6.2.13.5 Social Impacts

Allowing vessels with general category permits to target scallops in re-opened areas would generate positive social impacts to the general category fleet that stem from the perception of increased equity and access, and the benefits from increased revenue to general category vessels (conversely creating negative impacts if the large-boat fleet negatively perceives the decision). Yet the institutional parameters of the decision, however well-intentioned to provide general category vessels access to scallop resources, create the potential for a derby fishery, without recognizing as different those general category vessels that had historic claims to the fishery. Though most general category vessels have not been active in the scallop fishery (see Section 8.8.6 in Amendment 10), this alternative does not account for a sudden influx of general category effort due to the added opportunity to fish. The decision would also involve financial costs to participating vessels from the outlay for VMS and allowable gear, though some of these impacts are not exclusive to the decision per se since the gear changes will eventually be in effect generally.

6.3 Cumulative Effects

6.3.1 Scoping and Opportunity for Public Comments and Participation

This action was prepared as a framework action, which, according to the Council policies and consistent with the framework adjustment rules in the Scallop FMP and the NE Multispecies FMP, is conducted during the course of two Council meetings where there are opportunities for oral and written public comment.

The initial meeting was held on November 6, 2003 in Peabody, MA, where the Council identified the issues to be addressed and the types of alternatives that should be considered during the development of the framework adjustment. At this meeting, the Council voted to focus on management measures related to access to portions of Closed Area I, Closed Area II, and the Nantucket Lightship Area during 2004 to 2007, changing the boundaries of the EFH closed areas in the Scallop FMP (Amendment 10) to be consistent with those in the Multispecies FMP (Amendment 13) and improve their practicability, and measures that would allow vessels with general category scallop permits to target scallops when these areas are open to fishing by limited access vessels. Members of the public spoke to urge the Council to closely examine the EFH related data for the proposed access areas using the recently available SMAST data and to re-consider how the FMP makes DAS allocations to part-time and occasional limited access vessels. The Council directed staff to obtain this information and include alternatives that might adjust the part-time and occasional DAS allocations, focusing on the area access allocations for Framework Adjustment 16/39. All alternatives were to be evaluated and analyzed with respect to their impact on EFH, on bycatch (particularly on groundfish bycatch), and on the scallop resource.

As is customary, the specifics of the alternatives were to be developed by the Council's oversight committees, relying on advice from the plan development teams (PDT) and advisory panels (AP). All of these meetings are open to the public, who are often given ample opportunities to speak or submit written comments at these meetings. The Council held a joint Scallop and Groundfish PDT meeting on December 5, 2003 to develop technical advice and initiate analyses of proposed alternatives on the groundfish and scallop resources. Three days of Scallop PDT meetings (December 4, 2003 and January 6-7, 2004) were also held to draft technical advice and prepare preliminary analyses, including scallop biomass and TAC estimates, scallop biomass and mortality projections, and groundfish bycatch projections. The Council also held a Scallop AP meeting on January 15, 2004 to review the PDT technical advice and strawman alternatives, and to prepare industry advice of the Scallop Oversight Committee. With help and review by the Habitat Technical Team members, Dr. Stokesbury, and Brad

Harris (both from SMAST, New Bedford, MA), the staff prepared the metric analysis showing the effects on EFH. The Habitat Technical Team met on January 14, 2004.

These data, analyses, and advice were presented to the Council's Oversight Committees, where they developed recommendations for alternatives to be considered and analyzed in the framework adjustment. The Habitat Oversight Committee met on January 13, 2004. This was followed by a Groundfish Oversight Committee meeting on Framework Adjustment 39 to the Multispecies FMP on January 15, 2004 and a Scallop Oversight Committee meeting on Framework Adjustment 16 to the Scallop FMP on January 16, 2004. All of these meetings were held at Mansfield, MA.

Because there were some differences in committee recommendations and there were some loose ends that were addressed by an ad hoc working group, the recommendations were reported to the Council, at its January 25, 2004 meeting in Newport, RI, to reconcile the differences and approve the alternatives that would be analyzed in the final framework document. Several issues were contentious including a Habitat Oversight Committee proposal for a different access boundary alternative, groundfish TACs and possession limits, and a proposal for managing the fishery with a soft yellowtail flounder TAC that was brought forth by an ad hoc working group named by the Scallop Oversight Committee. The impacts of these alternatives were analyzed and a final draft framework document was prepared for consideration at a final framework meeting. The Council reviewed the analyses and accepted oral and written public comment at a final framework meeting, held on February 24, 2004 in New Castle, NH. Considering the final analysis of impacts and public comment, the Council approved a set of final alternatives to be submitted as the proposed action for Secretarial Review.

6.3.2 Boundaries – Access to Nantucket Lightship Area, Closed Area I, and Closed Area II in 2004 - 2007

The primary focus of this action is on allowing scallop fishing within defined boundaries of the groundfish closed areas, including Closed Area I, Closed Area II, and the Nantucket Lightship Area, and on conservation of essential fish habitat particularly through adjustments to closed area boundaries. The areas that are defined by this proposed action are shown in the map on the front cover of this document.

Since the open area DAS allocations are also changed by the proposed action, it will also affect scallops and other affected marine resources (habitat, finfish bycatch, sea turtles, etc.) wherever fishing occurs in the open areas where scallops occur (not including the Hudson Canyon Area controlled access area and the Elephant Trunk Area rotation closed area).

A map showing the distribution of sea scallops and of limited access scallop fishing effort is shown in the maps below. The proposed access areas are within the boundaries of the three Georges Bank groundfish closed areas which have been closed to scallop fishing since December 1994, except for limited scallop fishing during the 1999 and 2000 scallop fishing years. Areas of increasing scallop fishing effort in the access areas and of decreasing effort in open fishing areas define boundaries of probable direct, indirect, and cumulative impacts.

The distribution of fishing effort by limited access vessels with VMS aboard during 2000 is shown in the map below. The effort is classified into quartiles and summarized by total effort in a one nm^2 (3.43 km^2) grid. Much of the fishing effort in the open areas of the Georges Bank region occurred along a band in the Great South Channel, running from east of Cape Cod, MA to an area between the Nantucket Lightship Area and Closed Area I. Three other concentrations of fishing effort also occur to the NE of Closed Area I, along the northern edge of Georges Bank west of Closed Area II, and SE of Closed Area II. These areas follow the highest abundance of adult scallops and would experience the

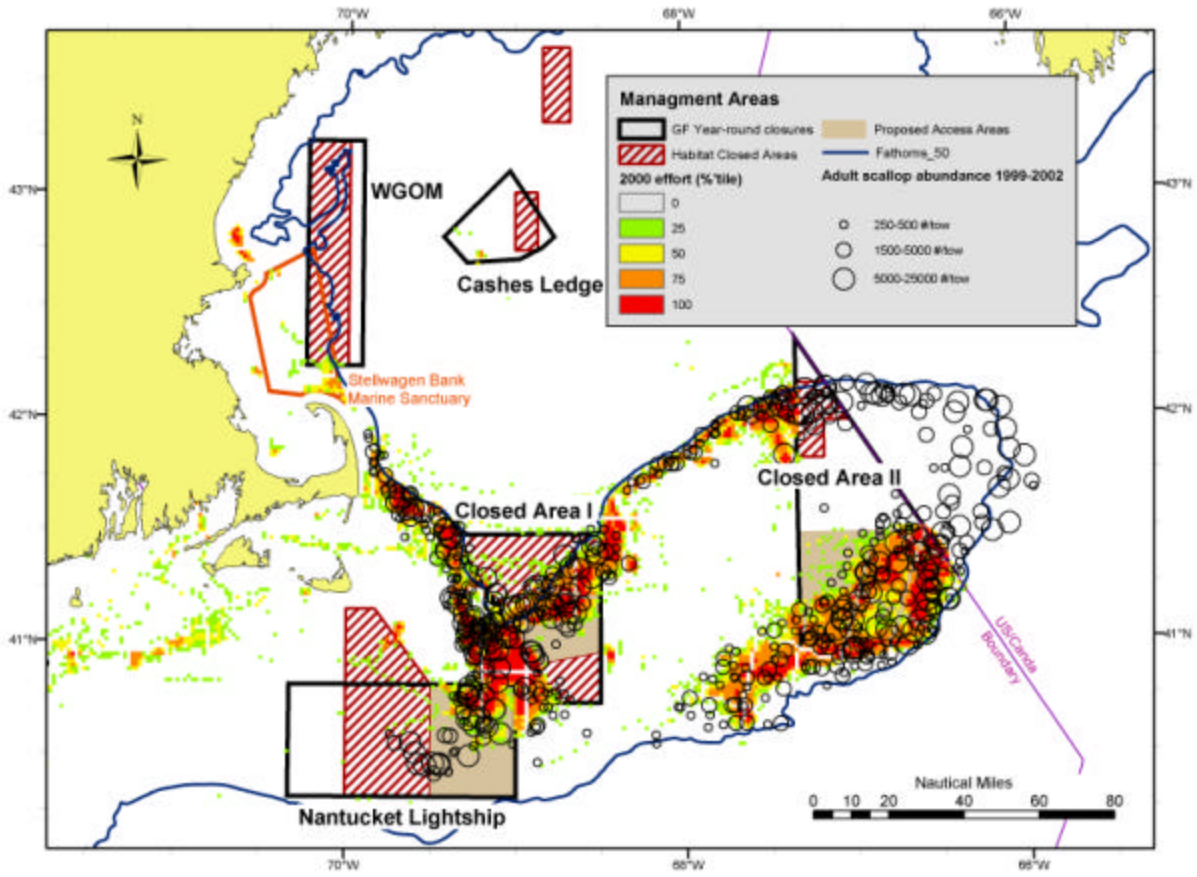
most change of scallop fishing effort from the proposed action, due to adjustments to the open area DAS allocations.

Secondary concentrations of fishing effort are north of Provincetown, within the boundaries of the Stellwagen Bank Marine Sanctuary and in the SW corner of the Western Gulf of Maine area. Another area of scallop fishing occurs within Ipswich Bay, north of Rockport, MA and near Halfway Rock. A third secondary concentration of scallop fishing effort occurs on Fippinees Bank, within the boundary of the Cashes Ledge groundfish closed area. The amount of effort in the map below for these three areas is underestimated because these areas are frequently fished by small vessels with general category scallop permits, which do not have VMS equipment on board. A fourth concentration of secondary scallop fishing effort occurs within the boundaries of the EFH closed area near the Nantucket Lightship Area, proposed for closure by this action.

Within the proposed access areas themselves, the adult scallop and fishing effort distributions also have a distinct pattern. These areas would experience an increase in fishing effort from the controlled access program. Within the Nantucket Lightship Area, the 2000 scallop fishing effort was confined by regulation to the NE corner of the Nantucket Lightship Area. This corresponds to the highest concentrations of adult scallops, but there were also high concentrations to the SW of that area, which are likely to see some fishing effort under the proposed action.

Similarly, the scallop fishing effort in Closed Area I also followed the distribution of adult scallops, but was constrained by regulation to a central area of Closed Area I. High concentrations of adult scallops also occurred a little farther south, within the boundaries of the proposed access area in this action. Likewise, these areas are likely to experience increases in scallop fishing effort for the first time since December 1994.

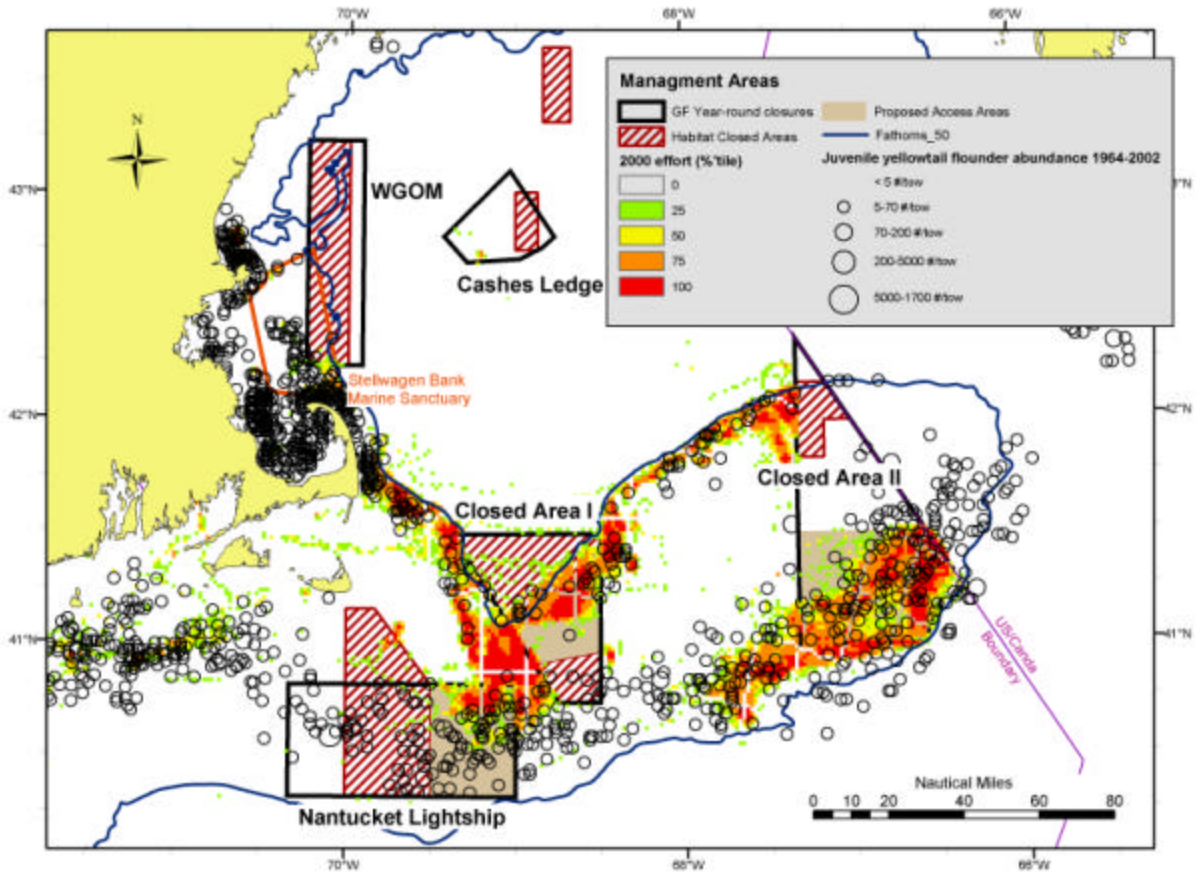
The proposed access area in Closed Area II was the same one that was open to scallop fishing in 1999 and 2000. About that time, exceptional scallop recruitment occurred mainly in the south central portion of the proposed access area. These scallops have since grown to optimal size and the effort distribution is likely to be a little different than the effort distribution in the 2000 fishing year (see map below) that focused in a band running SW to NE and along the SE side of Closed Area II.



Map 20. Map of the Georges Bank proposed access areas in the Nantucket Lightship Area, Closed Area I, and Closed Area II, with adjusted EFH closed areas, showing the distribution of 1999-2002 adult scallop abundance and 2000 fishing effort intensity.

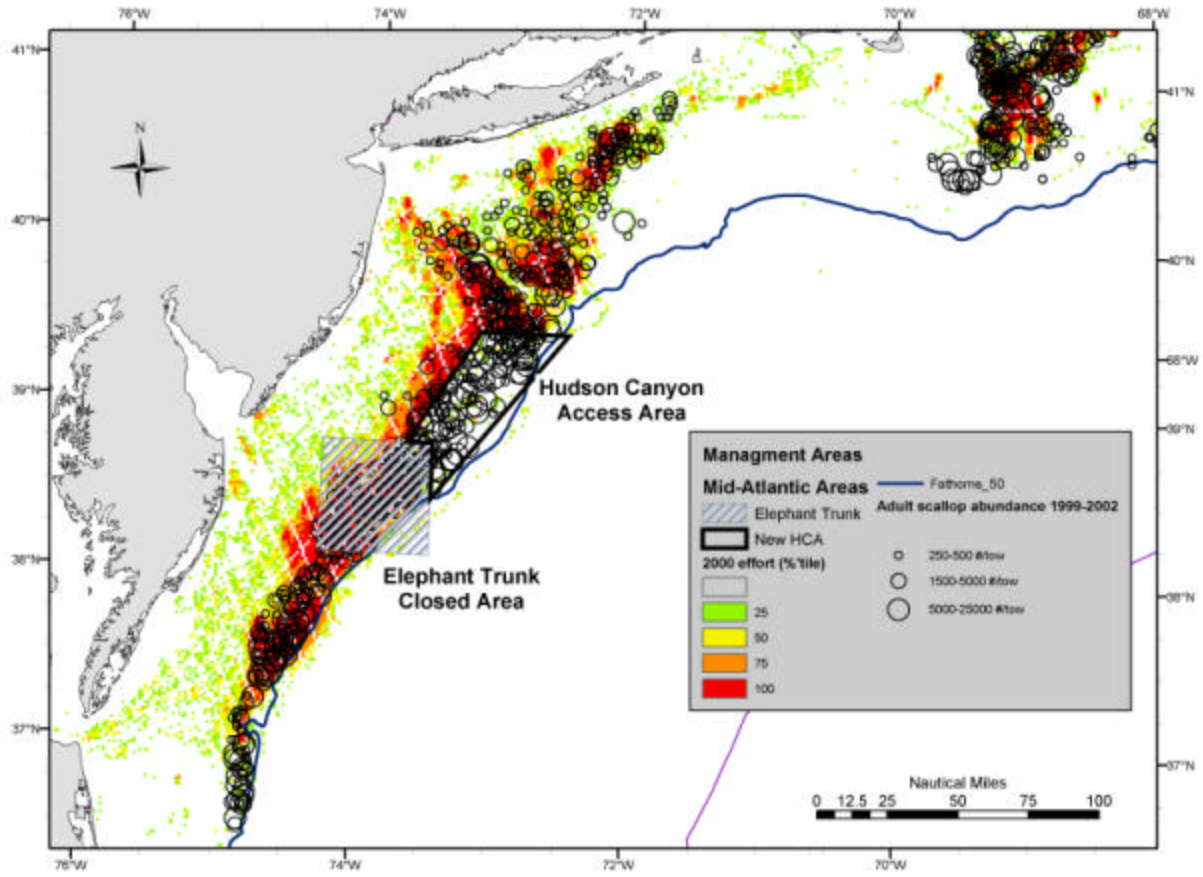
The distribution of yellowtail flounder and scallop effort also defines boundaries of effects on a groundfish species that is more likely than the others to have impacts from the proposed action. Yellowtail flounder in the open scallop fishing areas are expected to experience a decline in catches from scallop fishing. These areas mainly occur along a strip running from the northern part of Cape Cod to the NW edge of Closed Area I (see map below). These yellowtail flounder are considered to be part of the Cape Cod stock.

Two other areas where yellowtail flounder occur, along the northern edge of Georges Bank from Closed Area I to Closed Area II, and SE of Closed Area II, are also expected to experience a decline in catches in the scallop fishery (see map below). Yellowtail flounder occurring in these areas are considered to be part of a Georges Bank stock. Some scallop fishing effort in open areas that coincide with yellowtail flounder distributions occurs toward the west, SW of Marthas Vineyard, MA and east of Long Island, NY. Yellowtail flounder in this area are considered to be part of a Southern New England/Mid-Atlantic stock, but the scallops are considered to be part of the Mid-Atlantic region.



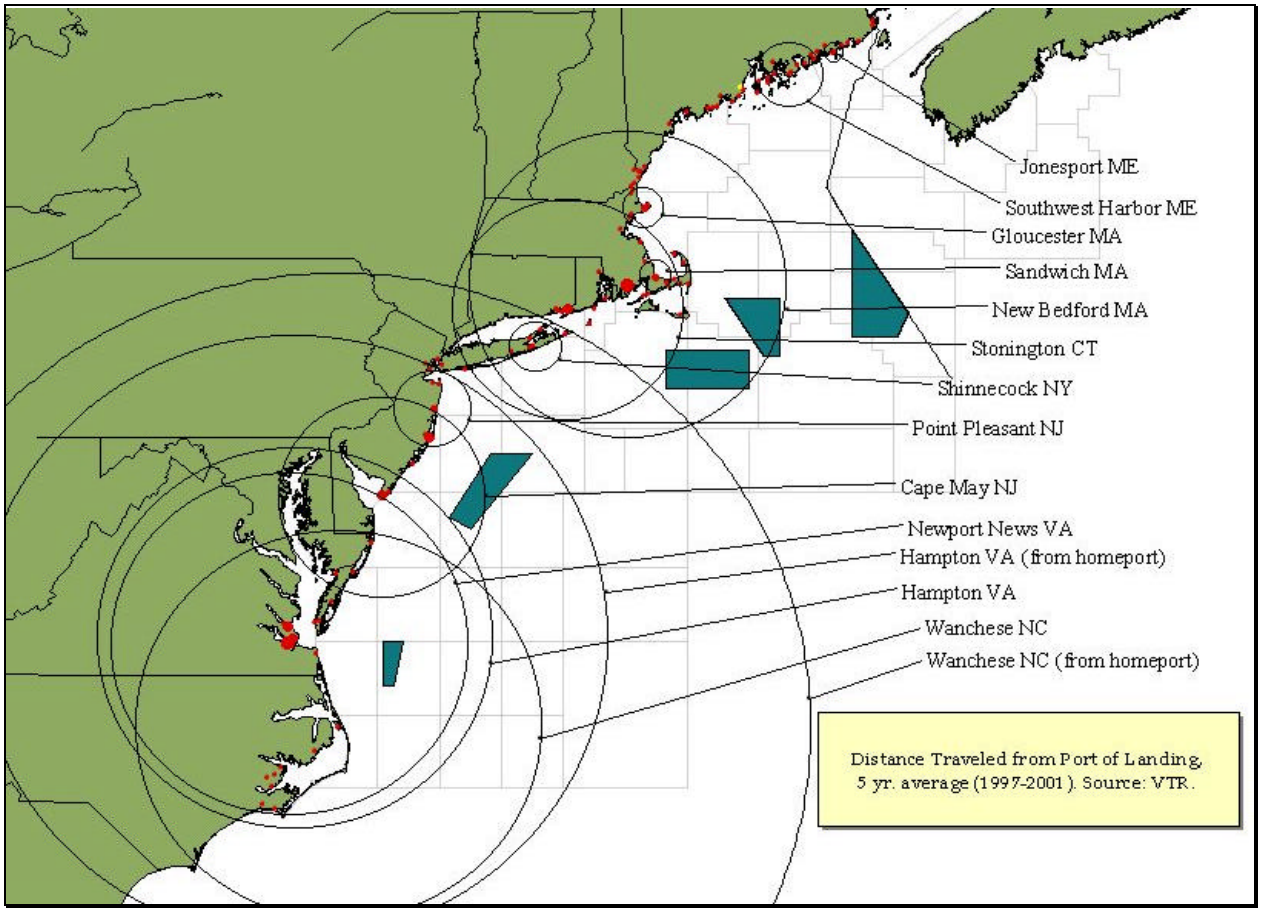
Map 21. Map of the Georges Bank proposed access areas in the Nantucket Lightship Area, Closed Area I, and Closed Area II, with adjusted EFH closed areas, showing the distribution of 1963-2002 juvenile yellowtail flounder abundance in the autumn survey and 2000 fishing effort intensity.

In the Mid-Atlantic region, adult scallops occur from the eastern end of Long Island, NY to the continental shelf edge off of the NC/VA border. Effort and adult scallops are most concentrated in a band running along the southern edge of the Hudson Canyon, beginning off Brielle, NJ, out to the (formerly closed) Hudson Canyon Area and down to the shelf edge off the DelMarVa region. With the exception of within the Hudson Canyon Area (which will have an area-specific DAS allocation, pending approval of Amendment 10) and the Elephant Trunk Area (which will be closed, pending approval of Amendment 10), impacts associated with scallop fishing will see the greatest reduction due to the proposed open area DAS adjustments along this band.



Map 22. Distribution of 1999-2002 adult scallop abundance and 2000 scallop fishing effort, compared with the closed Elephant Trunk Area and Hudson Canyon Access Area, pending approval of Amendment 10.

In addition to a direct effect on fishing effort, the proposed action will also affect the landings and markets at the primary ports. This includes ports which harbor large limited access vessels that travel large distances to reach fishing grounds and smaller ports whic h harbor small vessels (often those with general category scallop permits) that fish nearby scallop grounds. A map of these ports and the average distances that vessels travel to fish are shown in the map below.



Map 23. Five-year average of distance traveled from port (port of landing, or homeport if specified). Includes only scallop trips (trips landing greater than 40 lbs. of sea scallops) by Federally permitted vessels (general category or limited access vessels). Source: logbooks.

The geographical area encompassed by the proposed action and managed by this FMP includes the seawater and seabottom of the Atlantic Ocean within US jurisdiction and includes the vessels participating in the fishery, the ports where scallop vessels tie-up, and the shore-side facilities to the point of landing. The point of landing is typically the location where a shore-side individual or entity takes possession of the catch for processing and re-sale. Most of the scallop population under US jurisdiction ranges from the coastline of Maine, south to Georges Bank, then from offshore of Long Island, NY running south and southwest to off the coast of North Carolina in the Mid-Atlantic region. Adult scallops are found in depths ranging from a few meters in the north, to 20 to 40 fathoms through most of the range, and sometimes much deeper although scallops in deeper areas have low meat yields and may not contribute to spawning activity as much as other scallops. Scallop larvae exist in the water column from the bottom to the surface layers and drift with prevailing currents, throughout the NW Atlantic Coastal Shelf.

6.3.3 Valued Ecosystem Components (VECs)

The following concerns represent valuable environmental components that the Sea Scallop FMP and Amendment 10 affect. Practically, the act of scallop fishing changes their condition or character, even deriving a benefit from the vessel activity and/or landings. For some VECs, more fishing would cause a decline in biomass or abundance. For other VECs, their condition improves with greater

sustainable landings. Others experience change depending on how and where scallop fishing effort occurs, or the complexity of the rules governing scallop fishing.

6.3.3.1 Sea Scallop Resource under US jurisdiction and the Scallop Fishery

This includes all scallop larvae in the water column and juvenile and adult scallops that settle and grow on the seabed. The fishery includes all vessels with limited access and general category scallop permits, the dealers that buy and process sea scallops from the vessels, and primary suppliers to the vessels that sell them gear, engines, boats, etc.

6.3.3.2 Vulnerable Finfish Resources Caught as Bycatch in the Scallop Fishery

This includes all regulated species that fishermen catch in scallop dredges and trawls, except for sea scallops. Fish and shellfish other than scallops that are landed are not bycatch and are not included. Species that are frequently included as bycatch are discarded individuals of monkfish, yellowtail flounder, and various species of skates (including barndoor).

6.3.3.3 Essential Fish Habitat (EFH) for Finfish, Scallops, and Shellfish Under Federal Management

This includes all marine habitats deemed essential to the well-being and reproduction of managed marine species. The geographical distribution and characteristics of EFH are defined in the management plans that regulate the fisheries targeting marine species.

6.3.3.4 Protected Species

This VEC includes marine mammal and turtle species that are classified as endangered or threatened under the Endangered Species Act or protected under the Marine Mammal Protection Act and which have interactions with scallop fishing gear or are otherwise affected by scallop fishing.

6.3.3.5 Human Safety at Sea

This includes the health and well-being of captains, crew, and other individuals while aboard at-sea scallop vessels.

6.3.3.6 Fishing Dependent Communities

This includes coastal communities with fishing ports, whose economies and social structure are substantially dependent on or affected by scallop fishing activity and income.

6.3.4 Sources of Impacts (Pathways)

Most of the environmental impacts that are regulated by this FMP arise from the act of fishing for sea scallops. Impacts occur because fishing gear makes contact with and disturbs the sea bed environment, because the scallop fishing gear selectively removes various species from the environment (some of which are discarded as unwanted or regulatory bycatch), and because the retain catch is landed at coastal ports which generates revenue and economic activity. Environmental impacts on scallops, scallop larvae, and scallop habitat through activities that degrade water quality, suspend sediments in the water column, and change circulation.

6.3.5 Time series

For the purposes of this action, the time series for the cumulative effects analysis begins with December 1994, when the proposed access areas and most of the proposed EFH closed areas were closed to scallop fishing, as a result of actions taken under the Northeast Multispecies FMP to create year around closures to reduce fishing impacts on overfished groundfish stocks, particularly cod, haddock, and yellowtail flounder. This action, initiated by an Emergency Action, and continued indefinitely by Amendment 7 to the Multispecies FMP to boost rebuilding potential, excluded scallop dredges and trawls as gears capable of catching groundfish.

Since that event, groundfish biomass of regulated species has climbed by 2.5 times from a 1994 low, but many groundfish stocks require further rebuilding and mortality reduction. Partly due to these closures and due to mortality reduction and good management for scallop fishing elsewhere, the scallop biomass has grown by over five times and is now considered rebuilt. Much of the data used in the analysis of direct and indirect impacts came from observations of a controlled access scallop fishery that occurred during the 2000 fishing year, from June 15 to January 31. Data about fishery performance in the access areas during February 1 to June 14 are therefore unavailable.

Scallop resource surveys are collected annually by the NMFS aboard the R/V Albatross. The 2002 survey was the most recent data available for performing projections and for estimating stock size, when the analysis for the Amendment 10 FSEIS was prepared. Since that time, the 2003 survey data were audited and have become available for analysis. Around the same time in 2003, Dr. Kevin Stokesbury (SMAST, New Bedford, MA) completed a video survey that was combined with the annual survey data to make more precise estimates of standing biomass in the proposed access areas.

Although the duration of the proposed action is 2004 – 2007, the scallop resource and other VECs will feel the effects for some time after that. This analysis therefore assumes that area access and mechanical area rotation will continue for the next 10 years (2004 – 2013) and biological projections were prepared over this time period. Beyond that time, the effects are very uncertain because many of the individuals that are present in the population during the proposed access will no longer be alive (due to fishing and natural mortality). This timeframe also coincides to the rebuilding period for many species in the Multispecies FMP, after which management will probably change. Another factor in the forecasting time series is that the management measures will be evaluated for the effectiveness in achieving FMP objectives every two years and will be potentially adjusted by a biennial framework adjustment for scallop management measures and an annual framework adjustment for multispecies management measures. The next scallop framework is scheduled for review and implementation before the beginning of the 2006 fishing year. These uncertainties and potential management changes therefore place a 10-year limit on meaningful analysis of cumulative impacts.

6.3.6 Mitigation and Monitoring

No mitigation is needed because the proposed action is expected to reduce adverse impacts on the environment. Monitoring of the scallop resource, fishing activity and catches, bycatch, and interactions with protected species is needed to ensure the FMP meets its objectives, produces optimum yield, and identifies ways to enhance yield (through area access, rotation management, and mortality control) and minimize impacts (TACs, gear restrictions, and fishing time).

6.3.7 Interactions among environmental effects and significance of cumulative effects of past, present, and reasonably foreseeable future actions

The following tables summarize the cumulative effects of the alternatives on the six VECs identified in Section 6.3.3. Since the alternatives in the proposed action and alternatives to the proposed action are analyzed and compared within Section 6.2, with a summary of aggregate impacts for the proposed action in Section 6.1, a summary discussion of these impacts is given in the introduction for each VEC. Similarly, the cumulative effects of past and present actions as well as reasonably foreseeable future actions (RFFA) cuts across many alternatives and is discussed in the introduction for each VEC. Since Amendment 10 to the Sea Scallop FMP and Amendment 13 to the Northeast Multispecies FMP have not been approved at the present time, these actions are considered to be RFFAs for the purposes of this analysis.

6.3.7.1 Sea scallop resource under US jurisdiction

6.3.7.1.1 Direct and Indirect Impacts of the Proposed Action

Section 6.1.1.1 describes and summarizes the expected biological impacts on the scallop fishery and resource, focusing on the preferred alternatives. An insignificant impact is anticipated in the proposed access areas, because only 17% of the scallop biomass would be removed from each access area when open to fishing and the areas contain very high amounts of scallop biomass. These catches are less than the average annual biomass growth for sea scallops. Because the scallops are slow-growing and large, the proposed access is expected to cause a moderate decline in scallop biomass in the access areas, despite the low fishing mortality that is anticipated from the proposed mechanical rotation strategy. Scallop biomass in the EFH closure areas in Closed Area I and Closed Area II is expected to continue increasing over the 10-year forecast period. Thus spawning in the groundfish closed areas is unlikely to be affected.

Most of the effects on the scallop fishery and the resource occur in the open fishing areas (excluding the Hudson Canyon Area, Nantucket Lightship Area, Closed Area I, and Closed Area II). This occurs because granting access in this framework action enables the FMP to reduce fishing effort allocations in open fishing areas. As a result, the Council expects an increase in scallop biomass in the open areas, which coupled with the effort reductions causes daily catches to increase, fishing costs to decrease, spawning potential in the open areas to increase, and bottom contact time to decline (which has important consequences for other VECs and may reduce non-catch mortality on small scallops).

The preferred alternative is expected to have positive impacts on the scallop fishery, particularly in the New England region. The fishery will have access to large scallops whose biomass has stopped growing, allowing a decrease in fishing mortality on scallops in open areas where growth is higher. Overall, this action is expected to increase yield-per-recruit and help to stabilize yield over the long haul. The industry will also be able to land larger, more valuable scallops and decrease fishing costs, which will have a beneficial effect on the scallop fishery.

6.3.7.1.2 Effects of Past and Present Actions, Including Other Federal and non-Federal Actions

Scallop fishing is regulated by the Atlantic Sea Scallop FMP in waters under Federal jurisdiction, and by state regulations in the state waters of MA, NH, and ME. Scallop fishing activities in the waters of these three states have been certified to continue under a special state exemption that requires the states to demonstrate that scallop fishing in state waters would not jeopardize the ability of the FMP to produce

optimum yield or prevent overfishing. This non-Federal action therefore does not have a significant cumulative effect on the scallop fishery or resource.

The management background and the implementation of relevant management actions is more thoroughly described in Section 3.2.1. In 1994, Amendment 4 to the Scallop FMP established three classes of limited access permits and initiated a DAS reduction schedule to reduce mortality and prevent overfishing. At that time, fishing that created mortality above an amount that was estimated to cause adverse impacts on recruitment was defined as overfishing the resource. The maximum fishing mortality threshold was a level calculated to produce spawning stock biomass of 5% of a virgin stock, which was estimated to be F=0.71. Since the amendment applied input controls (effort allocations) to control mortality, the amendment also established several controls on a vessel's fishing power including vessel upgrade restrictions and limits on the number of crew that shucked the scallops. The amendment also increased the minimum ring size, first from 3" to 3¼ ", and then to 3½" a year later. These measures reduced fishing mortality from about 1.6 in 1994 to 0.16 for the Georges Bank region and 0.92 in the Mid-Atlantic region. Just as important, the gear restrictions and crew limits replaced an effective minimum meat count measure and prevented many vessels from targeting very small scallops (averaging 40 count and up). Annual landings during this period remained low, between 14.4 and 17.6 million lbs.

During this period, many vessels began fishing more frequently in the Mid-Atlantic region, rather than in Georges Bank, because the daily catch rate in the Georges Bank region declined and because an Emergency Action prevented scallop fishing in the Nantucket Lightship Area, Closed Area I, and Closed Area II beginning in December 1994. A later action by the Council, Amendment 7 to the Multispecies FMP, made these year-around closures permanent. Since they applied to vessels using scallop dredges and trawls, fishing mortality on scallops in these areas was nil. Even though intense fishing effort had occurred in the Great South Channel following a strong 1990 scallop year class, this year class contributed to the increasing biomass in the closed areas since 1994. These actions kept landings at historically low levels and caused an extraordinary increase in scallop biomass in the Georges Bank region.

Coincidentally, the 1994 groundfish closures forced fishing effort allowed by the Scallop FMP into the remaining open areas, particularly in the Mid-Atlantic region. As a result, fishing mortality in the open fishing areas increased, causing further depletion of scallop biomass in open fishing areas and reductions in the daily catch rates experienced by the fishery. Increasing fishing effort on small scallops in open areas became a concern to the Council, which first reduced the maximum crew limit from 9 to 7 men in 1996 (Framework Adjustment 1). The lower crew limit was intended to cause fishing vessels to target larger scallops, because it is harder to shuck small scallops with a smaller crew. The 1997 scallop survey discovered a large year class of small scallops in the Mid-Atlantic region, causing the Council to identify two areas for possible closure, what later became known as the Hudson Canyon and VA/NC Areas.

First by Emergency Action, and then by Amendment 7, the FMP closed these areas for three years, beginning in March 1998. This action reduced (or at least prevented increasing) fishing mortality on small scallops that would otherwise have reduced total yield over the life of that cohort.

Amendment 7 also revised the overfishing definition to address the new rebuilding and optimum yield mandates of the Sustainable Fisheries Act of 1996. Amendment 7 established new biomass targets for scallops in the Mid-Atlantic region and in the Georges Bank region, based on an estimated survey weight per tow equivalent when the average level of recruitment (1978 – 1997) were to experience fishing mortality that would produce the maximum yield-per-recruit. The latter mortality level is a common fisheries parameter known as F_{max}, and the equivalent biomass target was labeled B_{max}.

At this time, B_{max} was estimated to be about five times the current stock biomass that was observed in the 1997 survey in both regions (including scallop biomass in the closed areas). F_{max} was estimated to be F=0.21, or about 25% of the former target. To achieve this lower fishing mortality threshold, Amendment 7 established a new DAS allocation schedule that instead of leveling off at 120 full-time DAS, was to drop to 51 DAS by 2000 and bottom out at 34 DAS in 2004. The plan was expected to achieve the biomass target by 2008, 10 years after implementation of the amendment.

Beginning in 1997 and 1998, scientists noted that scallop biomass in the groundfish closed areas on Georges Bank was increasing rapidly and that the scallop resource conditions there were (unsurprisingly) different than those in the open scallop fishing areas. An experimental fishery and several surveys were conducted, which prompted the Council to consider allowing limited scallop fishing in portions of the groundfish closed areas. An initial program was developed in Framework Adjustment 11, allowing scallop fishing in the southern part of Closed Area II from June 15 to November 2, 1999. Catch rates were of course very high and a few days of fishing in the Closed Area II access area were equivalent to the catches in open fishing areas on much longer trips. Thus, Framework Adjustment 11 established a tradeoff, whereby limited access scallop vessels could fish a limited number of trips with a 10,000 lb. scallop possession limit for a tradeoff in the DAS charge. Although the trips lasted from 4 to 6 DAS, vessels were charged 10 DAS for the trip, which effectively removed excess fishing effort allocations and reduced scallop mortality and environmental impacts in open fishing areas.

Georges Bank yellowtail flounder, at the time an overfished groundfish stock, was seen as being potentially vulnerable from the scallop fishing in Closed Area II, causing the Council to set a TAC for yellowtail flounder bycatch in this carefully monitored fishery. Despite this TAC, which ultimately closed the 1999 access program, most of the scallop TAC had been landed and many of the authorized trips had been taken. This fishing effort in Closed Area II, plus the additional effort in 2000 (see below), caused the accumulated scallop biomass to decline. Also, the Council was concerned about impacts on groundfish spawning activities in Closed Area II, and based on technical advice approved a June 15 to December 31 season for scallop fishing in the southern part of Closed Area II to avoid fishing during peak groundfish spawning activity.

The Framework Adjustment 11 access program was viewed as being very successful, from the perspective of scallop fishery management, and the program was continued and expanded to other closed areas. More concerns were raised, however, about the impacts on overfished groundfish stocks, impacts on sensitive habitat found in the closed areas, and on potential gear conflict with fixed gear. More analysis was conducted in Framework Adjustment 13 to address these concerns, which caused the Council to set area access boundaries to avoid sensitive habitat and gear conflict and to set seasons and TACs for yellowtail flounder to limit impacts on groundfish species. Framework 13 allowed controlled access and limited the number of trips in the southern part of Closed Area II, in the NE corner of the Nantucket Lightship Area, and in a central portion of Closed Area I, areas where there appeared to be less sensitive bottom substrates.

Like the program before, there was a 10,000 lb. scallop possession limit and vessels on controlled access trips in 2000 were charged 10 DAS, which effectively reduced the effort allocations for open fishing areas by a greater amount than the amount of fishing effort that was experienced in the access areas. Fishing trips in the access areas averaged 6 to 8 days, because the daily catch rate in the access areas was less than that found in Closed Area II during 1999. At the same time, the average daily catch in the open areas began increasing from increases in scallop biomass in the open areas of the Georges Bank and Mid-Atlantic regions. Overall, landings per DAS increased from 478 lbs./day in 1998, to 983 lbs./day in 1999, and then to 1,309 lbs./day in 2000. Many vessels did not find the tradeoff to be as attractive as it had been in 1999 and vessels took a lower proportion of allocated trips. Prices also responded to the higher landings of U10 and 10/20 count scallops, which caused the controlled access

trips to be less profitable for vessels, compared to using their DAS allocations to fish in open areas elsewhere. Catches in the Nantucket Lightship Area were high and meat yield was good. On the other hand, Closed Area I opened to scallop fishing in October 2000, at the height of scallop spawning on Georges Bank. Both meat yield and quality were low and vessels took few trips in Closed Area I.

As a result of these access programs, many of the large scallops in Closed Area II had been caught, but much of the large scallops remained in Nantucket Lightship Area and Closed Area I, a result corroborated by subsequent surveys and experimental fishing activities. During the 2000 survey, however, scientists discovered an extraordinarily large year class of small scallops in the southern part of Closed Area II. Since these scallops are about two years old when they can be observed by the annual resource survey, these scallops began settling on the bottom before or during the area access programs in 1999 and 2000. These surveys also identified an area off of Cape Cod, MA and south of Long Island, NY that had high concentrations of small scallops, and thus were suitable candidates for closure to reduce mortality on small scallops.

In the meantime, the scallop biomass in the Hudson Canyon and VA/NC Areas had increased due to the ad hoc closure begun in 1998. Like the events in the groundfish closed areas, this offered an opportunity to allow fishing on larger scallops and reduce fishing mortality in the open fishing areas by shifting fishing effort and reducing fishing effort through the DAS tradeoff. By this point, a 10,000 lb. to 10 DAS tradeoff was no longer economically attractive, compared to fishing in the open areas. Daily catch rates in the open areas were approaching 1,000 lbs./day, erasing any advantage for a vessel to fish in the Hudson Canyon and VA/NC Areas with a 10,000 lb. limit. In addition, because vessels were charged 10 DAS no matter how many scallops were actually landed or how long the trip took, there was a tangible risk that vessels would lose DAS due to an early return from equipment failure, weather, or a medical emergency. To make access workable, Framework Adjustment 14 allowed controlled access scallop fishing in the Hudson Canyon and VA/NC Areas increasing the scallop possession limit to 17,000 lbs./trip in 2001 and 18,000 lbs./trip in 2002.

When the Hudson Canyon and VA/NC Areas opened for fishing, fishermen discovered that catches were good in the Hudson Canyon Area, but very poor in the VA/NC Area. This was later corroborated in the resource survey in July 2001. Apparently, events occurred between the July 2000 resource survey and the March 2001 re-opening to remove roughly 1 million lbs. of scallop meats from the area. Some speculate that the reduction in VA/NC Area biomass was caused by environmental events, through scallop bycatch in fisheries targeting other species with trawls, or by poaching. Many believe that the VA/NC Area was too small to monitor effectively.

Nonetheless, the controlled access program for the Hudson Canyon Area was mostly successful and allowed the FMP to allocate 120 full-time DAS to limited access scallop vessels, without harming the scallop resource. Scallop biomass and average daily catches continued rising to 1,665 lbs./day in 2000 and 1,764 lbs./day in 2001. The increasing scallop biomass and catch rates made scallop fishing more profitable and began reducing full-time per DAS as daily catches began to exceed the capacity of a seven-man crew to shuck scallops. SAFE Reports and analyses for Amendment 10 suggest that this has been beneficial to scallops by reducing mortality on small scallops and reducing non-catch mortality from scallop fishing.

Framework Adjustment 14 also considered some new rotation closed areas, based on the resource survey data. Fishermen resisted new closures, however, because they believed that there were sufficient areas closed to scallop fishing (Closed Area I, Closed Area II, the Western Gulf of Maine Area, and the Nantucket Lightship Area) or partially closed to scallop fishing through controlled access (the Hudson Canyon and VA/NC Areas). As a result, no closures were initiated and the small scallops in the 2000 survey were eventually reduced by fishing. Although not all of the authorized trips were taken and the

VA/NC Area contained few scallops, the Council continued the access program in 2002 in Framework Adjustment 15, raising the scallop possession limit to 21,000 lbs./trip to adjust to the rising scallop biomass and catch rates in the open areas.

As a result of the above management, coupled with above average recruitment in the Mid-Atlantic region and continuing closures in the Georges Bank region, scallop biomass had risen in 2003 to the biomass targets, five years earlier than planned! Total fishing time declined from over 44,000 DAS in 1992, bottoming out at 23,000 DAS in 2000, before rising to 30,000 DAS presently. More importantly, fishing mortality has been lowered to around F_{max} (F=0.20) for the resource, although it remains stubbornly high in the open areas of the Mid-Atlantic region. Similar to fishing mortality, the amount of area swept (a measure of actual fishing time) has declined from 30,000 nm^2 in the early 1990s, to about 12,000 nm^2 in 1999, to about 3,500 nm^2 presently. This reduction in fishing time has had a positive impact on the scallop resource by reducing non-catch mortality, as well as on other VECs. It has also reduced fishing costs, increasing the profitability of the fishery to near record levels. More importantly, the seven man crew and limits on returning to port with shell-stock (Framework Adjustment 14) has kept the fishery from targeting small scallops that have been very abundant, particularly in the Mid-Atlantic region which has experienced above average recruitment since 1997.

Scallops are filter feeders, and as such, are affected by marine activities that increase turbidity or cause pollution. This can included activities like oil and gas drilling, ocean dumping and dredge disposal, and sand mining. Fortunately, scallops are found in deeper water (25 to 40 fathoms) and offshore activities have been limited. Oil and gas exploration in the 1970s was unsuccessful and has had little cumulative effect over the long term. Likewise, ocean dumping, dredge disposal, and sand mining have rarely occurred in scallop resource areas, or have been discontinued. Cable laying which crosses scallop resource areas, particularly off the NJ coastline, has had limited cumulative effects in both the size and duration of impacts, although scallop fishermen have to be careful about fishing where overseas telecommunication cables exist.

6.3.7.1.3 Effects of Reasonably Foreseeable Future Actions (RFFAs)

Amendment 10 to the Sea Scallop FMP was submitted by the Council in December 2003 and is presently under review by the Secretary of Commerce. The interaction between the proposed action, Amendment 10, and framework adjustments that might occur under Amendment 10 regulations is an important aspect of the cumulative effects analysis. According to Amendment 10, framework adjustments are planned to occur every two years to adjust DAS allocations, close and re-open rotation areas, and make other management changes to achieve the resource-wide annual fishing mortality target and optimum yield. A more detailed description of Amendment 10 is presented in Section 3.2.1.5. Other than the framework adjustments, other scallop management actions are not expected, but may be considered in future framework actions or amendments.

Area access to portions of Closed Area I, Closed Area II, and the Nantucket Lightship Area would allow Amendment 10 and future framework adjustments to achieve the plan objectives with more scallop biomass in open fishing areas. This outcome is expected because the resource wide fishing mortality target can be achieved with fewer DAS being fished in the open areas, reducing scallop mortality. A greater scallop biomass in the open areas potentially means that rotation area management would be more effective, increasing the yield of scallops from open areas as well as the proposed access areas. Also, since the 4" rings required under Amendment 10 are more efficient when large scallops (> 110 mm shell height) are available, the expected benefits of the 4" rings in use within the open areas would be greater due to the higher amounts of large scallops.

Conversely, if there are more areas with large scallops open to fishing, fewer rotation closed areas would be needed to achieve the plan objectives and optimum yield. It would therefore be less likely that more rotation closed areas are needed to postpone mortality on small, fast-growing scallops, making more of the scallop resource available for fishing at any one point in time.

Amendment 13 to the Multispecies FMP was also submitted by the Council in December 2003 and is presently under review by the Secretary of Commerce. An interaction between groundfish management and the ability to fish for scallops is also an important consideration. The quicker that the proposed groundfish regulations rebuild the groundfish stocks, the more likely it is that restrictions on scallop fishing (a gear capable of catching some groundfish species) would continue in their present form or level. For example, as groundfish biomass increases, the groundfish catches on scallop trips would also rise and perhaps lead to an increase in the current 300 lb. groundfish possession limit on scallop trips. It also might reduce the need for continuing the year around groundfish mortality closed areas, or some portion of them. This may make parts of the scallop resource routinely available for scallop fishing without some of the measures that are currently required in the proposed action.

Conversely, the Framework Adjustment 16/39 proposed action includes important restrictions on groundfish catches in the access program, to prevent the scallop fishery from affecting the anticipated groundfish rebuilding from Amendment 13 measures or from affecting potential Special Access Programs using Multispecies "B" days[63]. Depending on where and when fishing occurs and the species in the catch, the proposed action may even reduce mortality for some groundfish species. This in turn, could improve the ability of Amendment 13 to promote groundfish rebuilding and benefit the scallop fishery and resource when and if the groundfish restrictions are adjusted to reflect a rebuilt stock status.

In addition to the proposed management measures for multispecies limited access vessels, Amendment 13 re-opens an area off Southern New England for scallop fishing by vessels with general category scallop permits. Up until now, this area had been closed to scallop fishing for vessels not on a DAS because the area did not allow fishing with small mesh (including dredges with 3½" rings). This action may have a cumulative effect by allowing or inviting more scallop fishing by vessels with general category scallop permits. Alternatively, it could encourage more vessels to obtain an open access general category permit to target scallops or encourage more investment by vessels that already have the permit (there are no limits on vessel upgrading, except those that might apply by the vessel having another permit). Either of these effects could increase scallop mortality from vessels not fishing on a DAS, potentially causing a reduction in limited access DAS allocations or adjustments to other measures to compensate and prevent overfishing the scallop resource.

Conversely, there is a cumulative effect from the proposed action allowing vessels with general category scallop permits to fish in the proposed access areas. The re-opening of Southern New England waters for scallop fishing by vessels with general category permits, coupled with the proposed access program, could encourage capitalization in an open access fishery, more than with either action alone. Nonetheless, scallop fishing mortality from catches on vessels with general category permits is a small fraction of the overall scallop mortality. Plus, under Amendment 10 regulations, vessels with general category permits would be required to upgrade the gear to 4" rings and 10" twine top mesh to target scallops with a small dredge, and install VMS monitoring equipment to fish in the controlled access areas. These factors taken together suggest that the cumulative effect is likely to be small in the short term and manageable in the long-term.

[63] Amendment 13 reclassifies multispecies DAS as "A" and "B" days. Under the amendment, "B" days may be used in special access programs designed to avoid catching overfished groundfish stocks.

There are no other management actions on the horizon that are likely to have a cumulative effect on the scallop fishery and the scallop resource. One FMP that could have an impact, amendments or framework adjustments to the Monkfish FMP, have no rule changes under development that are likely to effect scallop fishing. Therefore the Council believes that although there are cumulative effects that could occur as the result of simultaneous implementation of the proposed action and future fishery management actions, these effects are unlikely to be significant.

As discussed in more detail in the Amendment 10 FSEIS, scallops are particularly susceptible to changes in water quality and clarity, as well as thermal shock, or moderate to significant burial by sediments. Therefore activities in about 20 to 40 fathoms of water (with shallower areas in the Gulf of Maine) that cause a degradation of water quality, increases in turbidity, thermal shocks, or burial could have a cumulative effect on the scallop fishery and the scallop resource. For example, changes in the environment that cause changes in growth rates, natural mortality, of meat yield, could have a cumulative effect on rotation area management. Areas might have to re-open quicker than anticipated to catch scallops earlier if the mortality rate increases due to an offshore activity. Such an event could also decrease the expected benefits of the proposed area access program. Slower growth rates could likewise decrease the potential benefits of rotation area management.

Types of activities could include construction in the nearby marine environment, sand dredging and ocean dumping, oil and gas exploration, and burial of pipelines or telecommunication cables across important scallop beds. At the present time, the Council is not aware of pending applications for Federal permits of these types in the scallop resource areas. There has been discussion with the Council in the past two years about a potential construction of a gas pipeline near or on Georges Bank, but this is in the preliminary stages of evaluation and may require some forethought about potential effects on scallop resources.

6.3.7.1.4 Summary of cumulative effects for the scallop resource

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
No access and scallop fishing in Closed Area I, Closed Area II, and the Nantucket Lightship Area	No Action	Section 4.2.1	(Sections 6.1 and 6.2.1) Reduces the scallop biomass in open fishing areas, increasing the need for rotation closures and making it more difficult to achieve optimum yield.	Unlikely to be significant under present resource conditions, because recent scallop recruitment in open fishing areas has been above average.
Area access alternatives		**Sections 4.1.1 & 4.2.2**	**(Sections 6.1 and 6.2.2)**	
Alt 1 – Access area boundaries consistent with the habitat closures in A10 and FW 13	NPA	Section 4.2.2.1	Access to the scallop resource is less because some access areas would be located where scallop fishing is prohibited by Multispecies FMP.	Not expected to be significant because the overlap in the Multispecies EFH closed areas and the FW13 access areas is a small part of the overall resource.
Alt 2 - Access area boundaries consistent with the habitat closures described in A13	NPA	Section 4.2.2.2	Allows greatest access to the scallop resource, but could increase groundfish mortality and have a greater cumulative effect on groundfish rebuilding.	Not expected to be significant because scallop fishing in areas with low scallop biomass is unlikely.
Alt 3 – FW 13 access area boundaries consistent with habitat closures in both FMPs	NPA	Section 4.2.2.3	Same as Alternative 1	Same as Alternative 1
Area access are boundaries consistent with the habitat closures described in A13, with continued groundfish and scallop mortality closures in the western part of the NSLA and the northern part of CA I	PA	Section 4.1.1	Reduces cumulative effects by matching the access areas with the EFH closed areas in the Multispecies FMP, while also minimizing potential groundfish bycatch in areas with low scallop biomass.	Not expected to be significant because bycatch is minimized and access avoids access in areas characterized as sensitive and complex habitat by Amendment 10. Scallop TACs are near the maximum level for any alternative.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Alternatives to reconcile habitat closure areas to minimize adverse effects of fishing on EFH		**Sections 4.1.2 & 4.2.3**	**(Sections 6.1 and 6.2.3)**	
Habitat closed areas consistent with the Framework Adjustment 13 Scallop Closed Area access program (Status quo; Approval of Amendment 10 only)	NPA	Section 4.2.3.1	This would increase the amount of area where scallop fishing with dredges and trawls (gears having an adverse habitat impact) is prohibited, increasing protection of EFH relative to other alternatives.	Not expected to be significant because the additional areas would potentially be open to fishing by other bottom tending gears that have an adverse impact on EFH.
Habitat closed areas consistent with Alternative 10b, closures approved by the Council in Amendment 13 to the Northeast Multispecies FMP	PA	Section 4.1.2	This alternative would improve the practicability of the EFH closed areas in Amendment 13 to the Multispecies FMP, reducing the effects on the scallop industry.	The additional areas where scallop fishing would be allowed are offset by areas classified as EFH closed areas in Amendment 13. Changes in scallop yield and the effect on the scallop resource is therefore insignificant.
Habitat closed areas consistent with Amendment 10 to the Sea Scallop FMP and with Amendment 13 to the Northeast Multispecies FMP	NPA	Section 4.2.3.3	Same as status quo.	Same as status quo.
Gear Restrictions		**Section 4.1.3**	**(Sections 6.1 and 6.2.4)**	
Limited access vessels must use dredges only	PA		Reduces groundfish bycatch and mortality, potentially allowing quicker rebuilding of overfished groundfish stocks. On the other hand, this measure could increase fishing effort in the Mid-Atlantic region (if the access program catches reach the yellowtail flounder TAC), where sea turtles are more prevalent.	No cumulative effect on the scallop resource or fishery is anticipated.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Groundfish Catch Limits		**Sections 4.1.4 & 4.2.5**	**(Sections 6.1 and 6.2.5)**	
Hard TAC for yellowtail flounder bycatch; areas close to scallop fishing without transfer of unused DAS to open areas	NPA	Section 4.2.5.1	Measures to limit groundfish bycatch in the access program could limit access to the scallop resource, keeping actual scallop mortality below optimal levels.	Not expected to be significant because future framework actions would take into consideration the amount and distribution of scallop biomass.
Hard TAC for yellowtail flounder with a provision to allow vessels to take remaining trips in open areas up to the difference in open area DAS with and without access to achieve the annual fishing mortality target for the resource (20 DAS in 2004, for example)	PA	Section 4.1.4	Limit on number of trips that a vessel may transfer from closed controlled access areas to open areas prevents overfishing of scallop resource in open areas. In addition, limits on number of trips could keep the open area scallop mortality below the amounts estimated without access to the Georges Bank groundfish closed areas. Proposed action would allow Scallop FMP to achieve optimum yield. However, optimum yield may not be achieved in the controlled access areas if the areas are closed early in the fishing year because the hard TAC is achieved before access area DAS for scallopers are used. Vessels that take no trips would have different impacts from the vessels that fish in the access areas, because they could transfer only a portion of their unused controlled access DAS to fish in open scallop areas.	Any displaced effort to open areas as the result of the hard TAC for yellowtail flounder being reached would be within the range of effort allocated by the FMP and would not result in a significant cumulative effect. Furthermore, no loss of scallop fishing effort in the controlled access areas as a result of the hard TAC being reached early in the fishing year would result in a significant cumulative effect.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer unused controlled access DAS allocations, prorated by fleet-wide DAS use to take remaining trips in open areas	NPA	Section 4.2.5.2.2	Unused DAS by all vessels are treated equally, but the same amount of DAS could be transferred to fish in open fishing areas.	Like the above alternative, the transfer option is unlikely to result in a significant effect.
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer unused controlled access DAS allocations, prorated by expected landings per DAS to take remaining trips in open areas	NPA	Section 4.2.5.2.3	Same effect as above alternative, but the calculation is based on pounds of potential scallop landings, rather than an effort cap.	Same as above.
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer all unused controlled access DAS allocations in open areas	NPA	Section 4.2.5.2.4	This non-preferred alternative could increase fishing effort to unanticipated levels, compared to the Amendment 10 analysis.	Since effort and bottom contact could increase beyond those estimated in the Amendment 10 FSEIS, this alternative was not approved and therefore has no significant cumulative effect.
Provision to increase the yellowtail TAC if a specified limit is not harvested by December 1 of each year	PA	Section 4.1.4	Could allow greater access to the scallop resource than otherwise possible, improving the ability for the proposed action to achieve optimum yield.	Not expected to be significant because it reduces the risk that areas might close early when yellowtail flounder catches reach the TAC, but it would not change scallop mortality from those expected in the analysis.
Two percent set-aside of the yellowtail TAC to allow and fund research	PA	Section 4.1.4.2	Allows scallop research and research compensation trips to occur in the proposed access areas, by matching the bycatch set-aside with the scallop set-aside.	Not expected to be significant because it does not change the expected scallop mortality.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Procedures to achieve voluntary actions to minimize bycatch	PA	Section 4.1.4.3	Could improve access to the scallop biomass in the proposed access areas by prolonging the fishery before the yellowtail flounder catches reach the TAC.	Not expected to be significant because it reduces the risk that areas might close early when yellowtail flounder catches reach the TAC, but it would not change scallop mortality from those expected in the analysis.
Finfish possession limits		**Sections 4.1.5 & 4.2.6**	**(Sections 6.1 and 6.2.6)**	
Groundfish possession limit equal to 1000 lbs./trip, with a seasonal sub-limit for yellowtail flounder	PA	Section 4.1.5.1	Reduces bycatch mortality, but no effects on the scallop resource or fishery are anticipated.	Not expected to be significant because it should not change fishing behavior.
Additional cod possession limit for personal use equal to 100 lbs./trip for personal use	PA	Section 4.1.5.2	Prevents inadvertent and unintentional violations for making cod chowder or being caught with recently caught cod before having a chance to discard them.	Same as above.
Access Seasons		**Sections 4.1.6 & 4.2.7**	**(Sections 6.1 and 6.2.7)**	
Simultaneous access during June 15 to January 31	PA	Section 4.1.6	Potentially reduces groundfish bycatch and avoids possible disruptions to peak groundfish spawning, but increases fishing effort when scallop meat yield is seasonally low. This may increase the scallop fishing mortality associated with the proposed scallop TACs.	Not expected to be significant because future framework adjustments would take into account changes in scallop biomass and distribution.
At-Sea Observers, TAC Set-Aside, And Fishery Monitoring		**Sections 4.1.7**	**(Sections 6.1 and 6.2.8)**	
Existing sampling frequency funded with a one percent TAC set-aside	PA	Section 4.1.7	No cumulative effects on scallop resource or fishery are expected.	None.
Enforcement Provisions		**Sections 4.1.8**	**(Sections 6.1 and 6.2.9)**	
Trip declaration and notification	PA	Section 4.1.8.1	Same as above.	None.
Vessel operation and landing	PA	Section 4.1.8.2	Same as above.	None.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
More frequent VMS polling	PA	Section 4.1.8.3	Same as above.	None.
Reporting Requirements		**Sections 4.1.9**	**(Sections 6.1 and 6.2.10)**	
Vessel monitoring systems	PA	Section 4.1.9.1	Same as above.	None.
Vessel trip reports	PA	Section 4.1.9.2	Same as above.	None.
Mechanical rotation alternatives		**Section 4.1.10**	**(Sections 6.1 and 6.2.11)**	
Amendment 10 rotational access to portions of CA I, CA II, and the NLSA beginning with CA I and the NLSA in 2004, and CA II in 2005-2007	NPA	Section 4.2.11.1	The alternative would result in higher yield and DAS allocations when CAI and the NLSA would be open for fishing in 2004, and lower yield and allocations in 2005-2007.	Not expected to be significant because the overall scallop yield potential over time is nearly the same as expected for the rotation alternative below.
Rotational access to portions of CA I, CA II, and the NLSA with two areas open each year beginning with CA II and the NLSA in 2004	PA	Section 4.1.10.1	New rotation schedule would even out DAS allocations and expected yield. It would also reduce the likelihood of an area closing because yellowtail flounder catches reached the TAC.	Not expected to be significant because the overall scallop yield potential over time is nearly the same as expected for the rotation alternative above.
Part-time and Occasional Trip and DAS Allocations		**Sections 4.1.10 & 4.2.12**	**(Sections 6.1 and 6.2.12)**	
Trip allocations with unequal possession limits by permit, part-time allocations equal 40% of full-time allocations, and occasional allocations equal $1/12^{th}$ of a full-time allocation (Not to apply to 2004 Hudson Canyon Area allocations)	PA	Section 4.1.10.2	Number of scallop trips and DAS allocations are expected to be the same as those under the status quo. Part-time vessels would see an allocation increase and occasional vessels would see an allocation decrease compared to the Amendment 10 allocation strategy, both to be consistent with the open area access policy in the FMP.	No effect on the scallop fishery and resource is expected.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Access for general category vessels		**Section 4.1.11**	**(Sections 6.1 and 6.2.13)**	
Access with enhanced reporting and a 2% TAC set-aside	PA		Overall scallop mortality is expected to be the same, but the set-aside has the potential to reduce the number of trips and DAS that would be allocated to limited access vessels.	No effect on the scallop resource is expected and the set aside is a small amount of the overall landings, which could be landed by vessels with general category permits. Cumulative effects are therefore insignificant.

6.3.7.2 Scallop fishing fleet and infrastructure (suppliers, maintenance, facilities, processors)

6.3.7.2.1 Direct and Indirect Impacts of the Proposed Action

The aggregate economic impacts of the proposed rotation schedule with access to the Georges Bank groundfish areas on scallop fishery, vessel revenues, costs, and gross profits are examined in Section 6.2.1.4. The combined impacts of the proposed access to the Georges Bank groundfish areas will be positive on scallop fishing fleet and suppliers. Even though the proposed rotation strategy with access will generate marginally lower revenues from scallop fishing compared to no access during the 2004-2007 period, it will also lower the fishing costs. Because of the greater scallop abundance and LPUE in the Georges Bank groundfish areas, it will take less time to catch scallops in these areas compared to the open areas. As a result, the operating expenses per pound of scallops are estimated to decline, and gross profits are expected to increase. In addition, the size of the scallops landed from the access areas will be larger, and larger scallops could be sold at a price premium, benefiting the scallop fleet, dealers and processors.

Although access may reduce the total crew DAS worked in the scallop fishery, it is uncertain to what extent this reduction would translate into a reduction in the total number of crew employed in the scallop fishery. On the income side, the impacts from access will be positive. Crew income is estimated to increase both during the 2004-2007 period and over the long-term because of lower trip expenses with access.

By increasing the scallop catch rates in the long run and reducing operating costs, the proposed measures are expected to increase the productivity of the scallop industry and have positive long-term impacts on the scallop fleet and infrastructure. Indirect impacts of the proposed access and rotation schedule and other measures include the impacts on the sales, income, employment and value-added of industries that supply commercial harvesters, such as the impacts on marine service stations that sell gasoline and oil to scallop vessels. The increase in the gross profits and income of the scallop fleet will have positive economic benefits on these sectors as well. The increase in revenues and regional incomes through the multiplier impacts may also lead to an increase in employment in sectors with backward or forward linkages to the scallop fishery.

The direct and indirect impacts of the individual measures considered by this Framework, including mechanical rotation alternatives, area-access options, habitat closures, gear restrictions, access seasons, groundfish catch and possession limits, fishery monitoring and enforcement provisions, trip allocations for part-time and occasional vessels, general category and other proposed measures, are analyzed in relevant subsections of Section 6.2.

6.3.7.2.2 Effects of Past and Present Actions, Including Other Federal and non-Federal Actions

The long-term cumulative effects of past actions, including Amendment 4 and Amendment 7 to the Sea Scallop FMP, were positive for the scallop fleet and infrastructure. Amendment 4 instituted a limited access program and established a fishing effort reduction schedule in order to lower scallop fishing mortality and increase yield. Framework 1 reduced the maximum crew limit from 9 to 7 in order to lower the fishing mortality on small scallops. Amendment 7 revised the DAS-reduction schedule in order to meet the mandates of the Fisheries Sustainable Act of 1996. In addition to these actions, the Nantucket Lightship Area, CAI and CAII were closed to scallop fishing beginning in 1994, first by an emergency action, and later by Amendment 7 to the Multispecies FMP. These actions were successful in

lowering fishing effort and mortality in the scallop fishery. During the years following these actions, however, scallop fleet landings and revenues continued to decline due to the high fishing effort and unsustainable landings during 1987 to 1992. The closures of the Georges Bank groundfish areas and the reductions in fishing effort also contributed to this decline in the short-term. Scallop landings reached their lowest level in a decade with only about 12.5 million lbs. in 1998, which was less than one half of what it had been during the period from 1987 to 1992. The fleet revenue declined to $76 million in the same year.

As the scallop resource rebounded, however, due to the effort reduction measures of Amendment 7 and groundfish area closures since 1994, combined with an above-average recruitment, the scallop landings increased dramatically to more than 22 million lbs. in 1999 and to over 32 million in 2000. As a result, the scallop fleet revenue reached $120 million in 1999 and $160 million in 2000. The increase in the scallop biomass helped the scallop fishery to become more productive and profitable by increasing landings per DAS (LPUE) and by reducing fishing costs per pound of scallops. The opening of the southern part of CAII to scallop fishing in 1999 by Framework 11, and later, extension of access to parts of the Nantucket Lightship Area and Closed Area I by Framework 13 played an important role in increasing fleet revenues and the economic benefits from the scallop resource. Scallop landings reached 47 million lbs. and the fleet revenue more than doubled increasing to $173 million in 2001, despite the decrease in scallop prices by 40% from their 1998 level. Scallop fishing fleet also benefited from the lower costs of fishing. The yield per day-at-sea (LPUE) improved dramatically from about 450 lbs. per day-at-sea in 1994 to more than 1,200 lbs. per day-at-sea in the 2001 fishing year, lowering the operational costs (such as fuel, oil, water, ice and food) per pound of scallops. As a result, profits of the scallop vessels and incomes of the crewmembers continued to increase significantly after 1998.

The Framework 14 action revised the DAS schedule in Amendment 7 to the Scallop FMP and increased the allocations to be consistent with the recent improvements in the scallop abundance levels. Also, the Hudson Canyon and VA/NC areas were reopened to scallop fishing through a controlled access program. Framework 15 continued this program in 2002. The cumulative impacts of these actions on the scallop fleet and infrastructure continued to be positive. The landings reached record levels, 52 million in 2002, and fleet revenues increased to $202 million in the same year, with similar estimates for 2003. In conclusion, the cumulative impacts of the past and present actions were positive for the scallop fleet and for related sectors including dealers, processors, primary suppliers to the vessels that sell them gear, engines, boats, etc. There were no other Federal or non-Federal actions that had any significant impacts on the scallop fleet and infrastructure.

6.3.7.2.3 Effects of Reasonably Foreseeable Future Actions (RFFAs)

Amendment 10 allows the Council to make adjustments to DAS allocations, to close or reopen areas, or take other management actions through Framework adjustments every two years in order to achieve the optimum yield from the fishery. Closing of areas with small scallops and allowing access to high scallop abundance areas of Georges Bank and the Mid-Atlantic is expected to increase the cumulative benefits for the scallop fleet and infrastructure in the long-term by redistributing scallop fishing to more productive areas. Fishing in areas with high catch rates (LPUE) is expected to reduce fishing costs and increase profits and crew incomes over the long-term. The short-term impacts could differ from the long-term impacts, however. DAS allocations and area-specific possession limits could be lowered, boundaries of controlled access areas could be revised, reopening and closing schedules could be changed by future Framework actions if recruitment and stock biomass conditions necessitate such adjustments. Such actions could have negative impacts on scallop landings and revenues in the short-term, reducing beneficial cumulative impacts on the scallop fleet and infrastructure. It is not possible to predict short-term impacts with certainty, however, since they could as well be positive depending on the changes in the scallop stock biomass and fluctuations in recruitment.

In addition to the future scallop frameworks, Amendment 13 to the multispecies fishery and future regulations for this fishery are expected to have impacts on the scallop fleet and related sectors. Rebuilding of the groundfish stocks through these actions could have positive impacts on the scallop fishery by reducing the need for extensive closures in the Georges Bank groundfish areas. On the negative side, opening of Southern New England for scallop fishing by vessels with general category permits through Amendment 13 may increase fishing effort and mortality on scallops. Such a negative impact could cause a reduction in DAS allocations or area-specific possession limits for limited access vessels, lowering the positive impacts of the management actions on the scallop fleet and infrastructure. Because the general category vessel landings do not constitute a significant proportion of the overall scallop landings, such changes are not expected to have significant cumulative impacts, however.

There are no other foreseeable future actions that could have significant cumulative effects on the scallop fishery and resource. Therefore, no significant cumulative impacts are expected from other actions on the scallop fleet and infrastructure because these impacts generally occur through changes on the scallop fishery and resource.

6.3.7.2.4 Summary of cumulative effects for the scallop fishing fleet

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
No access and scallop fishing in Closed Area I, Closed Area II, and the Nantucket Lightship Area	No Action	Section 4.2.1	(Sections 6.1.4 and 6.2.1) Reduces positive cumulative impacts on the scallop fleet and related industries, producer benefits, gross profits and crew incomes due to higher fishing costs in the open areas. May increase the cumulative impacts on employment because of higher DAS allocations, however.	Not expected to be significant. The present conditions of the scallop resource and the level of DAS allocations in the open areas are expected to generate landings and revenues comparable to the rotation schedule with access, but at higher fishing costs.
Area access alternatives		**Section 4.1.1 & 4.2.2**	**(Sections 6.1.4 and 6.2.4)**	
Alt 4 - Area access boundaries consistent with the habitat closures described in A13, with continued groundfish and scallop mortality closures in the western part of the Nantucket Lightship Area and the northern part of CA I	PA	Section 4.1.1	Increases positive cumulative effects by providing greater access to the scallop resource in more productive areas, reducing fishing costs, and increasing gross profits and crew incomes. It could reduce the cumulative impacts on employment in the scallop fishery due to lower DAS allocations, however.	Not expected to be significant because the level of scallop landings, revenues and costs will be close to what is expected under other access alternatives and under no access.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Alternatives to reconcile habitat closure areas to minimize adverse effects of fishing on EFH		**Section 4.1.2 & 4.2.3**	**(Sections 6.1.4 and 6.2.3.4)**	
Habitat closed areas consistent with Alternative 10b, closures approved by the Council in Amendment 13 to the Northeast Multispecies FMP	PA	Section 4.1.2	Proposed closure increases positive cumulative effects by allowing greater access for scallop fishing in relatively more productive Georges Bank groundfish areas that were closed to fishing since 2001. Reduces fishing costs and increases gross profits and crew incomes in the scallop fleet. It will have indirect positive impacts on scallop infrastructure and related sectors, and will increase overall cumulative effects.	Because changes in scallop landings and revenues are expected to be small compared to status quo and other alternatives, cumulative impacts on the scallop fleet and the infrastructure are not expected to be significant.
Gear Restrictions			**Section 6.2.4**	
Limited access vessels must use dredges only	PA	Section 4.1.3	Indirect positive cumulative impacts on the scallop fleet as a whole by minimizing the risks for high finfish bycatch and therefore, the risk of a premature closure of Georges Bank groundfish areas before the scallop TAC is reached. Could have negative impacts on the scallop trawl sector.	No significant cumulative impacts on the scallop fleet and infrastructure are expected due to limited numbers of scallop trawls and mitigating factors.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Groundfish Catch Limits		**Section 4.1.4 & 4.2.5**	**Section 6.2.5**	
Hard TAC for yellowtail flounder with a provision to allow vessels to take remaining trips in open areas up to 20 days at sea	PA	Section 4.1.4	Indirect positive impacts by keeping bycatch from exceeding finfish quotas, and reducing the risks of early closures of Georges Bank groundfish areas to scallop fishing. The option to transfer DAS to open areas in case of closures will minimize negative impacts on the scallop fleet.	Early closure of the Georges Bank groundfish areas will not result in a significant reduction in landings and revenues from the scallop fishery due to the DAS transfer option. Therefore, no significant cumulative effects on the scallop fleet and the infrastructure are expected from this measure.
Provision to increase the yellowtail TAC if a specified limit is not harvested by December 1 of each year	PA	Section 4.1.4	Will increase positive impacts on the scallop landings and revenues than otherwise possible by extending the season for scallop fishing.	No significant changes in scallop landings, revenues and fishing costs are anticipated from this measure. Therefore, cumulative impacts are not expected to be significant.
Two percent set-aside of the yellowtail TAC to allow and fund research	PA	Section 4.1.4.2	Indirect positive impacts on the scallop fleet through improved research and management of the scallop resource.	No significant changes in scallop landings, revenues and fishing costs are anticipated from this measure. Therefore, cumulative impacts are not expected to be significant
Procedures to achieve voluntary actions to minimize bycatch	PA	Section 4.1.4.3	Indirect positive impacts on the scallop fleet by helping to reduce bycatch and the risks of early closure of Georges Bank groundfish areas.	Cumulative impacts are not expected to be significant because no significant changes in scallop landings, revenues and fishing costs are anticipated from this measure.
Finfish possession limits			**Section 6.2.6**	
Groundfish possession limit equal to 1000 lbs./trip, with a seasonal sub-limit for yellowtail flounder	PA	Section 4.1.5.1	Indirect positive impacts by reducing regulatory discards, but no effects on scallop landings, revenues, fishing costs.	No significant cumulative impacts are anticipated on the scallop fleet and infrastructure because the overall scallop landings, revenues and fishing costs will not change in any significant way.
Additional cod possession limit for personal use equal to 100 lbs./trip for personal use	PA	Section 4.1.5.2	Indirect positive benefits on the scallop fleet and crew by eliminating unintentional violations.	Same as above.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Access Seasons		**Section 4.1.6 & 4.2.7**	**Section 6.2.7**	
Simultaneous access during June 15 to January 31	PA	Section 4.1.6	Indirect positive impacts by prohibiting scallop fishing when many species of groundfish are at peak spawning activity, thus by making access to the Georges Bank groundfish areas more acceptable. Simultaneous access to all Georges Bank groundfish areas will have positive impacts on the scallop fleet by providing more flexibility to fishermen to maximize their landings and revenues from these areas.	No significant cumulative impacts are anticipated on the scallop fleet and infrastructure because the overall scallop landings, revenues and fishing costs will not change in any significant way because of seasonal distribution of fishing activity.
Existing sampling frequency funded with a one percent TAC set-aside	PA	Section 4.1.7	No cumulative effects on scallop fleet and infrastructure are expected.	None.
Enforcement Provisions		**Section 4.1.8**	**Section 6.2.8**	
Trip declaration and notification	PA	Section 4.1.8.1	Indirect positive impacts through improved management.	No significant cumulative effects on scallop fleet and infrastructure are expected.
Vessel operation and landing	PA	Section 4.1.8.2	Same as above.	Same as above.
More frequent VMS polling	PA	Section 4.1.8.3	Same as above.	Same as above.
Reporting Requirements		**Section 4.1.9**	**Section 6.2.9**	
Vessel monitoring systems	PA	Section 4.1.9.1	Same as above.	Same as above.
Vessel trip reports	PA	Section 4.1.9.2	Same as above.	Same as above.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Mechanical rotation alternatives		**Section 4.1.10**	**Section 6.1.4 and 6.2.10**	
Rotational access to portions of CA I, CA II, and the NLSA with two areas open each year beginning with CA II and the NLSA in 2004	PA	Section 4.1.10.1	Positive cumulative impacts by reducing the likelihood of significant scallop revenue loss from closure of access areas due to high of yellowtail bycatch. Indirect positive impacts by providing more stability to the vessel business operations through more even annual allocations for the access areas during the access program.	No significant cumulative effects are expected because the scallop landings, revenues and fishing costs will not change significantly from what has been estimated for the Amendment 10 rotational access to the portions of Georges Bank groundfish areas.
Part-time and Occasional Trip and DAS Allocations		**Sections 4.1.10 & 4.2.12**	**Section 6.2.12**	
Trip allocations with unequal possession limits by permit, part-time allocations equal 40% of full-time allocations, and occasional allocations equal $1/12^{th}$ of a full-time allocation (Not to apply to 2004 Hudson Canyon Area allocations)	PA	Section 4.1.10.2	Positive economic impacts on the part-time limited access fleet and negative impacts on the occasional permit category vessels. No significant impacts are expected, however, on overall scallop landings, revenues and fishing costs, thus no effects on the scallop fleet and infrastructure as a whole.	No significant cumulative effects are expected because the scallop landings, revenues and fishing costs will not change significantly compared to levels estimated with Amendment 10 trip allocation system.
Access for general category vessels			**Section 6.2.13**	
Access with enhanced reporting and a 2% TAC set-aside	PA	Section 4.1.11	Increase the revenues of the general category vessels by allowing access. Also will increase the costs of fishing for these vessels due to VMS and other reporting requirements. The impacts on the limited access scallop fleet are expected to be minimal.	Cumulative effects on the scallop fleet and infrastructure are not expected to be significant because scallop landings, revenues and fishing costs will not change significantly due to access by general category vessels.

6.3.7.3 Vulnerable finfish resources caught as bycatch in the scallop fishery

6.3.7.3.1 Direct and Indirect Impacts of the Proposed Action

Sections 6.1.1.2 and 6.1.1.3 describe and summarize the expected biological impacts on finfish species that are often caught in scallop fishing gear in the access areas, focusing on the preferred alternatives. The proposed action is intended to improve and maintain high scallop yield, while minimizing impacts on groundfish mortality and other finfish catches. Proposed management measures include seasonal restrictions, sea sampling, and yellowtail flounder TACs to ensure that the finfish catches do not rise to levels that would cause a substantial increase in groundfish fishing mortality or threaten the rebuilding expected by Amendment 13.

Access may even reduce fishing mortality for some finfish species, because the total amount of fishing time in the access areas is very low compared with the expected reduction in fishing time in open fishing areas of the Georges Bank and Mid-Atlantic regions. This occurs because the high catch rates in the proposed access areas, coupled with crew limits that dictate how much scallops a vessel can process, causes the fishing time per DAS to decline, relative to the amount of fishing time on a DAS in the open areas.

Section 7.1.4 summarizes the overall impacts on skate mortality from this action. The Skate PDT concluded that this action is not expected to have negative impacts on skates in a formal rebuilding program (thorny and barndoor). A small percentage of the overall distribution of both thorny and barndoor skates overlaps with the proposed access areas, and areas with intense scallop fishing effort in 2000. While total allocated DAS is expected to slightly increase in 2004 as compared to the level assessed in the skate baseline, allocated DAS will reduce substantially after 2004 under a rotational area management strategy. If scallop management continues to focus effort in areas with high scallop biomass, overall impacts on skate mortality may decline because actual fishing time will be reduced, potentially decreasing skate bycatch levels.

6.3.7.3.2 Effects of Past and Present Actions, Including Other Federal and non-Federal Actions

A brief summary of the cumulative effect of past and present scallop management on total effort allocations, on the scallop resource, and on fishing time is given in Section 6.3.7.1.2, with a more detailed description of the management actions in Section 3.2.1. Most relevant to the cumulative effects on vulnerable finfish resources, caught as bycatch in the scallop fishery, are the reductions in total effort allocations, gear changes that allow more escapement and better survival of finfish, and the effect of the groundfish closed areas on scallop fishing.

Since 1994, the amendments and framework adjustments to the Scallop FMP have reduced effort allocations and lowered the scallop fishing mortality rate to stop overfishing and rebuild the scallop resource. Not only has the total amount of nominal effort declined from 45,000 days-at-sea to 22,000 days-at-sea in 1999, rising to about 30,000 days-at-sea in 2003, but the amount of fishing time (measured as total area swept) has declined by a greater amount. Total area swept was estimated to be about 12,000 nm^2 in 1999 and has since declined to 4,800 nm^2 in 2003. This has occurred because of the controlled access programs in Framework Adjustments 11, 13, 14, and 15 using a day-at-sea tradeoff and also because the scallop biomass in open fishing areas has risen from the rebuilding program. Catches in many areas have begun to exceed the crew's shucking capacity, which causes vessels to fish less time per DAS.

Finfish catches are proportional to the amount of actual fishing effort and have probably declined as the management measures in the Scallop FMP reduced total fishing effort. Due to low sea sampling for the scallop fishery on open area trips and because discard estimates from vessel trip reports have been unreliable, this change has been difficult to document, however.

Increases in scallop biomass and catch per DAS have also had beneficial effects on finfish that are frequently caught by scallop dredges. When the scallop resource was overfished, scallop catch rates and revenue were low compared to other opportunities that existed in the early to mid 1990s. At various times, often seasonally, scallop fishing vessels targeted finfish with a dredge rather than scallops, particularly for monkfish, yellowtail flounder, gray sole, and American plaice which are easy to catch with dredges. Sometimes the vessel would target these species as a component of the catch while fishing for scallops and at other times the vessel would use a scallop DAS to target these finfish rather than scallops. Trip limits greatly curtailed this targeting of finfish with scallop dredges, but increasing scallop biomass made it less profitable to do so anyway.

During this time, greater gear restrictions also probably had a beneficial effect on finfish resources, by reducing catches of particularly small finfish. Two major changes are important. First, much of the chafing gear, donuts, cookies, and triple rings were prohibited by Amendment 4 in 1994. While intended to reduce catches of small scallops, these changes probably also benefited finfish. Since then, the framework adjustments increased the minimum twine top mesh (an important area of the dredge for finfish escapement for some species) from 6 to 8 inch mesh. Again, although there were sea trials comparing twine top mesh, the benefit to finfish species was not well documented due to low sea sampling and unreliable VTR discard estimates.

Lastly, the groundfish closed areas in the Georges Bank region also had an important effect, since Multispecies FMP banned fishing with scallop fishing gear in these areas. This action probably reduced groundfish bycatch for species that are more abundant in the groundfish closed areas and probably decreased groundfish catches in the overall scallop fishery, because much of the fishing effort shifted to the Mid-Atlantic region around that time. On the other hand, the closed areas may have caused scallop fishing to intensify in other parts of the Georges Bank region, particularly in the Great South Channel, on the Southeast Part and along the northern edge of Georges Bank, near Closed Area I and the Cod HAPC. Species that are more abundant in these areas that remained open probably saw an increase in fishing effort and bycatch.

The cumulative effects of the scallop management regulations and the groundfish closed areas are likely to have had a very beneficial effect on reducing mortality on overfished groundfish. For a time, these measures may have increased fishing pressure on monkfish when scallop catches were low. The Monkfish FMP, however, recognizes that scallop vessels have historic participation in a fishery targeting monkfish and have allowed some scallop vessels to qualify for a limited access monkfish permit.

6.3.7.3.3 Effects of Reasonably Foreseeable Future Actions (RFFAs)

Section 6.3.7.1.3 describes the expected effects of Amendments 10 and 13 on the scallop fishery, which in turn could have a cumulative effect on vulnerable finfish, either through incidental catches while scallop fishing or through minimizing adverse impacts on EFH. Amendment 10 sets new limits on DAS use, focuses fishing effort on areas where the daily catches of large scallops are highest, and increases the minimum twine top mesh from 8 to 10 inches. Future framework adjustments will be needed to establish new closed rotation areas and set DAS allocations to achieve optimum yield. Depending on where these areas are located and how the effort allocations are distributed, the incidental finfish catches in the scallop fishery are expected to remain low, and may even decline.

Amendment 13 has few new effects on the scallop fishery that might have a cumulative effect on finfish resources. One that could have an effect is an alternative that would open waters off Southern New England to scallop fishing by vessels having a general category scallop permit. Analysis in Amendment 13, however, shows that the groundfish catches in this new fishery are expected to remain below acceptable levels and have little effect on groundfish mortality or rebuilding potential.

The cumulative effect of these future actions is expected to keep finfish mortality in the scallop fishery lower than it has been historically, and possibly even reduce it from current levels. Although the proposed action in this framework adjustment would allow access to portions of the groundfish closed areas, the restrictions are expected to keep finfish catches below levels that would cause changes in the cumulative effects of Amendments 10 and 13 on finfish resources.

6.3.7.3.4 Summary of cumulative effects for vulnerable finfish resources

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
No access and scallop fishing in Closed Area I, Closed Area II, and the Nantucket Lightship Area	No Action	Section 4.2.1	(Sections 6.1 and 6.2.1) This alternative would keep effort in the open areas higher than with access, causing a reduction in open area scallop biomass, and an increase to total fishing time and finfish bycatch. Species that are more abundant in the groundfish closed areas would enjoy greater conservation.	Not expected to be significant because the Amendment 13 rebuilding program was designed and analyzed as if the groundfish closed areas would not be fished by the scallop fishery.
Area access alternatives		**Sections 4.1.1 & 4.2.2**	**(Sections 6.1 and 6.2.2)**	
Area access are boundaries consistent with the habitat closures described in A13, with continued groundfish and scallop mortality closures in the western part of the NSLA and the northern part of CA I	PA	Section 4.1.1	Compared with alternative 2, which would allow the most access, this alternative would prevent scallop fishing in areas where scallop biomass is low and groundfish catches could be higher than expected, based on the 2000 sea sampling data.	Cumulative effects are not expected to be significantly different that that expected from Amendment 13 management measures, because the proposed action would keep finfish catches below levels that could cause unacceptable increases in groundfish mortality and/or threaten the expected groundfish rebuilding.
Alternatives to reconcile habitat closure areas to minimize adverse effects of fishing on EFH		**Sections 4.1.2 & 4.2.3**	**(Sections 6.1 and 6.2.3)**	
Habitat closed areas consistent with Alternative 10b, closures approved by the Council in Amendment 13 to the Northeast Multispecies FMP	PA	Section 4.1.2	Improves the practicability of the EFH closed areas	Not expected to be significant because the decrease in protection of EFH in some areas of Closed Area I and the Nantucket Lightship Area would be offset by increases in protection in other parts of the areas.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Gear Restrictions		**Section 4.1.3**	**(Sections 6.1 and 6.2.4)**	
Limited access vessels must use dredges only	PA		Prohibiting trawls is expected to reduce finfish catches in the access areas, preventing impacts on planned stock rebuilding in the Multispecies FMP.	Not expected to be significant because Amendment 13 did not anticipate any scallop fishing in the groundfish closed areas and the alternative would help keep groundfish catches below an acceptable threshold.
Groundfish Catch Limits		**Sections 4.1.4 & 4.2.5**	**(Sections 6.1 and 6.2.5)**	
Hard TAC for yellowtail flounder bycatch; areas close to scallop fishing without transfer of unused DAS to open areas	NPA	Section 4.2.5.1	This alternative would minimize finfish catches, because no additional fishing could be transferred to open areas where groundfish and other finfish species exist.	The cumulative effect is not expected to be significant because catches with access will be limited and remain below levels that would increase groundfish mortality or threaten planned stock rebuilding.
Hard TAC for yellowtail flounder with a provision to allow vessels to take remaining trips in open areas up to the difference in open area DAS with and without access to achieve the annual fishing mortality target for the resource (20 DAS in 2004, for example)	PA	Section 4.1.4	Effort could increase in open fishing areas after the yellowtail flounder TAC for the area access program was caught.	Effort could not exceed levels expected by Amendment 10 and Amendment 13 without access and would not therefore be significant.
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer unused controlled access DAS allocations, prorated by fleet-wide DAS use to take remaining trips in open areas	NPA	Section 4.2.5.2.2	Same as above, but the same proportion of unused DAS could be transferred for all vessels.	Same as above.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer unused controlled access DAS allocations, prorated by expected landings per DAS to take remaining trips in open areas	NPA	Section 4.2.5.2.3	Same as above.	Same as above.
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer all unused controlled access DAS allocations in open areas	NPA	Section 4.2.5.2.4	Could cause effort in the open areas to exceed the amounts specified in Amendment 10, increase groundfish bycatch more than anticipated.	The amounts are unlikely to exceed the open area allocations after 2004, therefore the cumulative effects are not expected to be significant.
Provision to increase the yellowtail TAC if a specified limit is not harvested by December 1 of each year	PA	Section 4.1.4	Could allow the scallop fishery to continue without causing effects on special access programs in the Multispecies FMP or causing groundfish mortality to exceed the rebuilding thresholds.	Not expected to have a cumulative effect, because groundfish mortality from all sources would not exceed the rebuilding thresholds in Amendment 13.
Two percent set-aside of the yellowtail TAC to allow and fund research	PA	Section 4.1.4.2	Allows scallop research and research compensation trips without causing additional groundfish mortality.	Cumulative effect is not expected unless results are implemented as management measures that would minimize bycatch or bycatch mortality.
Procedures to achieve voluntary actions to minimize bycatch	PA	Section 4.1.4.3	Could reduce bycatch and/or improve survival of groundfish caught while scallop fishing in the access areas.	Little cumulative effect is expected because the actions would result in a longer fishery, taking more of the allocated scallop trips.
Finfish possession limits		**Sections 4.1.5 & 4.2.6**	**(Sections 6.1 and 6.2.6)**	
Groundfish possession limit equal to 1000 lbs./trip, with a seasonal sub-limit for yellowtail flounder	PA	Section 4.1.5.1	Minimizes bycatch by allowing scallop vessels to keep more of the finfish caught while targeting scallops.	Not expected to be significant because it does not change finfish mortality.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Additional cod possession limit for personal use equal to 100 lbs./trip for personal use	PA	Section 4.1.5.2	Same as above.	Same as above.
Access Seasons		**Sections 4.1.6 & 4.2.7**	**(Sections 6.1 and 6.2.7)**	
Simultaneous access during June 15 to January 31	PA	Section 4.1.6	Avoids peak groundfish spawning activity and may reduce discards.	Not expected to be significant because the yellowtail flounder catches (and by proxy other finfish catches) are limited by a TAC.
At-Sea Observers, TAC Set-Aside, And Fishery Monitoring		**Sections 4.1.7**	**(Sections 6.1 and 6.2.8)**	
Existing sampling frequency funded with a one percent TAC set-aside	PA	Section 4.1.7	Improves monitoring and bycatch estimate precision.	Not expected to be significant because it would not change mortality of groundfish and other species.
Enforcement Provisions		**Sections 4.1.8**	**(Sections 6.1 and 6.2.9)**	
Trip declaration and notification	PA	Section 4.1.8.1	Same as above.	None.
Vessel operation and landing	PA	Section 4.1.8.2	Same as above.	None.
More frequent VMS polling	PA	Section 4.1.8.3	Same as above.	None.
Reporting Requirements		**Sections 4.1.9**	**(Sections 6.1 and 6.2.10)**	
Vessel monitoring systems	PA	Section 4.1.9.1	Same as above.	None.
Vessel trip reports	PA	Section 4.1.9.2	Same as above.	None.
Mechanical rotation alternatives		**Section 4.1.10**	**(Sections 6.1 and 6.2.11)**	
Amendment 10 rotational access to portions of CA I, CA II, and the NLSA beginning with CA I and the NLSA in 2004, and CA II in 2005-2007	NPA	Section 4.2.11.1	Fishing years when CAI and the NLSA would be open to fishing would have a greater probability of closing from yellowtail flounder catches, because of the higher fishing mortality targets according to this strategy.	Not significant because finfish catches and groundfish mortality are limited by the yellowtail flounder TAC.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Rotational access to portions of CA I, CA II, and the NLSA with two areas open each year beginning with CA II and the NLSA in 2004	PA	Section 4.1.10.1	Evens out the controlled access effort allocations across years and reduces the likelihood that the yellowtail flounder catches will exceed the TACs.	Same as above.
Part-time and Occasional Trip and DAS Allocations		**Sections 4.1.10 & 4.2.12**	**(Sections 6.1 and 6.2.12)**	
Trip allocations with unequal possession limits by permit, part-time allocations equal 40% of full-time allocations, and occasional allocations equal $1/12^{th}$ of a full-time allocation (Not to apply to 2004 Hudson Canyon Area allocations)	PA	Section 4.1.10.2	Adjusted allocation system will not change the total number of trips in the controlled access or open scallop fishing areas.	No cumulative effect is expected, because the total effort by area is not expected to change.
Access for general category vessels		**Section 4.1.11**	**(Sections 6.1 and 6.2.13)**	
Access with enhanced reporting and a 2% TAC set-aside	PA		If the access program encourages more investment in the open access fishery, it could cause the amount of scallop fishing in open areas to go up.	Not expected to be significant because there will be important compliance costs which could limit participation.

6.3.7.4 Essential Fish Habitat (EFH) for finfish, scallops, and shellfish under Federal management

6.3.7.4.1 Direct and Indirect Impacts of the Proposed Action

Section 6.1.2 describes and summarizes the expected impacts of this action on essential fish habitat, focusing on the preferred alternatives. This framework action proposes to modify the habitat closed areas originally proposed for implementation in Amendment 10 to the Scallop FMP to make them consistent with the habitat closed areas proposed in Amendment 13 to the Multispecies FMP. Elimination of the conflicts between the two FMPs will result in the closure of the same areas to gears used in both fisheries, thus providing more effective protection of benthic EFH from the adverse effects of fishing.

This framework action also proposes to provide access to the scallop fleet into portions of the groundfish mortality closed areas. Access into portions of the groundfish mortality closed areas has been granted to the scallop fleet in previous frameworks. Continued access was anticipated in the analysis of Amendment 10, therefore granting access through this framework will not increase impacts beyond that which was recognized as part of the Amendment 10 baseline. The specific access areas are slightly different than access areas in previous frameworks; the access area in the center of Closed Area I has shifted to the south, the access area in the Nantucket Lightship closed area has expanded to about one-third of the total closed area (eastern portion only), and the access area in Closed Area II is the same as in previous framework actions. According to the results of the EFH metric analysis, the EFH value of this access option is not significantly different from the EFH value of the other access options. The overall substrate composition of the four access alternatives is also similar; they are all primarily sandy bottom. More recent preliminary substrate data suggest that the southern portion of the Closed Area I proposed access area may be more complex than the area previously opened. Even if the proposed access alternative does open more complex bottom than previous access programs, it is probable that the overall habitat impacts are neutral because there is added habitat protection from the addition of habitat closed areas on Cashes Ledge, Jeffrey's Bank, and the northern part of the NLSP closed area (over 500 square nautical miles). These areas that were identified as important for habitat conservation represent a variety of substrate bottom that may compensate for the potential "loss" of the southern part of Closed Area I that is proposed for access (about 215 square nautical miles).

The EFH analysis shows that the total EFH area within the proposed access areas is slightly more than the access areas implemented in previous frameworks (Alternative 1). The Council concluded that the potential habitat gain from protecting the southern part of the access area in Closed Area I that has not been part of a previous access program does not outweigh the economic costs of preventing the scallop fleet from accessing this area. About 2/3rds of scallop biomass in the access boundaries for Closed Area I is within the southern part of the access area, therefore preventing access into this area is not practicable.

In addition to the DAS that scallop vessels will be granted in the framework, each vessel is also granted open access DAS (excluding the Hudson Canyon Area, Nantucket Lightship Area, Closed Area I, and Closed Area II). However, the proposed total number of open access DAS for the framework is less than the open access DAS allocation proposed in Amendment 10. For example, under Amendment 10 with no access, limited access vessels were granted 62 open DAS for FY2004, while this framework proposes only 42 open access DAS. This reduction of effort in outside areas is expected to have positive impacts on the complex bottom and sensitive habitats that are currently fished in outside areas like the Great South Channel and Fippennies Ledge. This reduction in bottom contact time in open areas occurs

because granting access in this framework action enables the FMP to reduce fishing effort allocations in open fishing areas.

Overall habitat impacts of all the measures combined in this action have neutral impacts on habitat, compared to the habitat benefits that will result from implementation of Amendment 10 of the Scallop FMP and Amendment 13 of the Multispecies FMP.

6.3.7.4.2 Effects of Past and Present Actions, Including Other Federal and non-Federal Actions

This section will focus on the past and present actions that affect management of habitats in this region. The management background of essential fish habitat is more thoroughly described in Section 3.2.5. In 1996, the Sustainable Fisheries Act (SFA) amended the Magnuson-Stevens Fishery Conservation and Management Act, and specific provisions were included in this amendment to emphasize the importance of essential fish habitat. To improve fish habitat the SFA requires or authorizes the Councils, NMFS, and other Federal agencies to take new actions to describe and identify EFH, minimize to the extent practicable adverse effects on EFH caused by fishing, and identify other actions to encourage the conservation and enhancement of EFH. The New England Council implemented the EFH Omnibus Amendment in 1999 to comply with these requirements. Since 1996, the Council is required to assess whether actions have adverse impacts on EFH, and if so identify measures to minimize to the extent practicable adverse effects. All Amendments and framework actions since that time have evaluated the impacts of the action on EFH and assessed whether additional measures are necessary to mitigate adverse effects.

In addition to fishery management measures implemented under the Magnuson-Stevens Fishery Conservation and Management Act, NMFS is also responsible for reviewing both Federal and non-Federal activities that may adversely affect EFH, and providing conservation recommendations as appropriate. For example, the Habitat Conservation Division of NMFS reviews any offshore or coastal activity that requires a Federal permit, such as dredging, beach nourishment, and construction of docks and piers within coastal habitats. Conservation measures may be recommended to avoid, minimize, or mitigate adverse effects on EFH.

6.3.7.4.3 Effects of Reasonably Foreseeable Future Actions (RFFAs)

Both Amendment 10 to the Scallop FMP and Amendment 13 to the Multispecies FMP are major actions that were determined to have significant impacts on fishery resources as well as fishing communities. Amendment 10 to the Sea Scallop FMP and Amendment 13 to the Multispecies FMP were recently approved by the NMFS. It was determined that the gears used in both these fisheries impact the EFH of some species in the region that have EFH vulnerable to bottom tending gears. Therefore these two documents identified several specific alternatives to minimize these impacts, to the extent practicable. Both Amendments propose to implement specific area closures for habitat, as well as effort reductions, and gear modifications to enhance EFH conservation.

The New England Council is also in the process of amending the EFH Omnibus Amendment implemented in 1999. This EFH Omnibus Amendment will comply with NMFS's published guidelines to review and revise EFH components of FMPs every five years, and to develop a comprehensive EFH management plan that will minimize the adverse effects of fishing on EFH that will apply to all Council-managed FMPs. Public hearings were held in March 2004, and the Habitat Plan Development Team, Habitat Advisory Panel, and the Habitat Committee of the New England Council are in the process of developing alternatives for the Amendment.

There are numerous actions proposed in the region, outside of the Federal fishery management arena, that may impact EFH. The Habitat Conservation Division of NMFS is currently reviewing projects such as dredging of Federal navigation channels, development of offshore wind power projects, offshore natural gas pipelines, and beach nourishment. With numerous projects like these occurring simultaneously within the region, there may be adverse effects on EFH as a result. The direct impact of these types of actions on this framework is unknown; however, the EFH Omnibus Amendment scheduled for completion in 2007 will evaluate projects like these and assess their overall impacts on EFH in the region.

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6.3.7.4.4 Summary of cumulative effects for essential fish habitat

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
No access and scallop fishing in Closed Area I, Closed Area II, and the Nantucket Lightship Area	No Action	Section 4.2.1	(Sections 6.1 and 6.2.1) Potentially negative impacts on EFH because fishing effort will increase in areas outside of access areas. If scallop fishing is focused in the most productive areas, long term impacts on EFH will be minimized, reducing bycatch and bottom contact time.	Unlikely to have significant impacts on EFH under present resource conditions. Since scallop abundance is relatively high in outside areas as well, bottom contact time will be less than in recent years.
Area access alternatives		**Section 4.1.1 & 4.2.2**	**(Sections 6.1 and 6.2.2)**	
Alt 1 – Access area boundaries consistent with the habitat closures in A10 and FW 13	NPA	Section 4.2.2.1	No cumulative effects on EFH, but this alternative is inconsistent with the habitat closed areas proposed in Amendment 13, thus is a less practicable alternative.	Access into these areas is not expected to have significant impacts on EFH because previous access was granted into these areas and they have not been identified as important habitat areas that should be closed as habitat closed areas.
Alt 2 - Access area boundaries consistent with the habitat closures described in A13	NPA	Section 4.2.2.2	Cumulative effects of this access alternative may be more negative than the other access alternatives because this alternative would open more area with few effects on the scallop resource or fishery. More EFH area would be impacted because fishing effort could be more spread out.	Overall, access into these areas is not expected to have significant impacts on EFH because these areas are not critical EFH areas with diverse substrate. Furthermore, these access areas are outside of the habitat closed areas proposed in Amendment 13.
Alt 3 – FW 13 access area boundaries consistent with habitat closures in both FMPs	NPA	Section 4.2.2.3	Access into these areas is not expected to have cumulative effects on EFH because previous access was granted into these areas and they are completely outside of the habitat closed areas proposed in Amendment 13.	Not expected to be significant because the access areas were effected by scallop fishing in 1999 and 2000.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Alt 4 - Area access are boundaries consistent with the habitat closures described in A13, with continued groundfish and scallop mortality closures in the western part of the NLSA and the northern part of CA I	PA	Section 4.1.1	Access into these areas is not expected to have cumulative effects on EFH because previous access was granted into the majority of these areas and they are completely outside of the habitat closed areas proposed in Amendment 13. About 568 nm^2 of this access alternative have not been open for access since 1994.	Not expected to be significant because the lower bottom contact time in outside areas as a result of this action is expected to outweigh the impacts to those additional areas opening for access.
Alternatives to reconcile habitat closure areas to minimize adverse effects of fishing on EFH		**Section 4.1.2 & 4.2.3**	**(Sections 6.1 and 6.2.3)**	
Alt 1 - Habitat closed areas consistent with the Framework Adjustment 13 Scallop Closed Area access program (Status quo; Approval of Amendment 10 only)	NPA	Section 4.2.3.1	Neutral cumulative effects on EFH. These areas have been closed since 1994 to all scallop fishing.	Not expected to have significant impacts on EFH, but this alternative is not feasible with proposed Access Alternative 4, because the southern portion of the access area in Closed Area I overlaps with this habitat closed area alternative.
Alt 2 - Habitat closed areas consistent with Alternative 10b, closures approved by the Council in Amendment 13 to the Northeast Multispecies FMP	PA	Section 4.1.2	Similar EFH benefits as Alternative 1, but this alternative has been deemed more effective because it contains about the same EFH value, but is 1/3 the size of Alternative 1.	Not expected to have significant impacts on EFH. This alternative would improve the overall practicability of EFH closed areas in the region, by making EFH closed areas consistent among FMPs.
Alt 3 - Habitat closed areas consistent with Amendment 10 to the Sea Scallop FMP and with Amendment 13 to the Northeast Multispecies FMP	NPA	Section 4.2.3.3	This alternative would close the most area for habitat conservation, potentially concentrating more scallop effort in outside areas, which could actually increase bottom contact time if scallops are less abundant in outside areas.	Not expected to have significant impacts on EFH, but the habitat benefits of closing more area may not outweigh the costs. This alternative has a lower EFH value per square mile than the other two habitat closed area alternatives.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Gear Restrictions			**(Sections 6.1 and 6.2.4)**	
Limited access vessels must use dredges only	PA	Section 4.1.3	Potentially negative for EFH if this measure changes fishing behavior of trawl vessels to fish exclusively with dredges.	No significant impacts on EFH, since both gears impact vulnerable EFH.
Groundfish Catch Limits		**Section 4.1.4 & 4.2.5**	**(Sections 6.1 and 6.2.5)**	
Hard TAC for yellowtail flounder bycatch; areas close to scallop fishing without transfer of unused DAS to open areas	NPA	Section 4.2.5.1	Neutral cumulative effects on EFH because if access areas close due to the groundfish bycatch TAC being reached, unused DAS cannot be transferred into open areas.	Not expected to have significant impacts on EFH.
Hard TAC for yellowtail flounder with a provision to allow vessels to take remaining trips in open areas up to 20 days at sea	PA	Section 4.1.4	Limit on number of trips that a vessel may transfer from closed controlled access areas to open areas prevents fishing all unused DAS in open areas, which limits impacts on EFH in open areas to those analyzed in Amendment 10.	Any displaced effort to open areas as the result of the hard TAC for yellowtail flounder being reached would be within the range of effort allocated by the FMP and would not result in a significant cumulative effect on EFH inside or outside the access areas.
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer all unused controlled access DAS allocations in open areas	NPA	Section 4.2.5.2.4	This alternative could increase effort in outside areas above levels analyzed in the Amendment 10 FSEIS, and may have negative cumulative effects on EFH.	Since effort and bottom contact time could increase beyond levels analyzed in Amendment 10, the alternative was not approved, but has no significant cumulative effect on EFH.
Provision to increase the yellowtail TAC if a specified limit is not harvested by December 1 of each year	PA	Section 4.1.4	Could reduce scallop fishing effort in outside areas if bycatch TAC increased. If more vessels use DAS in the access areas than outside, bottom contact time in outside areas will decline.	No significant impact on EFH because the access areas have not been identified as important habitat areas.
Two percent set-aside of the yellowtail TAC to allow and fund research	PA	Section 4.1.4.2	If set-aside is used for habitat related research could have cumulative benefits on EFH.	No significant impact on EFH.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Procedures to achieve voluntary actions to minimize bycatch	PA	Section 4.1.4.3	This alternative could keep the access areas open longer by keeping yellowtail flounder and groundfish bycatch low, therefore ensuring that the expected effect of minimizing impacts on EFH is achieved.	Not expected to have significant impacts on EFH.
Finfish possession limits			**(Sections 6.1 and 6.2.6)**	
Groundfish possession limit equal to 1000 lbs./trip, with a seasonal sub-limit for yellowtail flounder	PA	Section 4.1.5.1	No cumulative effect on EFH unless this measure modifies fishing behavior to target other species other than scallops. However, reducing discards of normal bycatch could have some unquantified benefits to sensitive habitats.	No significant impact on EFH.
Additional cod possession limit for personal use equal to 100 lbs./trip for personal use	PA	Section 4.1.5.2	No cumulative effects on EFH.	No significant impact on EFH.
Access Seasons		**Section 4.1.6 & 4.2.7**	**(Sections 6.1 and 6.2.7)**	
Simultaneous access during June 15 to January 31	PA	Section 4.1.6	No cumulative effects on EFH because recovery times for most benthic communities following disturbance by scallop dredges have been estimated to be months to years in sandy habitats and several years in gravel habitats.	No significant impact on EFH.
At-Sea Observers, TAC Set-Aside, And Fishery Monitoring		**Section 4.1.7**	**(Sections 6.1 and 6.2.8)**	
Existing sampling frequency funded with a one percent TAC set-aside	PA	Section 4.1.7	No cumulative effects on EFH. Greater efforts to collect invertebrate catch data would assist assessing EFH impacts	No significant impact on EFH.
Enforcement Provisions		**Section 4.1.8**	**(Sections 6.1 and 6.2.9)**	
Trip declaration and notification	PA	Section 4.1.8.1	Indirect positive impacts through improved management.	No significant cumulative effects on EFH are expected.
Vessel operation and landing	PA	Section 4.1.8.2	Same as above.	Same as above.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
More frequent VMS polling	PA	Section 4.1.8.3	Same as above.	Same as above.
Reporting Requirements		**Section 4.1.9**	**(Sections 6.1 and 6.2.10)**	
Vessel monitoring systems	PA	Section 4.1.9.1	Same as above.	Same as above.
Vessel trip reports	PA	Section 4.1.9.2	Some of the additional reporting requirements recommended would have cumulative benefits to EFH, such as a subjective description of the habitat being dredged and the depth of tows. Information on a tow-by-tow-basis may have indirect benefits to EFH, as it could assist in better habitat assessment information.	No significant impact on EFH.
Mechanical rotation alternatives		**Section 4.1.10**	**(Sections 6.1 and 6.2.11)**	
Amendment 10 rotational access to portions of CA I, CA II, and the NLSA beginning with CA I and the NLSA in 2004, and CA II in 2005-2007	NPA	Section 4.2.11.1	This would prevent fishing in some access areas for three years, which would allow those areas to recover significantly from habitat impacts.	No significant impact on EFH because these areas have been access before and have not been identified as important areas for habitat conservation.
Rotational access to portions of CA I, CA II, and the NLSA with two areas open each year beginning with CA II and the NLSA in 2004	PA	Section 4.1.10.1	This action proposes access in two access areas at a time, while one area is closed for one year only. That is less recovery time than under the status quo option (up to three years).	No significant impact on EFH because these areas have been access before and have not been identified as important areas for habitat conservation.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Part-time and Occasional Trip and DAS Allocations		**Sections 4.1.10 & 4.2.12**	**(Sections 6.1 and 6.2.12)**	
Trip allocations with unequal possession limits by permit, part-time allocations equal 40% of full-time allocations, and occasional allocations equal 1/12th of a full-time allocation (Not to apply to 2004 Hudson Canyon Area allocations)	PA	Section 4.1.10.2	Total trips, DAS use, and bottom contact time are expected to be unaffected by this allocation adjustment. Overall cumulative impacts on EFH are likely to be insignificant.	No significant impact on EFH.
Access for general category vessels			**(Sections 6.1 and 6.2.13)**	
Access with enhanced reporting and a 2% TAC set-aside	PA	Section 4.1.11	No discernable cumulative effects on EFH.	No significant impacts on EFH.

6.3.7.5 Protected species

6.3.7.5.1 Direct and Indirect Impacts of the Proposed Action

Section 6.1.3 describes and summarizes the expected impacts on protected species, focusing on the preferred alternatives.

Because the access areas are not in high use areas for sea turtles and the proposed action would reduce open area DAS allocations that are used to fish in the Mid-Atlantic region where turtles are more prevalent, the proposed action is expected to cause a reduction in sea turtle interactions, relative to the No Action alternative. The partial transfer of unused controlled access DAS allocations into open fishing areas (if the access areas close because yellowtail flounder catches reach the TACs) will not exceed the expected impacts on protected species that were calculated for Amendment 10 management measures. Other management adjustments in the proposed action will have an insignificant impact on protected species.

6.3.7.5.2 Effects of Past and Present Actions, Including Other Federal and non-Federal Actions

Before 2001, interactions between scallop dredges and sea turtles were not recognized as a problem mostly due to low sea sampling of scallop fishing trips in the Mid-Atlantic region. Although the exact reason for the observed interactions are not known very well, these interactions probably occurred before 1999 and may have become more prevalent since 1993. Around this time, scallop fishing intensity in the Mid-Atlantic region increased following a general decline of scallop biomass in the Georges Bank region and closure of the groundfish Closed Areas in December 1994. Since turtle interactions in the high use areas and seasons are related to fishing effort, sea turtles may have benefited from reductions of fishing effort allocations in Amendments 4 and 7. During this time, DAS use declined from 40,490 DAS in 1993 to 23,074 DAS in 1999, before increasing to 30,082 DAS, a preliminary estimate for 2003. These amendments and intervening framework adjustments also made other management changes, including new gear restrictions, but the effect of these changes on sea turtle interactions is unknown.

The extent of interactions between fishing with scallop dredges and sea turtles was recognized through enhanced sea sampling frequency, funded by the scallop TAC set-aside for the Hudson Canyon and VA/NC Areas under Framework Adjustments 14 and 15. Subsequently, new research to identify gear and fishing behavior changes that could reduce interactions and/or improve the survivability of sea turtles from these interactions with scallop dredges has been initiated.

6.3.7.5.3 Effects of Reasonably Foreseeable Future Actions (RFFAs)

The main goal of Amendment 10 to the Scallop FMP, scheduled to be implemented in spring 2004, is to focus scallop fishing effort in areas where biomass is greatest. Therefore, although the overfishing definition may result in an increase in landings over levels discussed in the extant biological opinion, the actual fishing time is likely to be reduced, as the overall catch per tow is expected to increase.

However, assessing the potential impacts of the various area management alternatives on sea turtles is impossible to predict at this time. Scallop management areas will be monitored through annual scallop surveys for scallop biomass and growth rates, so that when biomass in a closed area gets high and the growth rate drops off (i.e. the scallop resources are at maximum levels in the area) it would be opened. Conversely, closings will occur when the reverse situation is occurring (low biomass and high growth rate

indicating a depleted scallop resource in the area). Therefore, until the annual scallop surveys are conducted, we do not know which areas may be candidates for closing or reopening.

Certain general statements may be made regarding areas encompassing several scallop management units. For example, sea turtles do not frequent the Georges Bank area where several closed areas are currently in effect under the Multispecies FMP. Scallop resources in those closed areas are known to be at maximum levels. Opening those areas would have no effect on sea turtles, and could shift effort out of the high use sea turtle areas in the mid-Atlantic. (Note - This is not a certainty, as vessels from mid-Atlantic ports may not want to make the longer trips). To further complicate matters, reopening these areas requires new framework actions under both the Multispecies (Framework 39) and Scallop (Framework 16) FMPs. Therefore, the action is far from completed.

It also must be realized that a reverse shifting of effort from a low sea turtle area such as Georges Bank, to a high use area like the mid-Atlantic will likely occur at some time in the future as the Georges Bank scallop resources are depleted and the mid-Atlantic areas are recovered. Therefore, the impact assessment for protected species is likely to shift back and forth over the years under the management scheme being implemented under Amendment 10. The turtle takes seen now are likely to shift down as the industry moves to the east and north, but are also likely to shift back up at some point in the future as scallop resource levels change.

Therefore, the specific area management issues are going to have to be addressed as the openings and closings are proposed. Since they will be conducted under Framework actions, they will undergo individual ESA scrutiny where the latest scallop survey data will be available to give the best resource management picture at that time.

The most recent Biological Opinion issued by the NMFS for the sea scallop fishery summarized the overall impacts to threatened and endangered species. It concluded that the fishing operations being carried out under the Scallop FMP as defined through Framework 15, were not likely to adversely affect endangered large whales in the action area (right, humpback, fin, blue, sei, and sperm whales), hawksbill sea turtle, Atlantic salmon, shortnose sturgeon, or the two right whale critical habitat areas found in the Northeast Region. The Opinion did conclude that the scallop fishing activities may adversely affect the remaining sea turtle species (loggerhead, leatherback, Kemp's ridley, and green), but would not likely jeopardize the continued existence of those species. The document went on to establish an incidental take statement for those species with required measures that must be implemented in order to allow the takes to be legal under the ESA. Further, the opinion provided several reasonable and prudent conservation measures to further protect sea turtles. Re-initiation of the Section 7 consultation will occur if the incidental take species in the ITS is exceeded or new information becomes available to change the conclusion of the Biological Opinion.

Amendment 13 to the Multispecies FMP, underwent an informal consultation under Section 7 of the Endangered Species Act, which concluded that there will not likely be any adverse impacts on endangered or threatened species (December 18, 2003). Further, the Reasonable and Prudent Alternative in place is expected to continue to avoid the likelihood of jeopardizing right whales. The restrictive measures implemented under the ALWTRP will continue to provide specific protection to the right whale as well as other large whale species.

Other sources of human-induced mortality and/or harassment of turtles in the action area include incidental takes in state-regulated fishing activities, vessel collisions, ingestion of plastic debris, and pollution. While the combination of these activities may affect populations of endangered and threatened sea turtles, preventing or slowing a species' recovery, the magnitude of these effects is currently unknown.

State Water Fisheries - Fishing activities are considered one of the most significant causes of death and serious injury for sea turtles. A 1990 National Research Council report estimated that 550 to 5,500 sea turtles (juvenile and adult loggerheads and Kemp's ridleys) die each year from all other fishing activities besides shrimp fishing. Fishing gear in state waters, including bottom trawls, gillnets, trap/pot gear, and pound nets, take sea turtles each year. However, information on the takes is limited. Given that state managed commercial and recreational fisheries along the Atlantic coast are expected to continue within the action area in the foreseeable future, additional takes of sea turtles in these fisheries is anticipated.

Vessel Interactions - NOAA Fisheries STSSN data indicate that interactions with small recreational vessels are responsible for a large number of sea turtles stranded each year within the action area. Collision with boats can stun or easily kill sea turtles, and many stranded turtles have obvious propeller or collision marks (R. Boettcher, pers. comm.).

Pollution and Contaminants - Marine debris (*e.g.*, discarded fishing line or lines from boats) can entangle turtles in the water and drown them. Turtles commonly ingest plastic or mistake debris for food. Chemical contaminants may also have an effect on sea turtle reproduction and survival. While the effects of contaminants on turtles is relatively unclear, pollution may be linked to the fibropapilloma virus that kills many turtles each year (NOAA Fisheries 1997). If pollution is not the causal agent, it may make sea turtles more susceptible to disease by weakening their immune systems. Excessive turbidity due to coastal development and/or construction sites could influence sea turtle foraging ability. As mentioned previously, turtles are not very easily affected by changes in water quality or increased suspended sediments, but if these alterations make habitat less suitable for turtles and hinder their capability to forage, eventually they would tend to leave or avoid these less desirable areas (Ruben and Morreale 1999).

The proposed action in this framework adjustment does not appear to have any adverse cumulative effects that would alter the prognosis for impacts of fishing under Amendment 10 and Amendment 13 management regulations on protected species. In fact, there is a potential for reducing impacts on sea turtles through decreases in open area DAS use in the scallop fishery, increasing the effectiveness of the DAS controls to limit impacts on sea turtles.

6.3.7.5.4 Summary of cumulative effects for protected species

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
No access and scallop fishing in Closed Area I, Closed Area II, and the Nantucket Lightship Area	No Action	Section 4.2.1	(Sections 6.1 and 6.2.1) Cumulative effects of the No Action alternative are the same as the assessment of Amendment 10 cumulative effects described above.	Not expected to be significant because interactions with sea turtles will be monitored by set-aside funded observers and new technology developed by at-sea trials can be implemented through the framework adjustment process under Amendment 10 regulations
Area access alternatives		**Sections 4.1.1 & 4.2.2**	**(Sections 6.1 and 6.2.2)**	
Area access are boundaries consistent with the habitat closures described in A13, with continued groundfish and scallop mortality closures in the western part of the NLSA and the northern part of CA I	PA	Section 4.1.1	The access boundaries have a cumulative effect on interactions with sea turtles, because they affect how much effort can be allowed in the access areas and therefore dictate the amount of effort to be allocated for fishing in open areas	Not expected to be significant because the sea turtle interactions would be no greater than that calculated to occur with Amendment 10 allocations without access.
Alternatives to reconcile habitat closure areas to minimize adverse effects of fishing on EFH		**Sections 4.1.2 & 4.2.3**	**(Sections 6.1 and 6.2.3)**	
Habitat closed areas consistent with Amendment 10 to the Sea Scallop FMP and with Amendment 13 to the Northeast Multispecies FMP	NPA	Section 4.2.3.3	EFH closed areas prevent access to some parts of the scallop resource, increasing the DAS allocations in open fishing areas, including DAS used in the Mid-Atlantic region where sea turtles are more prevalent.	Unlike some of the non-preferred alternatives, the changes in the boundaries of the EFH closed areas is not expected to decrease the amount of the scallop resource that is available for fishing. This will prevent the open area DAS allocations from increasing beyond those that were allocated in Amendment 10.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Gear Restrictions		**Section 4.1.3**	**(Sections 6.1 and 6.2.4)**	
Limited access vessels must use dredges only	PA		Could reduce the likelihood that vessels using scallop trawls will fish in the Georges Bank access area program. As a result, vessels using trawls may trade Georges Bank area DAS for Hudson Canyon Area DAS.	These cumulative effect is more likely than not to cause a reduction in scallop dredge fishing in the Mid-Atlantic region, potentially reducing interactions with sea turtles. The reduction will not be significant.
Groundfish Catch Limits		**Sections 4.1.4 & 4.2.5**	**(Sections 6.1 and 6.2.5)**	
Hard TAC for yellowtail flounder bycatch; areas close to scallop fishing without transfer of unused DAS to open areas	NPA	Section 4.2.5.1	This alternative would prevent open area DAS use with access from increasing, if the access areas close because of yellowtail flounder catches.	Not expected to be significant because reducing open area DAS is expected to have a beneficial effect for sea turtles.
Hard TAC for yellowtail flounder with a provision to allow vessels to take remaining trips in open areas up to the difference in open area DAS with and without access to achieve the annual fishing mortality target for the resource (20 DAS in 2004, for example)	PA	Section 4.1.4	Open area DAS use would be no higher than expected under Amendment 10 regulations.	Not expected to be significant because the sea turtle interactions would be no greater than that calculated to occur with Amendment 10 allocations without access.
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer unused controlled access DAS allocations, prorated by fleet-wide DAS use to take remaining trips in open areas	NPA	Section 4.2.5.2.2	Same as above, but all vessels would be able to transfer the same proportion of unused DAS.	Same as above.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer unused controlled access DAS allocations, prorated by expected landings per DAS to take remaining trips in open areas	NPA	Section 4.2.5.2.3	Same as above.	Same as above.
Hard TAC for yellowtail flounder with a provision to allow vessels to transfer all unused controlled access DAS allocations in open areas	NPA	Section 4.2.5.2.4	The transferred DAS could allow Mid-Atlantic region scallop fishing to exceed amounts expected under Amendment 10 regulations.	The amounts are unlikely to exceed the open area allocations after 2004, therefore the cumulative effects are not expected to be significant.
Provision to increase the yellowtail TAC if a specified limit is not harvested by December 1 of each year	PA	Section 4.1.4	This alternative would reduce the probability of areas closing, before scallop vessels use their controlled access DAS to fish in Georges Bank access areas.	Not expected to be significant because the sea turtle interactions would be no greater than that calculated to occur with Amendment 10 allocations without access.
Two percent set-aside of the yellowtail TAC to allow and fund research	PA	Section 4.1.4.2	Unlikely to have a cumulative effect, because the scallop research would probably occur in low-use areas.	Not expected to be significant because sea turtles are not common in these areas, where the research and/or compensation trips would occur.
Procedures to achieve voluntary actions to minimize bycatch	PA	Section 4.1.4.3	Actions vessels might take to avoid catching yellowtail flounder and other groundfish are unlikely to effect how dredges catch sea turtles.	No cumulative effect expected.
Finfish possession limits		**Sections 4.1.5 & 4.2.6**	**(Sections 6.1 and 6.2.6)**	
Groundfish possession limit equal to 1000 lbs./trip, with a seasonal sub-limit for yellowtail flounder	PA	Section 4.1.5.1	No cumulative effect expected.	No cumulative effect expected, because the alternative is unlikely to alter fishing behavior or methods.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Additional cod possession limit for personal use equal to 100 lbs./trip for personal use	PA	Section 4.1.5.2	Same as above.	Same as above.
Access Seasons		**Sections 4.1.6 & 4.2.7**	**(Sections 6.1 and 6.2.7)**	
Simultaneous access during June 15 to January 31	PA	Section 4.1.6	Increases the likelihood that the access areas would remain open longer than October, after which sea turtles are less prevalent in open fishing areas.	Not expected to be significant because effort transfers from the access areas to open areas would be more likely to occur after sea turtles have left the Mid-Atlantic region.
Year around access	NPA	Section 4.2.7.3	Potential higher groundfish bycatch in February to June, coupled with timing, could cause the access areas to close when sea turtles are present in the Mid-Atlantic. Transfers of effort could cause sea turtle interactions to go up.	Transfers of unused controlled access DAS are limited to the amount specified for open areas in Amendment 10, therefore the increases in sea turtle interactions are not expected to be significant.
At-Sea Observers, TAC Set-Aside, And Fishery Monitoring		**Sections 4.1.7**	**(Sections 6.1 and 6.2.8)**	
Existing sampling frequency funded with a one percent TAC set-aside	PA	Section 4.1.7	Allows more sea sampling than would otherwise be available to document bycatch and monitor interactions with protected species	Not expected to be significant because the sampled trips would be in low-use sea turtle areas.
Enforcement Provisions		**Sections 4.1.8**	**(Sections 6.1 and 6.2.9)**	
Trip declaration and notification	PA	Section 4.1.8.1	No cumulative effects on protected species impacts are expected.	None.
Vessel operation and landing	PA	Section 4.1.8.2	Same as above.	None.
More frequent VMS polling	PA	Section 4.1.8.3	Same as above.	None.
Reporting Requirements		**Sections 4.1.9**	**(Sections 6.1 and 6.2.10)**	
Vessel monitoring systems	PA	Section 4.1.9.1	Same as above.	None.
Vessel trip reports	PA	Section 4.1.9.2	Same as above.	None.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Mechanical rotation alternatives		**Section 4.1.10**	**(Sections 6.1 and 6.2.11)**	
Amendment 10 rotational access to portions of CA I, CA II, and the NLSA beginning with CA I and the NLSA in 2004, and CA II in 2005-2007	NPA	Section 4.2.11.1	Fishing years when CAI and the NLSA would be open to fishing would have a greater probability of closing from yellowtail flounder catches, because of the higher fishing mortality targets according to this strategy.	Transfers of unused controlled access DAS are limited to the amount specified for open areas in Amendment 10, therefore the increases in sea turtle interactions are not expected to be significant.
Rotational access to portions of CA I, CA II, and the NLSA with two areas open each year beginning with CA II and the NLSA in 2004	PA	Section 4.1.10.1	Evens out the controlled access effort allocations across years and reduces the likelihood that the yellowtail flounder catches will exceed the TACs.	A lower likelihood of access area closure and unused DAS transfers would reduce sea turtle interactions, causing the cumulative effect to be insignificant.
Part-time and Occasional Trip and DAS Allocations		**Sections 4.1.10 & 4.2.12**	**(Sections 6.1 and 6.2.12)**	
Trip allocations with unequal possession limits by permit, part-time allocations equal 40% of full-time allocations, and occasional allocations equal 1/12th of a full-time allocation (Not to apply to 2004 Hudson Canyon Area allocations)	PA	Section 4.1.10.2	Adjusted allocation system will not change the total number of trips in the controlled access or open scallop fishing areas.	No cumulative effect is expected, because the total effort by area is not expected to change.
Access for general category vessels		**Section 4.1.11**		
Access with enhanced reporting and a 2% TAC set-aside	PA		If the access program encourages more investment in the open access fishery, it could cause the amount of scallop fishing in open areas to go up.	Not expected to be significant because, few vessels in the Mid-Atlantic with general category scallop permits are likely to invest more in scallop fishing because of greater access in the Georges Bank region.

6.3.7.6 Human safety at sea

6.3.7.6.1 Direct and Indirect Impacts of the Proposed Action

Section 6.1.5.1 describes and summarizes the expected effects on safety, focusing on the preferred alternatives. These effects arise primarily from the automatic DAS charge which may cause vessels to remain at sea during adverse weather, from the access season (June 15 to January 31), and from gear stowage requirements for vessels transiting the access areas when not on a controlled access trip. As explained in Section 6.1.5.1, the new broken trip adjustment procedure is expected to substantially reduce the business risk of ending a trip early. The access season and the gear stowage requirements are not very different than the conditions that apply during open area fishing trips. There is ample time for vessels to take three allocated trips of 12 or less days during the 7 ½ month period. Vessels transiting the access areas while not on a controlled access trip would have to stow gear anyway, because the areas would otherwise be closed to fishing, therefore requiring gear stowage. More detail about these and other related issues is presented in Section 6.1.5.1.

6.3.7.6.2 Effects of Past and Present Actions, Including Other Federal and non-Federal Actions

Effects of past and present actions on safety in the sea scallop fishery were analyzed and discussed in the Amendment 10 FSEIS. These actions include direct regulation of the industry by the Sea Scallop FMP and indirect effects by regulations in the Multispecies and Monkfish FMPs that regulate other catches while scallop fishing. In addition, the 2000 SAFE Report included a detailed and comprehensive analysis of USCG casualty statistics for the scallop fishery, showing a downward trend in casualties in the fishery.

The sea scallop fishery is regulated by DAS allocations, which have declined over the past decade, while catch per DAS has risen. As a result, vessels are not at sea for considerable periods and have become more profitable. The industry has invested capital in better maintenance and even replacing old vessels, thereby improving safety. Lately, the daily catches have risen and have begun exceeding the vessel's capacity to shuck scallops under some conditions. Thus in open fishing areas, there are times when the crew maintains long watches shucking scallops and some fear that this may be compromising safety. On the other hand, previous access programs have allowed the vessels to fish at a more deliberate pace, despite the very high catch rates in re-opened areas. Instead of fishing at a breakneck speed to catch and process scallops in as few DAS as possible, vessels have been able to take longer to catch their scallop possession limit allowances when fishing in controlled access areas. VMS equipment allows better communications and vessel location information, having a potential beneficial effect on safety.

Multispecies and Monkfish FMPs set possession limits for regulated finfish, requiring scallop vessels to discard catches that exceed the allowance. There is no evidence that these requirements impact safety.

Other non-fishery actions that have an impact on safety are better navigation systems and communications about weather and other events that may affect safety. In addition, the 1988 Commercial Vessel Safety Act and related regulations have had a positive impact on safety in the scallop fishery, as explained in the 2000 SAFE Report.

6.3.7.6.3 Effects of Reasonably Foreseeable Future Actions (RFFAs)

Future regulations under Amendment 10 to the Sea Scallop FMP are expected to have a positive impact on safety, by maintaining high catch rates at the target biomass and industry profitability. Rotation area management and future DAS allocations are expected to have a positive effect in this regard.

Amendment 13 (and the Scallop FMP with this framework adjustment) includes new EFH closed areas, which partially overlap the existing groundfish closed areas. Since fishing gear must be stored when transiting closed areas, these areas may have a potentially adverse impact on safety. On the other hand, it is not anticipated that vessels will have to stow gear more frequently due to the EFH closed areas, because most would have already stowed the gear to transit the groundfish mortality closed areas that overlap the EFH boundaries. Some vessels steaming from the Great South Channel may have to stow the gear when transiting the Nantucket Lightship Area EFH closed area, but most vessels fishing in this location steam through the Nantucket Sound to arrive at New Bedford, MA; a primary scallop fishing port.

Changes to navigational hazards in and around Nantucket Sound may therefore have an impact on safety in the scallop fishery. The nature of the impacts however is hard to determine at this time, but will depend on the location of the hazards (such as windfarms) and associated aids to navigation to avoid them.

6.3.7.6.4 Summary of cumulative effects for human safety at sea

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
No access and scallop fishing in Closed Area I, Closed Area II, and the Nantucket Lightship Area	No Action	Section 4.2.1	Could have an adverse impact on safety through declining catch rates and profits in open fishing areas. Increases the overall amount of time that a vessel would fish to achieve the target fishing mortality rate.	Not expected to be significant because catch rates in the open areas is not expected to decline quickly, due to favorable recruitment in recent years. Management adjustments to achieve optimum yield and rotation area management could reduce this potential impact.
Area access alternatives		**Sections 4.1.1 & 4.2.2**	**(Sections 6.1 and 6.2.2)**	
Area access are boundaries consistent with the habitat closures described in A13, with continued groundfish and scallop mortality closures in the western part of the NLSA and the northern part of CA I	PA	Section 4.1.1	Access areas may increase the amount of potentially dangerous gear stowage required by regulation when transiting areas while not on a controlled access trip.	Access boundaries are not expected to have an effect on safety, because they are within the existing groundfish mortality closed areas.
Alternatives to reconcile habitat closure areas to minimize adverse effects of fishing on EFH		**Sections 4.1.2 & 4.2.3**	**(Sections 6.1 and 6.2.3)**	
Habitat closed areas consistent with Alternative 10b, closures approved by the Council in Amendment 13 to the Northeast Multispecies FMP	PA	Section 4.1.2	Expansion of the EFH closed areas outside the boundaries of the existing groundfish closed areas could increase the amount of scallop fishing trips where gear stowage might be required. The EFH areas are also not expected to change navigational patterns by scallop vessels, potentially increasing navigational dangers.	Not expected to be significant because few trips pass through the proposed area boundaries to get to and from the fishing areas from primary ports.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Gear Restrictions		**Section 4.1.3**	**(Sections 6.1 and 6.2.4)**	
Limited access vessels must use dredges only	PA		Scallop vessels that use trawls may need to use heavier dredges to utilize their annual DAS allocations.	Not expected to be significant because many vessels with scallop trawl permits already use scallop dredges under certain conditions and those that do not can exchange trips to fish in areas where scallop trawls are allowed.
Groundfish Catch Limits		**Sections 4.1.4 & 4.2.5**	**(Sections 6.1 and 6.2.5)**	
Hard TAC for yellowtail flounder with a provision to allow vessels to take remaining trips in open areas up to the difference in open area DAS with and without access to achieve the annual fishing mortality target for the resource (20 DAS in 2004, for example)	PA	Section 4.1.4	Could reduce impacts on safety allowing vessels to take unused trips in open areas if the access program closes due to yellowtail flounder catches. This measure could avoid a derby-style fishery that could have negative impacts on safety.	Not expected to be significant because the cumulative effect on safety is similar to the status quo without access.
Provision to increase the yellowtail TAC if a specified limit is not harvested by December 1 of each year	PA	Section 4.1.4	Alternative could increase season length or reduce threat of early closure	Same as above.
Two percent set-aside of the yellowtail TAC to allow and fund research	PA	Section 4.1.4.2	No effect on safety anticipated.	None.
Procedures to achieve voluntary actions to minimize bycatch	PA	Section 4.1.4.3	Voluntary actions could include moving to fish in areas with less bycatch and/or momentarily stopping the haul back to allow finfish to escape before retrieving the gear on the vessel.	Not expected to be significant because these actions are unlikely to have an effect on safety.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Finfish possession limits		**Sections 4.1.5 & 4.2.6**	**(Sections 6.1 and 6.2.6)**	
Groundfish possession limit equal to 1000 lbs./trip, with a seasonal sub-limit for yellowtail flounder	PA	Section 4.1.5.1	No effect anticipated.	Not expected to be significant because the amount of (or reduction in) discarding is not known to have an effect on safety.
Additional cod possession limit for personal use equal to 100 lbs./trip for personal use	PA	Section 4.1.5.2	No effect anticipated.	Same as above.
Access Seasons		**Sections 4.1.6 & 4.2.7**	**(Sections 6.1 and 6.2.7)**	
Simultaneous access during June 15 to January 31	PA	Section 4.1.6	Could increase fishing activity during the late summer and fall, when ocean storms are more prevalent.	Not expected to be significant because scallop fishing is a year around activity. There is plenty of time for vessels to choose when to take controlled access trips and avoid inclement weather.
At-Sea Observers, TAC Set-Aside, And Fishery Monitoring		**Sections 4.1.7**	**(Sections 6.1 and 6.2.8)**	
Existing sampling frequency funded with a one percent TAC set-aside	PA	Section 4.1.7	No cumulative effects on safety are expected.	None.
Enforcement Provisions		**Sections 4.1.8**	**(Sections 6.1 and 6.2.9)**	
Trip declaration and notification	PA	Section 4.1.8.1	Same as above.	None.
Vessel operation and landing	PA	Section 4.1.8.2	Same as above.	None.
More frequent VMS polling	PA	Section 4.1.8.3	Same as above.	None.
Reporting Requirements		**Sections 4.1.9**	**(Sections 6.1 and 6.2.10)**	
Vessel monitoring systems (VMS)	PA	Section 4.1.9.1	VMS equipment may allow quicker vessel location during an emergency.	Not expected to be significant because other means of communication (VHF, EPIRB) during an emergency are available.
Vessel trip reports	PA	Section 4.1.9.2	No cumulative effects on safety are expected.	None.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects (Reference to analysis of direct and indirect impacts)	Significance
Mechanical rotation alternatives		**Section 4.1.10**	**(Sections 6.1 and 6.2.11)**	
Rotational access to portions of CA I, CA II, and the NLSA with two areas open each year beginning with CA II and the NLSA in 2004	PA	Section 4.1.10.1	Could have a positive impact on safety by allowing the fishery to achieve optimum yield with a lower threat of closure due to yellowtail flounder catches.	Not expected to be significant because the alternative only affects a potential response by fishermen to a less probable outcome (fishery closure).
Part-time and Occasional Trip and DAS Allocations		**Sections 4.1.10 & 4.2.12**	**(Sections 6.1 and 6.2.12)**	
Trip allocations with unequal possession limits by permit, part-time allocations equal 40% of full-time allocations, and occasional allocations equal 1/12th of a full-time allocation (Not to apply to 2004 Hudson Canyon Area allocations)	PA	Section 4.1.10.2	No cumulative effect on safety is anticipated.	None, because the total number of trips and DAS fished is expected to remain the same.
Access for general category vessels		**Section 4.1.11**	**(Sections 6.1 and 6.2.13)**	
Access with enhanced reporting and a 2% TAC set-aside	PA		Could encourage small vessels with general category vessels to fish further from shore in re-opened scallop areas.	Not expected to be significant because, vessels that are likely to fish in re-opened scallop fishing areas are sea worthy and often fish for scallops or other species in nearby areas.

6.3.7.7 Fishing-dependent communities

6.3.7.7.1 Direct and Indirect Impacts of the Proposed Action

The direct and indirect impacts to the fishing communities will be positive if the impacts on employment and on net revenues and incomes are positive. The aggregate economic impacts of the proposed rotation schedule with access to the Georges Bank groundfish areas on scallop fishery, vessel revenues, costs, gross profits, crew shares and employment are examined in Section 6.2.11.4 and Section 6.3.7.1.1. The combined impacts of the proposed access to the Georges Bank groundfish areas will be positive on fishing communities. Even though the proposed rotation strategy with access will generate marginally lower revenues from scallop fishing compared to no access during the 2004-2007 period, it will also lower fishing costs and increase producer benefits, including gross profits and crew incomes.

Although access may reduce the total crew DAS worked in the scallop fishery, it is uncertain, to what extent this reduction in total DAS worked by crew would translate into a reduction, if at all, in the total number of crew employed by the scallop fishery. On the income side, the impacts from access will be positive. Crew income is estimated to increase both during the 2004-2007 period, and over the long-term because of lower trip expenses with access.

The proposed access, rotational measures, area-specific DAS and trip allocations could have differential effects on fishing families and communities, on scallop vessels, and on processors and ports. The proximity of these entities to open and controlled access areas, as well as to the areas closed for fishing because of rotation and/or habitat protection, may result in differential impacts from proposed area rotation. These impacts may also vary according to the mobility of the vessels in accessing alternative fishing areas. Section 8.7.2.3 of Amendment 10 provides an empirical analysis of the vessels that could be impacted negatively from area-specific DAS allocations for the controlled access areas and indicated how the one-to-one exchange provision for the access allocations could mitigate some of these impacts. However, the proposed restrictions on the DAS exchanges for controlled access trips, specifically limits on these exchanges amongst vessels in different permit categories, will reduce the flexibility and opportunities for exchange for some vessels, especially for those in the part-time and occasional category as examined in Section 6.2.12.4.

A discussion of the distributional impacts from area rotation, from alternative effort allocation and habitat closures, and from other measures included in Framework 16 is also provided in relevant social impact subsections Section 6.2 and in Section 8.8 (Social Impact Assessment) in the Amendment 10 FSEIS. The direct and indirect impacts of the individual measures considered by this Framework, including mechanical rotation alternatives, area-access options, habitat closures, gear restrictions, access seasons, groundfish catch and possession limits, fishery monitoring and enforcement provisions, trip allocations for part-time and occasional vessels, general category and other proposed measures, are analyzed in relevant subsections of Section 6.2.

6.3.7.7.2 Effects of Past and Present Actions, Including Other Federal and non-Federal Actions

The effects of the past and present actions on the fishing communities were summarized in Table 157 of Amendment 10. The cumulative impacts of these actions on the fishing communities usually depend on the impacts on fishing revenues, incomes and employment. These economic impacts are summarized in Section 6.3.7.1.1, and thus will not be repeated here. Overall, the long-term cumulative effects of the past actions, including Amendment 4 and Amendment 7 to the Sea Scallop FMP, and groundfish area closures since 1994 were positive for the fishing communities because of the positive

impacts on revenues, profits and crew shares. Similarly, access programs implemented through Frameworks 11, 13, 14 and 15 had significant positive impacts on scallop landings, revenues, profits and crew incomes. Therefore, past and present actions had positive cumulative impacts on vessel owners, crew and their families in the scallop fishery by increasing their profits, incomes and standard of living.

6.3.7.7.3 Effects of Reasonably Foreseeable Future Actions (RFFAs)

The effects of the reasonably foreseeable future actions on the fishing communities were summarized in Table 157 of Amendment 10. The impacts of these actions for the scallop fleet and infrastructure were discussed in Section 6.3.7.1.1. The impacts on the fishing communities will be similar to those summarized for the scallop fleet and infrastructure, and will not be repeated here. Closing of areas with small scallops and allowing access to high scallop abundance areas of the Georges Bank and the Mid-Atlantic with potential Framework action in the future is expected to increase the long-term cumulative benefits for the fishing communities by redistributing scallop fishing to more productive areas and by increasing overall yield and economic benefits from the scallop resource. Fishing in areas with high catch rates (LPUE) is expected to reduce fishing costs and increase profits and crew incomes over the long-term. The short-term impacts of such actions could not be predicted with certainty, however. Future Framework actions could lower DAS allocations and area specific possession limits, and revise the boundaries of controlled access areas as well as the reopening and closing schedules for rotation areas depending on the changes in scallop recruitment and stock biomass. These adjustments could lower revenues, profits, crew incomes and employment in the short-term, reducing positive cumulative impacts on the fishing communities.

In addition to the future scallop frameworks, Amendment 13 to the multispecies fishery and future regulations for this fishery could have impacts on the scallop fishery. Rebuilding of the groundfish stocks through these actions could have positive impacts on the fishing communities if they reduce the need for extensive closures in the Georges Bank groundfish areas. On the negative side, opening of Southern New England for scallop fishing by vessels with general category permits through Amendment 13 may increase fishing effort and mortality on scallops. Such a negative impact could cause a reduction in DAS allocations or area-specific possession limits for limited access vessels, resulting in a negative impact on fishing communities, especially on those that derive their incomes and employment from full-time scallop fishing. Because the general category vessel landings do not constitute a significant proportion of the overall scallop landings, such changes are not expected to have significant cumulative impacts, however.

There are no other foreseeable future actions that could have significant cumulative effects on the scallop fishery and fleet as explained in Section 6.3.7.1.1. Since the impacts on the fishing communities generally occur through the impacts on revenues, incomes and employment in the scallop fishery, no significant cumulative impacts are expected from other actions.

6.3.7.7.4 Summary of Cumulative Effects for fishing dependent communities

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
No access and scallop fishing in Closed Area I, Closed Area II, and the Nantucket Lightship Area	No Action	Section 4.2.1	(Sections 6.1.4 and 6.2.1) Reduces positive cumulative effects because it reduces net revenues and crew incomes compared with access due to higher costs from fishing in the open areas. May increase employment, however, because of higher DAS allocations.	Not expected to be significant. The present conditions of the scallop resource and the level of DAS allocations in the open areas are expected to generate revenue and income comparable to the levels with access.
Area access alternatives		**Section 4.1.1 & 4.2.2**	**(Sections 6.1.4 and 6.2.2)**	
Alt 4 - Area access boundaries consistent with the habitat closures described in A13, with continued groundfish and scallop mortality closures in the western part of the NSLA and the northern part of CA I	PA	Section 4.1.1	Increases positive cumulative effects on the communities by providing greater access to the scallop resource in more productive areas, thereby by increasing gross profits and crew incomes. It could reduce employment in the scallop fishery due to lower DAS allocations, but may also lead to increase in employment in sectors with backward and forward linkages to the scallop fishery. Vessels may not need to re-locate to fish in Georges Bank groundfish areas because they will be able to exchange trips with other vessels, which reduces any negative distributional impacts.	Not expected to be significant because the level of scallop revenue will be close to what is expected under other access alternatives and also under no access scenario.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Alternatives to reconcile habitat closure areas to minimize adverse effects of fishing on EFH		**Section 4.1.2 & 4.2.3**	**(Sections 6.1.4 and 6.2.3)**	
Habitat closed areas consistent with Alternative 10b, closures approved by the Council in Amendment 13 to the Northeast Multispecies FMP	PA	Section 4.1.2	Could negatively impact those fishermen who tend to fish in habitat closed areas, and would increase safety risks, increased time away from home and possible income loss because of displacement of effort to other areas. Overall, increases positive cumulative effects for the fishing communities, however, by allowing greater access for fishing in relatively more productive areas, reducing fishing costs and increasing gross profits and crew incomes in the scallop fleet.	Because changes in scallop landings and revenues are expected to be small with the proposed closure compared to the closures that are already in place, cumulative impacts on the fishing communities are not expected to be significant. It does not appear that the additional closures proposed for the Nantucket Lightship area or Cashes Ledge will additionally impact the industry negatively given that little fishing has recently occurred there (see Amendment 10 SIA).
Gear Restrictions			**(Section 6.2.4)**	
Limited access vessels must use dredges only	PA	Section 4.1.3	Negative impacts on the scallop trawl sector. Given that the numbers of these vessels are small and they are mostly located in Mid-Atlantic, the overall negative impacts on the fishing communities may not be significant. Because vessels could exchange allocations for Mid-Atlantic access trips, negative impacts could be reduced. Indirect positive cumulative impacts on the fishing communities as a whole, however, by minimizing the risks for high finfish bycatch and therefore, the risk of income loss from premature closure of Georges Bank groundfish areas.	No significant cumulative impacts on the fishing communities are expected because of the mitigating factors, i.e., small number of scallop trawls with primary locations in Mid-Atlantic, and opportunity to exchange groundfish access area trips with other vessels for Hudson Canyon area trips where it is allowed to fish with trawls.
Groundfish Catch Limits		**Section 4.1.4 & 4.2.5**	**(Section 6.2.5)**	

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Hard TAC for yellowtail flounder with a provision to allow vessels to take remaining trips in open areas up to 20 days at sea	PA	Section 4.1.4	Indirect positive impacts by keeping bycatch from exceeding finfish quotas, and reducing the risks of income loss due to early closures of GBG. Negative impacts because a hard TAC encourages derby-style fishing resulting in safety problems, difficult working conditions, as well as lost revenue from relatively heavy landings in short periods of time. The provision for transfer of DAS to open areas in case of area closings will minimize these negative impacts on fishing communities, however.	Early closure of the Georges Bank groundfish areas will not result in a significant reduction in landings and revenues from the scallop fishery due to the DAS transfer provision. This provision will also reduce derby-style fishing. Therefore, no significant cumulative effects on the fishing communities are expected.
Provision to increase the yellowtail TAC if a specified limit is not harvested by December 1 of each year	PA	Section 4.1.4	Will increase positive impacts on revenues, and therefore, on fishing communities than otherwise possible by extending the season for scallop fishing under the appropriate circumstances.	No significant changes in scallop revenues and fishing costs are anticipated from this measure. Therefore, cumulative impacts are not expected to be significant.
Two percent set-aside of the yellowtail TAC to allow and fund research	PA	Section 4.1.4.2	Possible positive impacts on the fishing communities by increasing local employment.	No significant changes in scallop landings; revenues and fishing costs are anticipated from this measure. Therefore, cumulative impacts are not expected to be significant
Procedures to achieve voluntary actions to minimize bycatch	PA	Section 4.1.4.3	Indirect positive impacts on the fishing communities by helping to reduce bycatch and the income loss due to early closure of Georges Bank groundfish areas.	Cumulative impacts are not expected to be significant because no significant changes in scallop landings; revenues and fishing costs are anticipated from this measure.
Finfish possession limits			**(Section 6.2.6)**	
Groundfish possession limit equal to 1000 lbs./trip, with a seasonal sub-limit for yellowtail flounder	PA	Section 4.1.5.1	Indirect positive impacts by reducing regulatory discards, but no effects on scallop landings, revenues, fishing costs.	No significant cumulative impacts are anticipated on the fishing communities because the overall scallop landings, revenues and fishing costs will not change in any significant way.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Additional cod possession limit for personal use equal to 100 lbs./trip for personal use	PA	Section 4.1.5.2	Indirect positive benefits on crew and fishing communities by eliminating unintentional violations, and letting crew to retain small amounts of cod for personal use.	Same as above.
Access Seasons		**Section 4.1.6 & 4.2.7**	**(Section 6.2.7)**	
Simultaneous access during June 15 to January 31	PA	Section 4.1.6	Simultaneous access will have positive impacts on fishing communities by providing more flexibility to fishermen about where and when to fish in order to revenues from these areas. Could have negative impacts as well, such as safety issues from fishing in a compressed season and the revenue loss stemming from fishing during a season in which scallops are spawning.	No significant cumulative impacts are anticipated on the scallop fleet and infrastructure because the overall scallop landings, revenues and fishing costs will not change in any significant way because of seasonal distribution of fishing activity.
Existing sampling frequency funded with a one percent TAC set-aside	PA	Section 4.1.7	Indirect benefits through increased compliance.	No significant cumulative effects on fishing communities are expected because there will be no significant changes in fishing incomes and employment.
Enforcement Provisions		**Section 4.1.8**	**Section 6.2.8**	
Trip declaration and notification	PA	Section 4.1.8.1	Indirectly provide positive benefits to the industry through enhanced perception of regulatory compliance. Extra paperwork, extra work, and the perception of being constantly watched will increase social costs, however.	Same as above.
Vessel operation and landing	PA	Section 4.1.8.2	Same as above.	Same as above.
More frequent VMS polling	PA	Section 4.1.8.3	Same as above.	Same as above.

Alternative	Preferred (PA) or Non-preferred (NPA)	Description of alternative	Cumulative Effects	Significance
Reporting Requirements		**Section 4.1.9**	**Section 6.2.9**	
Vessel monitoring systems	PA	Section 4.1.9.1	Same as above.	Same as above.
Vessel trip reports	PA	Section 4.1.9.2	Same as above.	Same as above.
Mechanical rotation alternatives		**Section 4.1.10**	**Section 6.1.4 and 6.2.10**	
Rotational access to portions of CA I, CA II, and the NLSA with two areas open each year beginning with CA II and the NLSA in 2004	PA	Section 4.1.10.1	Positive impacts from the predicted more even yield stream and reduction of bycatch, more predictable fishing, and less stressful working conditions. Greater economic benefits will improve the living standard for fishermen and their families.	No significant cumulative effects are expected because the revenues, incomes and fishing costs will not change significantly from what has been estimated for the Amendment 10 rotational access to the portions of Georges Bank groundfish areas.
Part-time and Occasional Trip and DAS Allocations		**Sections 4.1.10 & 4.2.12**	**Section 6.2.11**	
Trip allocations with unequal possession limits by permit, part-time allocations equal 40% of full-time allocations, and occasional allocations equal $1/12^{th}$ of a full-time allocation (Not to apply to 2004 Hudson Canyon Area allocations)	PA	Section 4.1.10.2	Positive economic impacts on the part-time limited access fleet and negative impacts on the occasional permit category vessels. Positive social impacts due to following historic shares between the different categories and valuing the concerns of equity. No significant impacts are expected, however, on overall scallop revenues, fishing costs, and employment, thus no overall effects on the fishing communities.	No significant cumulative effects are expected because the scallop revenues, fishing costs and employment in the scallop fishery will not change significantly compared to levels estimated with Amendment 10 trip allocation system.
Access for general category vessels			**Section 6.2.13**	
Access with enhanced reporting and a 2% TAC set-aside	PA	Section 4.1.11	Increase the revenues of the general category vessels by allowing access. It will increase fishing costs for these vessels due to VMS and other reporting requirements. The impacts on the limited access scallop fleet are expected to be minimal.	Cumulative effects on the fishing communities are not expected to be significant because scallop landings, revenues, and employment in the scallop fishery will not change significantly due to access by general category vessels.