six (6) proposals, which include:

- Make a primary goal of rotational management minimizing the effects of scallop dredging on habitat by: (1) excluding dredging from gravel “hard bottom” areas and (2) restricting scallop dredging to those areas that are the most productive and leaving other less-productive areas inaccessible to the scallop fishery.
- Establish area-based gear restrictions prohibiting dredging and trawling in sensitive habitats, including known-hard bottom on Jeffreys Ledge, Stellwagen and Georges Bank (in juvenile cod EFH).
- Establish harvest incentives for fixed gear (i.e., access to mobile gear restriction zones). The incentives should try to protect sensitive hard-bottom cod EFH, protect benthic invertebrates (major groundfish food source) and protect the complexity of these habitats to promote recruitment.
- Create spawning sanctuaries to improve scallop recruitment.
- Prohibit scallop dredging in areas containing sensitive EFH for overfished species.
- Create a rotational-area management system that keeps areas closed for six (6) years.

All of the above-proposed alternatives submitted within or outside of the scoping period have been considered in the development of the Amendment 10 DSEIS/FSEIS .

- The precautionary approach is an approach to decision-making, not a specific management alternative that can be implemented through regulation. After discussion, this recommendation was eliminated from further consideration (See Appendix II).
- Recommendation #2 is Alternative #14 in Amendment 10 and was considered but rejected (see Section 5.4.4).
- Recommendation #3 (HAPC designations) is being reviewed for all species as part of an Omnibus EFH Amendment (See Section 6.2.6 and 7.2.6.9). It is anticipated that a request for HAPC proposals will be published in the Federal Register in early 2004 following the process the Council adopted in 2000. The Omnibus approach is the most effective way to fully integrate HAPC and EFH designation issues across all FMPs.
- Recommendation #4 was developed into Habitat Alternative #7 (see Section 5.3.4.7 and response to comment 6 above).
- The concept of Recommendation #5 is a component of Habitat Alternatives 3a, 3b, 4, 6, 8a and 8b.
- Recommendation #6 is Alternative #16 in Amendment 10 and was considered but rejected.

- Recommendation #7 (spawning sanctuaries) is a component of rotational management, which is a major objective of Amendment 10.
- The concept of Recommendation #8 is a component of all of the habitat closed area alternatives.

## 19.4.8 Comments on economic analyses

### ***116. Analyses do not account for displacement of effort into areas of higher habitat value and sensitivity: consequences are 1) economic input analyses are misleading, and 2) vessels would be forced out of sandy bottom areas into higher value hard-bottom habitats.***

Many analyses in the DSEIS used the proposed overfishing definition as the basis for expected scallop effort in areas that remain open to fishing. The target fishing mortality in areas that are available to fishing remains constant and effort by area is expected to be nearly the same in open areas, no matter the size or location of habitat closures. This analysis is not misleading for the proposed overfishing definition, but does not account for the effort shift and higher amount of fishing effort that would occur in open fishing areas if the status quo overfishing definition were applied.

Section 7.2.3.2 in the DSEIS analyzes the performance of the fishery and its impacts when using the status quo overfishing definition and compares it to the performance and impacts when using the proposed overfishing definition, using habitat alternative 6. As the commenter points out, the status quo overfishing definition coupled with long-term area closures to protect habitat increases fishing effort and total area swept in areas that remain open to fishing.

A more complete analysis of the final alternative was prepared for the FSEIS, comparing the performance and impacts of the two overfishing definitions using Habitat Alternative 6, with and without access to the Georges Bank areas. The status quo overfishing definition would allow considerably more fishing effort in open areas, possibly increasing effort surrounding hard bottom habitats not included in the habitat closure.

The effect of this effort shift using the status quo overfishing definition and habitat alternative 6 on habitats (measured by EFH designations and substrate types) were analyzed in Section 8.5.7.2.1.1. Although rotation area management and Habitat Alternative 6 with the status quo overfishing definition increases effort in areas that remain open, the analysis estimates a reduction in the percent of effort over gravelly sand areas and an increase in effort over areas with greater amounts of EFH designations for juvenile species that are vulnerable to fishing with dredges and trawls.

Economic analysis shows only the impacts of habitat closures on scallop revenues, costs and overall economic benefits based on the biological projections of scallop landings from all areas open to fishing. These impacts on scallop fishery are independent of the impacts on habitat value and sensitivity.

### ***117. There is confusion over what access scenario was used to evaluate the economic impacts of habitat closure alternatives; can't apply results of economic analysis without knowing what "area access scenario 1" (the preferred area rotation option) is referred to.***

Area access alternative 1 was defined in the DSEIS and includes a mechanical rotation area management system with access to the parts of the Georges Bank closed areas that were open to scallop fishing during the 2000 fishing year, including parts of Closed Area I, Closed Area II, and

the Nantucket Lightship Area. The impacts of the habitat closure options were analyzed, however, for all area access options, including access option 2 which provides access to Framework 11 areas, option 3 which provides access to Framework 13 areas, and option 4 which provide access to all groundfish areas not otherwise included in a level 1-4 habitat closure. The impacts of the habitat closures were compared to “no habitat closures” but with access to groundfish areas according to these four access options.

***118. The estimated cost of habitat closures during 2004-2007 of \$4 million is not believable (too low).***

The cost of habitat closures could be estimated in terms of the reduction in scallop revenues, producer or consumer surpluses, or economic benefits relative to no habitat closures. All of these economic values were estimated from the biological projections of scallop landings under alternative habitat closures. Table 316 shows these impacts for area access alternative 1 only. According to this Table, the impacts of the habitat closures range from a \$5 million reduction to a \$245 million reduction on total economic benefits depending on the specific habitat alternative. Table 331, Table 333, Table 335 and Table 341, however, show impacts of the alternative habitat closures on net economic benefits, producer and consumer surpluses and fleet revenues with all the area access options. In short, the cost of habitat closures change with the scallop biomass included in each particular area, and estimated yield from the biological if access were given to these areas.

Only habitat closures alternatives 3a and 6 had a reduction in total revenue of \$4 million. This is an annual estimate over 2004 – 2007 and the actual total estimate for all four years is \$16 million in 1996 dollars. In nominal terms, the loss in revenue is actually 15% higher than in 1996 dollars shown in Table 316.

***119. Comparisons of habitat benefits (percent gains in EFH) are not equivalent to economic losses (percent loss in revenue compared to 2001): a 20% increase in EFH area is not balanced by a 20% loss in revenue. What is the economic benefit of EFH protection?***

The positive economic effect from conservation of EFH through specific closures cannot be quantified, because of the difficulty in predicting habitat recovery rates and estimating how preserving habitat will translate into future yield. Qualitatively, there is plenty of research showing that preserving quality habitat improves yield by increasing effective nursery areas and boosting spawning capacity, however. The Council therefore believes that preserving EFH will have a measurable benefit to enhancing rebuilding of depleted finfish stocks, which has been estimated to have positive net benefits from higher landings when stocks are near target biomass levels.

Although costs to the scallop industry from the various closures, combined with rotation area management alternatives and area access options have been estimated, they cannot be quantitatively compared with the benefits of habitat conservation.

***120. Use of retrospective analysis of the impact that proposed habitat closures would have had on scallop revenue during 1995-2001 is misleading because scallop vessels were excluded from most of groundfish closed areas in those years; if scallop vessels are given access to portions of these areas in A10, but prevented from using them because of habitat closures, costs will be much greater than indicated by the analysis.***

This retrospective analysis only estimates the effect that the proposed habitat closures would have had on historic scallop fishing effort and revenue. This may or may not be the same as future impacts, but provides another useful perspective on the potential costs. As the commenter points out, this analysis underestimates the total potential impact had the Georges Bank closed areas been

fully open to scallop fishing, a point recognized in the analysis. Other analyses with various area access options were also analyzed based on future biological projections, which include the effects that habitat closures would have on future access to scallop resources within the Georges Bank closed areas.

***121. Economic impact analysis only considers effects of habitat closures on scallop fishery even though they will prohibit gears used in other fisheries as well.***

The costs to other fisheries from habitat closures are not addressed because Amendment 10 actions would only affect the scallop fishery. Actions in other FMPs that limit access in habitat closed areas to other fisheries would be analyzed in those documents.

***122. There are problems in Table 201: not all habitat closed area alternatives are shown and there are errors in scallop production estimates, e.g., estimate for all of 3a has been estimated by scallop PDT to reside in much smaller cod HAPC.***

Table 201 (now Table 223) was developed early in the process and therefore did not include some alternatives that were developed later. As section 8.5.4.14.1 explains, the productivity estimates in Table 201 were derived from the proportion of historic recruitment by area that fell within the proposed habitat closures.

This analysis of the amount of productivity lost does not take into account the potential for migration to make species in the habitat closures available to the fishery. It also does not factor in other scallop management measures that may apply in the future. On the other hand, it provides an approximation of the proportion of productivity from scallop, groundfish, and monkfish recruitment that has been observed within the various habitat closure alternatives. For sedentary species, like scallops, the Council believes that this fairly estimates the relative costs to the fishery, irrespective of management and fishery effects.

The full biological and economic analysis estimates the cost of various habitat closures on the biological projections, which include potential management alternatives that would require 4" rings, apply rotation area management, and/or allow access to parts or all of the Georges Bank closed areas, using the proportion of scallop productivity estimated to be in each rotation management area within the boundaries of a closed area alternative (see Table 224).

***123. Estimate intended to show effects of closed areas on landings and DAS use in 2004 (Tables 203-205) are underestimated because TACs in areas that are likely to be re-opened are underestimated (by a large margin)...the PDT is currently revising them.***

The projections are based on the 2002 resource survey, using random tows that are consistent with the survey design and give a best estimate of resource biomass. During 2002, NMFS made some additional non-random tows that when included to estimate the TACs, were higher than the projected estimates in the DSEIS using the random tows alone. Also, SMAST video survey was used for Nantucket Lightship Area TAC estimation and the video survey density estimates were slightly higher than for the annual NMFS dredge survey alone.

Although the projection estimates for Georges Bank closed areas were less than the final TAC estimates, a consistent method across alternatives to evaluate the effect that various habitat closure alternatives might have. This process provides a robust estimate of effects relative to status quo and no action that also use random survey tows from the projection data.