Framework 24 to the Scallop FMP and Framework 49 to the Multispecies FMP

Including a Draft Environmental Assessment (EA), an Initial Regulatory Flexibility Analysis and Stock Assessment and Fishery Evaluation (SAFE Report)

Prepared by the New England Fishery Management Council, in consultation with the National Marine Fisheries Service and the Mid-Atlantic Fishery Management Council

Initial Council Meeting: January 31, 2012
Final Council Meeting: November 13-15, 2012
Submission of Final EA: January 18, 2013, February 15, 2013

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Executive Summary

This framework and Environmental Assessment (EA) presents and evaluates management measures and alternatives to achieve specific goals and objectives for the Atlantic sea scallop fishery. This document was prepared by the New England Fishery Management Council and its Scallop Plan Development Team (PDT) in consultation with the National Marine Fisheries Service (NMFS, NOAA Fisheries) and the Mid-Atlantic Fishery Management Council (MAFMC). This framework was developed in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA, M-S Act) and the National Environmental Policy Act (NEPA), the former being the primary domestic legislation governing fisheries management in the U.S. Exclusive Economic Zone (EEZ). This document also addresses the requirements of other applicable laws (See Section 6.0).

The primary purpose of this action is to set specifications to adjust the day-at-sea (DAS) allocations and an area rotation schedule for the 2013 fishing year, as well as default measures for FY2014. This action is needed to achieve the objectives of the Atlantic Sea Scallop Fishery Management Plan (FMP), which is to prevent overfishing and improve yield-per-recruit from the fishery. In addition to the No Action alternative, the Council considered various other alternatives to address the purpose and need of this action. A summary of the alternatives considered, as well as the potential impacts are summarized in Table 1; the preferred alternatives are in bold.

The proposed action includes a specific Acceptable Biological Catch (ABC) level as required by the reauthorized Magnuson Act (2007). The ABC was calculated using the same method as in Framework 22, with updated data. The Scientific and Statistical Committee (SSC) gave recommendations for scallop acceptable biological catch of 21,004 mt in 2013 and 23,697 mt for for 2014 (default), which includes non-yield fishing mortality (discards and incidental mortality).

Fishery specifications for 2013 and default measures for 2014 are included in this action for both limited access and limited access general category vessels. Access areas available to the fishery in 2013 include: Closed Area I, Closed Area II, Hudson Canyon, and Nantucket Lightship. This action will close both Elephant Trunk and Delmarva access areas to protect high levels of scallop recruitment in those areas. Full-time limited access vessels will be allocated 33 open area DAS, 13 for part-time vessels, and 3 for occasional limited access scallop vessels.

This action also includes default measures for FY2014. Default measures only include DAS allocations for LA vessels, 23 DAS for full-time vessels equivalent to 75% of projected DAS, and LAGC allocations (IFQs, NGOM hard TAC and incidental catch TAC). Default measures will <u>not</u> include access area trip allocations for either limited access or general category vessels. These 2014 default measures are scheduled to be replaced by specifications set in Framework 25, likely implementation in May 2014.

The total limited access general category (LAGC) allocation will be equivalent to 5.5% of the overall ACL for 2012, which is approximately 2.4 million pounds and 2.8 million pounds for 2014(default). Individual vessels will be allocated a set poundage they can harvest based on their individual contribution factor. LAGC vessels are also allocated 5.5% of the TAC in each

access area, with the exception of Closed Area II. The TAC that would have been available for that area for LAGC vessels will be prorated to other scallop access areas closer to shore (Closed Area I, Closed Area II, and Nantucket Lightship).

This framework adjustment also addresses other issues added by the Council. Specifically several measures related to YT bycatch, a measure to make the LAGC IFQ program more efficient, and measures to improve the observer set-aside program. First, this action proposes to modify the GB access area seasonal closures, currently all GB access areas are closed from Feb1-June14. The seasonal restriction on scallop fishing in portions of the groundfish closed areas was originally implemented by a joint framework (Scallop FW11/ Multispecies FW29) and the restrictions are also in the groundfish regulations. Therefore, this action is a joint framework for both fishery management programs (Scallop Framework 24 and Multispecies Framework 49). However, the Multispecies portion of the framework is relatively minor, related to this measure only, thus the focus of this action is on the scallop resource and fishery. If the proposed measure related to this topic is approved, the only area that would have a seasonal closure for the scallop fishery is Closed Area II, from August 15-November 15.

Secondly, this action proposes specific YT AMs for the LAGC fishery, for both dredge and trawl gear types. Also, this action proposes an adjustment to the timing of YT AMs in the scallop fishery. Framework 24 also proposes to allow LAGC vessels to sub-lease IFQ as well as lease IFW during the fishing year, even if some fishing has occurred with that permit. If approved, the observer set-aside program would be expanded to include LAGC trips in open areas. Finally, the observer set-aside TAC would be modified; 1% of the ABC would still be set-aside for observer coverage, but it would not be area specific.

Overall, the cumulative effects of the preferred action on the scallop resource, EFH, protected resources, fishery businesses and communities, other fisheries and non-target species should yield non-significant neutral to positive impacts.

Table 1 - SUMMARY OF PREFERRED ALTERNATIVE AND POTENTIAL ENVIRONMENTAL IMPACTS

FW24 Section and Alternative Name	Description of options considered	ECOLOGICAL IMPACTS (Scallop resource, EFH., Protected resources and bycatch)	ECONOMIC AND SOCIAL IMPACTS
DECISIONS RELATED TO FISHERY SPECIFICATIONS			
2.1.1 ABC	2.1.1.1 No Action ABC (28,700 mt) **2.1.1.2 FW24 ABC (2013=21,004mt and 2014 = 23,697mt)**	Resource – No Action ABC above recommended levels based on updated science, could lead to overfishing with negative impacts on resource compared to FW24 ABC. EFH, PR, Bycatch – neither No Action nor FW24 ABC have expected impacts	No Action ABC will have negative impacts on the scallop yield, revenues, total economic benefits, and social impacts on communities in the long-term compared to FW24 ABC. Updated ABC values for FW24 are lower than the ABC values under no action. Although, this could have negative impacts in the short-term, the long-term impacts on the scallop yield, landings, revenues and fishery related business and communities will be positive.
2.1.2 Specifications for LA vessels (No Action, ALT 1, **ALT2**, ALT3, ALT4)	FW24 considering 5 overall allocation alternatives. All have the same DAS and LAGC IFQ. But level of LA effort in access areas varies.	Resource - All have similar impacts on biomass. EFH and Bycatch – All FW24 Alts positive compared to No Action, especially Alt 4 since it has the least area swept. PR – All FW24 Alts have fewer MA AA trips compared to No Action, so positive impacts on sea turtles.	NA has short-term positive impacts on fishery compared to other options, but negative impacts in the long term from excess fishing in access areas. Alt 2 smaller negative ST economic impacts compare to Alt 4. Alt 2 and 4 have higher LT net economic benefits compared to no action and other alternatives.
2.1.2.3.1, 2.1.2.3.2, 2.1.2.5.1 and 2.1.2.5.2 Prohibit RSA compensation fishing in NL in 2013 under ALT2 and ALT4	**No Action – no prohibition** Option 2 - prohibit 2013 RSA compensation fishing in NL to reduce potential impacts of increased fishing in that area	Resource – If a substantial portion of total 2013 RSA harvested from NL that would increase scallop mortality and have negative impacts on resource and access in that area in 2014. EFH, PR, Bycatch – Overall neutral impacts on non-target species and physical environment.	NA expected to have positive impacts on fishery but negative impacts on future yield and fishery. Option 2 could have negative indirect impacts on fishery from increased fishing costs, but positive economic impacts overall due to increased future yields.
2.1.4 Specifications for LAGC vessels	No Action – LAGC IFQ = 3.4 million pounds **FW24 LAGC IFQ = 2.4 million pounds for all 4 FW24 Alternatives.**	Resource - All have similar impacts on biomass. EFH and Bycatch – All FW24 Alts positive compared to No Action, especially Alt 4 since it has the least area swept. PR – All FW24 Alts have fewer LAGC MA AA trips compared to No Action, so positive impacts on sea turtles.	NA has short-term positive impacts on LAGC fishery compared to other options, but negative impacts in the long term. All FW24 alternatives have the same impact on LAGC vessels since total IFQ the same under all 4 alternatives.
2.1.4.2.1 and **2.1.4.2.2** Allocation of LAGC trips by area	No Action – 5.5% of each area **Option 2 – 5.5% of all areas but prorate CA2 trips to other areas**	The overall impacts on the environment (scallops, EFH, bycatch, and PR) are negligible because this is a very small amount of effort. The same overall LAGC IFQ will limit this fishery.	Could benefit LAGC IFQ vessels if AAs have higher catch rates than open areas. Increased profits from shorter trips and lower trip costs – overall positive economic impacts.
2.1.5 NGOM hard TAC	**No Action - 70,000 lbs.** Alt 2 - 58,000 lbs.	Current catches very low so either TAC would likely not impact resource, EFH, or non-target species.	No significant economic or social impacts are expected from either measure since current catches are very low.

2.1.7 Measures to address delayed implementation of FW24	No Action – no payback **2.1.7.2 – payback for LA vessels (2013 AA trips and 12 DAS)** **2.1.7.3 – payback for LAGC vessels (Lease pays back overage in 2013)**	Positive impacts on the resource and other aspects of the environment (EFH, PR and bycatch).	Both payback measures for LA and LAGC expected to have positive impacts overall by reducing the negative impacts of excess fishing in 2013 before FW24 is implemented.
DECISIONS RELATED TO YT BYCATCH MEASURES			
2.2.1 Modify GB AA seasonal closures	No Action – GB AAs closed from Feb1-June14 (4.5 month closure) Option 1- GB AAs closed from Sep1-April30 (8 month closure) Option 2 – GB AAs closed from Sep1-Nov30 (3 month closure) **Option 3- CA2 closed from Aug15-Nov15 (3 month closure). NL and CA1 open all year.** Eliminate closures	Resource - Varying impacts on scallop resource – if areas closed in winter potentially positive impacts on scallop resource. Option 1 most positive. EFH – More flexible options could allow more effort in months with lower scallop yield. Longer tow times for the same poundage could have negative impacts on EFH. Seasonal restrictions could lead to shifts in open area effort. PR – If more effort is on GB in the summer and early fall there are positive impacts on sea turtles if less effort is in the MA during that time period. Option 1 potentially the most positive. Bycatch – All options may increase impacts on WP if areas open in March and April compared to No Action. All FW24 Options have beneficial impacts for YT since CA2 would be closed during high YT bycatch (early fall). If trips are fished in low scallop meat weight periods and take longer, there could be increased impacts on bycatch present in those areas at those times.	NA – Negative economic impacts compared to other options because GB areas closed during part of high meat weight season (May-June14). Option 1 – least flexibility so negative economic impacts, but improved scallop yield per animal, so positive economic impacts LT. But constraining all GB AA harvest to 4 months could have some dampening impact on prices for large scallops which comprise a large proportion of landings during those months. Option 2 – More flexibility than NA and Option 1 so positive for fishery. Closes areas for part of low scallop meat weight season, so positive for fishery. Option 3 – More flexibility so positive for fishery. Lower LT benefits compared to Option 1 and 2 since CA1 and NL open all year. Eliminate season – highest flexibility with some economic benefit, but lower LT economic benefit from potentially higher scallop mortality from fishing in lower scallop meat weight months.
2.2.2.2 Measures to address YT bycatch in LAGC trawl fishery	No Action – no AM for LAGC vessels • SNE - Option 1 – close 612 and 613 based on overage **- Option 2 – gear restriction in 612 and 613. AM triggered two possible ways** - Option 3 – gear restriction in all of SNE/MA YT stock area for following FY • No Option for GB considered	Difficult to assess the impacts since it depends on how vessels will reach (move area fished, switch gear type, or adjust season but fish in the same area). If vessels switch to dredge gear there could be positive impacts on scallop resource because trawl gear is more capable of catching smaller scallops. If vessels adjust season impacts on resource could be positive or negative depending on the shift. Option 3 could be the most beneficial if it causes vessels to switch gear type since it is the most restrictive. EFH and PR – Not possible to estimate the directionality of impacts. Magnitude is very small overall so any impacts would be negligible. Bycatch - In general, the more vessels are accountable it should help reduce incentive to catch YT as bycatch. Some AMs could cause effort shifts, but hopefully to times and areas with lower YT bycatch rates. Option 3 most positive.	The economic impacts of the seasonal closures are unlikely to be significant at low overage rates and as long as areas are open part of the year. Allowing dredge gear to be used for fishing during closure periods would add to flexibility. However, prohibiting the use of trawl gear (Option 3) in the SNE_YT stock area for extended periods of time would have considerable negative economic impacts on those vessels. Also, longer closure periods could have some distributional impacts on vessels from New York and New Jersey. The provision to allow these vessels to fish with dredge gear in those areas would alleviate some of these impacts but not totally since installing dredge gear will increase fishing costs.

2.2.2.3 Measures to address YT bycatch in LAGC dredge fishery	No Action – no AM for LAGC vessels **SNE/MA – close 537, 539 and 613 based on overage. Includes exemption if LAGC dredge catch under 3% of sub-ACL** GB – close 562 based on overage	Resource – Minimal and not likely to have adverse impacts. EFH and PR – Not possible to estimate the directionality of impacts. Magnitude is very small overall so any impacts would be negligible. Bycatch - In general, having an AM should make this fleet more accountable and provide incentive to reduce bycatch, having positive impacts on YT bycatch. However, impacts are small since this segment of the fishery to date has very low catches of GB and SNE/MA YT.	Effort shifts can have negative economic impacts on fishery by reducing flexibility. But it is unlikely this AM will be triggered as long as future catches of YT by the LAGC dredge fishery do not increase above current low levels. Thus negligible economic impacts. GB AM would have negligible economic impacts.
2.2.3 Timing of AMs for the scallop fishery YT flounder sub-ACL	No Action – AM subsequent year **AM triggers subsequent year if reliable data available, otherwise following year**	Neutral impacts on the resource, EFH, and PR overall. Bycatch – direct biological impacts for YT similar for both alternatives. As long as an overage leads to AMs that reduce catch in the following year, the specific fishery that is modified to achieve the reduction is immaterial. While it may be an equity concern if one fishery is constrained (GF) due to an overage by another fishery (scallop), the biological results should be similar under either alternative.	Implementation of the AMs in Year 3 instead of Year 2 would provide more flexibility and allow more time for vessels to adjust their fishing activity, positive impacts.
OTHER MEASURES			
2.3 Measures to improve flexibility and efficient use of LAGC IFQ during the year	No Action – subleasing and leasing during the year prohibited **Allow sub-leasing and transfer after vessel has fished**	This measure expected to increase flexibility and mobility of quota, which could increase total percentage of annual quota harvested compared to No Action, but total harvest is still limited by overall sub-ACL, so neutral impacts on the resource, EFH, PR and bycatch.	Positive economic impacts for fishery because of increased opportunities with allowance for sub-leasing and transfer of quota.
2.4 Measures to expand current observer set-aside program to include LAGC vessels in open areas	No Action – LAGC trips in open areas funded by NMFS **Include LAGC open area trips under observer program**	Indirect positive impacts on resource, EFH, PR and non-target species from expected increase in observer coverage rates.	Slightly positive economic impacts or neutral impacts on fishery if increased coverage remains under set-aside.
2.4.2.1 Modify the observer set-aside allocation (p.51)	No Action – 1% of TAC per area **1% per area but set-aside not area specific**	No direct impacts on resource, EFH, PR or non-target species but could improve the overall observer set-aside program compared to No Action be enabling set-aside to be more flexible by area.	Positive impacts compared to No Action. Flexibility to move set-aside around reduces the chance a vessel will have to pay for an observer if the set-aside runs out in a particular area.

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LIST OF ACRONYMS

A10 – Amendment 10 to the Atlantic Sea Scallop Fishery Management Plan
A11 – Amendment 11 to the Atlantic Sea Scallop Fishery Management Plan
A15 – Amendment 15 to the Atlantic Sea Scallop Fishery Management Plan
AA – Access Area
ABC – Acceptable Biological Catch
ACL – Annual Catch Limit
ACT – Annual Catch Target
AM – Accountability Measure(s)
AP – Advisory Panel
BiOp, BO – Biological Opinion
B_{MSY} – Biomass at Maximum Sustainable Yield
CEQ – Council on Environmental Quality
CA – Closed Area
CAI – Closed Area I
CAII – Closed Area II
CASA – Catch-At-Age Size-At-Age (model)
CF – Coonamessett Farm Foundation
DAS – Day-at-sea
DMV – Delmarva
CPUE – Catch Per Unit Effort
EA – Environnemental Assessment
EEZ – Exclusive Economic Zone
ESA – Endangered Species Act
EFH – Essential Fish Habitat
    EFH designation life stages
        A – Adult life stage
        J – Juvenile life stage
        E – Egg life stage
ET, ETA – Elephant Trunk Area
F_{MSY} – Fishing Mortality at Maximum Sustainable Yield
FMP – Fishery Management Plan
FR – Federal Register
FW18 – Framework Adjustment 18 to the Atlantic Sea Scallop Fishery Management Plan
FW19 – Framework Adjustment 19 to the Atlantic Sea Scallop Fishery Management Plan
FW21 – Framework Adjustment 21 to the Atlantic Sea Scallop Fishery Management Plan
FW22 – Framework Adjustment 22 to the Atlantic Sea Scallop Fishery Management Plan
FW23 - Framework Adjustment 23 to the Atlantic Sea Scallop Fishery Management Plan
FW24 - Framework Adjustment 24 to the Atlantic Sea Scallop Fishery Management Plan
FY – Fishing Year
GB – Georges Bank
GF – Groundfish
GC – General Category
GOM – Gulf of Maine
HC – Hudson Canyon
HP – Horsepower
IFQ – Individual Fishing Quota
IRFA – Initial Regulatory Flexibility Analysis
LA – Limited Access
LAGC – Limited Access General Category

LIPA – Long Island Power Authority
LNG – Liquefied Natural Gas
LPUE – Landings Per Unit Effort
MA – Mid-Atlantic
MAFMC – Mid-Atlantic Fishery Management Council
M-S Act – Magnuson Stevens Act
MSY – Maximum Sustainable Yield
NB – New Bedford
NE – New England or Northeast
NEFMC – New England Fishery Management Council
NEFSC – Northeast Fisheries Science Center
NEPA – National Environmental Policy Act
NGOM – Northern Gulf of Maine
NL, NLAA – Nantucket Lightship Access Area
NMFS – National Marine Fisheries Service
NOAA – National Oceanographic Atmospheric Administration
OA – Open Area
OFD – Overfishing Definition
OFL – Overfishing Limit
OY – Optimum Yield
PDT – Scallop Plan Development Team
RIR – Regulatory Impact Review
RPM – Reasonable and Prudent Measure
RSA – Research Set-Aside
SASI – Swept Area Seabed Impact (model)
SAW – Stock assessment workshop
SBRM – Standardized bycatch reporting methodology
SCH – Great South Channel
SH/MW – Shell Height-Meat Weight (relationship)
SMAST –School of Marine Science and Technology, University of Massachusetts, Dartmouth
SNE – Southern New England
SNE/MA – Southern New England/Mid-Atlantic
SSC – Science and Statistical Committee
TAC – Total Allowable Catch
TDD – Turtle deflector dredge
U10 – A classification for large scallops, less than 10 meats per pound.
USGS – United States Geological Survey
VEC – Valued Ecosystem Component
VIMS – Virginia Institute of Marine Science
VMS – Vessel Monitoring System
VTR – Vessel Trip Reports
WGOM – Western Gulf of Maine
WHOI – Woods Hole Oceanographic Institute
YTF/YT – Yellowtail flounder

1.0 BACKGROUND AND PURPOSE

1.1 BACKGROUND

This framework to the Scallop Fishery Management Plan (FMP) sets fishery specifications for fishing year (FY) 2013 and default measures for FY 2014. The Council considered specifications for two fishing years (2013 and 2014) with default measures for 2015, but during development of this action decided to limit the action. There is uncertainty related to the high recruitment levels in the Mid-Atlantic, future Georges Bank (GB) yellowtail flounder (YT) catch levels, and the status of the Essential Fish Habitat (EFH) Omnibus action and potential changes in habitat closure boundaries. Therefore, the New England Fishery Management Council (Council) decided to see how these issues develop in the coming year and will set formal specifications for fishing year (FY) 2014 in a separate action. In the meantime, default FY 2014 measures are set in this action to account for any potential delay in setting the FY 2014 specifications after the March 1, 2014, start of the fishing year.

The measures required to be in a framework has increased over the years to include specific allocations for the general category fishery since that fishery became limited access under Amendment 11 in 2008. In addition, specification packages now need to include specific catch restrictions including an acceptable biological catch (ABC) and annual catch limits (ACL) as a result of new requirements since 2007, when the Magnuson Stevens Act (MSA) was reauthorized. The overall structure for annual catch limits in the scallop fishery was established by Amendment 15 in 2011.

Overall specifications include: a total allowable biological catch and annual catch limits, day-at sea allocations, access area allocations, total individual fishing quota (IFQ) for the Limited Access General Category (LAGC) fishery, a hard-total allowable catch (TAC) for the Northern Gulf of Maine scallop fishery, a target TAC for vessels with an incidental catch permit, and allocations for the Observer Set-aside program.

In addition to the standard measures that are included in a specification package described above the Council identified three specific issues to consider as well when priorities were set for 2012 at the November 2011 Council meeting. In priority order, this action will also consider measures to: 1) consider modification of Georges Bank (GB) access area opening dates; 2) address sub-ACL of yellowtail flounder for the LAGC trawl fishery; and 3) leasing LAGC IFQ during the fishing year.

The priority to consider modification of the GB access area opening dates for scallop fishing in portions of the groundfish closed areas was originally implemented by a joint framework (Scallop FW11/ Multispecies FW29) and the restrictions are also in the groundfish regulations. Therefore, this action is a joint framework for both fishery management programs (Scallop Framework 24 and Multispecies Framework 49). However, the Multispecies portion of the framework is relatively minor, related to this measure only, thus the focus of this action is on the scallop resource and fishery.

In January 2012 the Council formally initiated Framework 24 and included two additional topics for consideration based on input from the Scallop Plan Development Team (PDT) and Scallop Committee. First, yellowtail flounder accountability measures (AMs) should trigger in Year 3 following an overage, compared to the subsequent year (Year 2), if reliable data is not available to make a Year 2 determination. Second, this action considers an alternative that would expand the current observer set-aside program to include LAGC vessels in open areas. The Council took final action on this this framework in November 2012, and implementation is scheduled for May 2013.

1.2 PURPOSE AND NEED

The primary need of this action is to achieve the objectives of the Atlantic Sea Scallop FMP to prevent overfishing and improve yield-per-recruit from the fishery. The primary purpose for this action is to set specifications to adjust the day-at-sea (DAS) allocations, general category fishery allocations, and area rotation schedule and allocations for the 2013 fishing year, as well as default measures for FY2014 that are expected to be replaced by a subsequent action. The secondary need of this action is to address five very specific issues identified by the Council to improve the overall effectiveness of the Scallop FMP.

The purpose is to develop measures to refine the management of the YT flounder sub-ACL allocated to the scallop fishery by developing measures to further reduce yellowtail flounder bycatch and optimize scallop yield, and improve accountability of bycatch across the fishery. Another purpose for this action is to develop measures to improve the flexibility and efficient use of LAGC IFQ by allowing leasing during the fishing year and potentially after a vessel has fished a portion of its allocation. Finally, another purpose is to expand the current observer set-aside program to include LAGC vessels in open areas in order to more accurately determine bycatch from this sector of the fishery.

Table 2 – Summary of the purpose and need for measures developed in Framework 24 including section number with specific alternatives

Need	Purpose	Section # with specific alternatives to address corresponding purpose and need
To achieve the objectives of the Atlantic Sea Scallop FMP to prevent overfishing and improve yield-per-recruit from the fishery	1. To set specifications to adjust the DAS, general category allocations, and area rotation schedule and allocations for 2013, and 2014 default measures	1. Section 2.1
To improve the overall effectiveness of the Scallop FMP related to several specific aspects of the plan	1. To refine the management of the YT flounder sub-ACL allocated to the scallop fishery by developing measures to further reduce yellowtail flounder bycatch and optimize scallop yield, and improve accountability of bycatch across the fishery 2. To improve the flexibility and efficient use of LAGC IFQ by allowing leasing	1. Modify GB access area seasonal closures – Section 2.2.1 Measures to address YT bycatch in the LAGC fishery – Section 2.2.2 Timing of AMs for the YT flounder sub-ACL – Section 2.2.3

	during the year 3. To expand the current observer set-aside program to include LAGC vessels in open areas in order to more accurately determine bycatch from this sector of the fishery.	2. Section 2.3 3. Section 2.4

1.3 SUMMARY OF SCALLOP FISHERY MANAGEMENT PLAN

The Atlantic Sea Scallop FMP management unit consists of the sea scallop *Placopecten magellanicus* (Gmelin) resource throughout its range in waters under the jurisdiction of the United States. This includes all populations of sea scallops from the shoreline to the outer boundary of the Exclusive Economic Zone (EEZ). While fishing for sea scallops within state waters is not subject to regulation under the FMP except for vessels that hold a federal permit when fishing in state waters, the scallops in state waters are included in the overall management unit. The principal resource areas are the Northeast Peak of Georges Bank, westward to the Great South Channel, and southward along the continental shelf of the Mid-Atlantic.

The Council established the Scallop FMP in 1982. A number of Amendments and Framework Adjustments have been implemented since that time to adjust the original plan, and some Amendments and Framework Adjustments in other plans have impacted the fishery. This section will briefly summarize the major actions that have been taken to shape the current scallop resource and fishery.

Amendment 4 was implemented in 1994 and introduced major changes in scallop management, including a limited access program to stop the influx of new vessels. Qualifying vessels were assigned different day-at-sea (DAS) limits according to which permit category they qualified for: full-time, part-time or occasional. Some of the more notable measures included new gear regulations to improve size selection and reduce bycatch, a vessel monitoring system to track a vessel's fishing effort, and an open access general category scallop permit was created for vessels that did not qualify for a limited access permit. Also in 1994, Amendment 5 to the Northeast Multispecies FMP closed large areas on Georges Bank to scallop fishing over concerns of finfish bycatch and disruption of spawning aggregations (Closed Area I, Closed Area II, and the Nantucket Lightship Area - See Figure 1).

In 1998, the Council developed Amendment 7 to the Scallop FMP, which was needed to change the overfishing definition, the day-at-sea schedule, and measures to meet new lower mortality targets to comply with new requirement under the Magnuson-Stevens Act. In addition, Amendment 7 established two new scallop closed areas (Hudson Canyon and VA/NC Areas) in the Mid-Atlantic to protect concentrations of small scallops until they reached a larger size.

In 1999, Framework Adjustment 11 to the Scallop FMP allowed the first scallop fishing within portions of the Georges Bank groundfish closed areas since 1994 after resource surveys and experimental fishing activities had identified areas where scallop biomass was very high due to no fishing in the intervening years. This successful "experiment" with closing an area and reopening it for controlled scallop fishing further motivated the Council to shift overall scallop

management to an area rotational system that would close areas and reopen them several years later to prevent overfishing and optimize yield.

In 2004, Amendment 10 to the Scallop FMP formally introduced rotational area management and changed the way that the FMP allocates fishing effort for limited access scallop vessels. Instead of allocating an annual pool of DAS for limited vessels to fish in any area, vessels had to use a portion of their total DAS allocation in the controlled access areas defined by the plan, or exchange them with another vessel to fish in a different controlled access area. The amendment also adopted several alternatives to minimize impacts on EFH, including designating EFH closed areas, which included portions of the groundfish mortality closed areas. See Section 1.4 below for a more detailed description of the rotational area management program implemented by Amendment 10.

As the scallop resource rebuilt under area rotation biomass increased inshore and fishing pressure increased by open access general category vessels starting in 2001. Landings went from an average of about 200,000 pounds from 1994-2000 to over one million pounds consistently from 2001-2003 and 3-7 million pounds each year from 2004-2006 (NEFMC, 2007). In June 2007 the Council approved Amendment 11 to the Scallop FMP and it was effective on June 1, 2008. The main objective of the action was to control capacity and mortality in the general category scallop fishery. Amendment 11 implemented a limited entry program for the general category fishery where each qualifying vessel received an individual allocation in pounds of scallop meat with a possession limit of 400 pounds. The fleet of qualifying vessels receives a total allocation of 5% of the total projected (LA and LAGC) scallop catch each fishing year. This action also established separate limited entry programs for general category fishing in the Northern Gulf of Maine, limited access scallop fleet fishing under general category rules, and an incidental catch permit category that permits vessels to land and sell up to 40 pounds of scallop meat per trip while fishing for other species.

More recently Amendment 15 to the Scallop FMP was implemented in 2011. This action was developed to bring the FMP in compliance with new requirements of the re-authorized MSA (namely ACLs and AMs). The action also considered measures to allow limited access vessels to voluntarily stack or combine permits on one vessel, or lease DAS or trips from each other, but these measures were primarily rejected due to concerns about the potential negative impacts on vessels that do not stack or lease.

Table 3 – Summary of past scallop actions

Action	Implementation date	Brief description of action
FMP	8/13/1982	Created a management program that restricted scallop minimum size, required vessels to have a permit, and implemented a voluntary reporting system.
A1	12/30/1986	Developed a minimum size meat count but was superseded by secretarial amendment to maintain original FMP measures instead.
A2	7/22/1988	Provided 10% increase in meat count standard during Oct-Jan.
A3	2/5/1990	Established regional 12-hour time periods for offloading to improve compliance with meat count standards.
A4	3/1/1994	Implemented a limited access program and replaced meat count system with DAS effort limits.
FW1	8/17/1994	Temporary adjustment to max crew limit, adjust start of fishing year to March 1,

		refined gear requirements.
FW2	11/16/1994	Exemption from federal gear requirements when fishing in state waters.
FW4	5/1/1995	Temporary adjustment to max crew limit on certain vessels from 9 to 7.
FW5	7/31/1995	Restricted the use of trawl nets to catch scallops and the use of twine tops in dredges.
FW6	8/9/1995	Enhance enforcement by modifying the demarcation line – same action for GF FMP as well.
FW3	12/4/1995	Eliminated requirement that permit applicants own title to fishing vessel at time they initially apply for LA permit – same as other FMPs in region.
FW7	3/11/1996	Permanently reduced the max crew size from 9 to 7.
FW8	7/19/1996	Allowed some vessels to use trawls than cannot practically use a dredge.
A6	2/10/1997	Address gear conflicts in the GOM, GB, and SNE.
A5	2/13/1997	Temporarily closed an area southwest of Martha's Vineyard for 18 months to conduct aquaculture research project.
FW9	8/13/1997	Exempt LA and GC vessels that fish in the state water exemption program from the 400 pound trip limit.
FW10	8/28/1998 - 02/28/2000	Extended a temporary closure in an area southwest of Martha's Vineyard for 18 months to conduct aquaculture research project.
A9	3/3/1999	Implemented measures to designate Essential Fish Habitat for all FMPs in New England.
A8	3/22/1999	Implemented consistent vessel permitting regulations across all FMPs in the Northeast.
A7	4/28/1999	Prevent overfishing by reducing DAS effort allocations substantially and continued closures of MA access areas.
FW11	6/15/1999	Temporarily reopened portions of GF closed areas on GB to the scallop fishery with restrictions. Required 8-inch twine top in open areas.
FW12	3/1/2000	Adjusted DAS allocations for FY2000 and corrected several aspects of the Monkfish FMP.
FW13	6/15/2000	Temporarily reopened portions of GF closed areas on GB to the scallop fishery.
FW14	5/1/2001	Adjusted DAS allocations for FY2001 and 2002 and allowed controlled access in HC and VB access areas.
FW15	3/1/2003	Temporarily adjust DAS for FY2003 and access area schedule for HC and VB access areas.
A10	6/23/2004	Implemented area rotational program to prevent overfishing and optimize scallop yield, as well as implementation of measures to reduce impacts on EFH and bycatch as well as other measures.
FW16	11/2/2004	Fishery specifications for FY2004 and 2005 including access area schedules for GB access areas. Measures for research and observer set-asides developed as well and monitoring and other provisions.
FW17	10/21/2005	Vessels with general category permit that intend to land more than 40 pounds must install and operate VMS. Power down provisions included. Broken trip provision revised for LA vessels.
FW18	6/15/2006	Fishery specifications for FY2006 and 2007 including seasonal closure of ETA to reduce impacts on turtles.
A13	6/12/2007	Permanently reactivated the industry funded observer set-aside program that uses a portion of available catch to help defray the cost of carrying an observer.
FW20	12/24/2007	Maintains the trip allocations established by the interim measures enacted by NMFS on June 21, 2007. Reduced the number of trips in ETA to prevent overfishing and other measures.
A12	2/27/2008	Implemented a Standardized Bycatch Reporting Methodology for all FMPs in the Northeast.
A11	6/1/2008	Limited access for general category vessels with three permit types: IFQ,

		NGOM and incidental catch. The general category fishery is allocated 5% of projected catch as well as other measures.
FW19	6/1/2008	Fishery specifications for FY2008 and 2009. Specific measures for general category vessels pending approval of a limited access program approved in A11 for general category vessels. LAGC vessels would be allocated 10% of the total catch in quarterly TACs until a full IFQ program could be implemented (in 2010).
FW21	6/28/2010	Fishery specifications for FY2010 based on new assessment results. Action also included specific measures to comply with reasonable and prudent measures required by ESA to reduce impacts on loggerhead sea turtles.
A15	7/22/2011	Implement measures to comply with new MSA requirements for ABCs and ACLs in the scallop fishery. Modify EFH closed areas to be consistent with areas closed for EFH in the Groundfish FMP as well as other measures.
FW22	8/1/2011	Fishery specifications for FY2011 and 2012 including ABCs and ACLs required by MSA.
FW23	5/7/2012 (5/2013 for TDD)	Require the use of a turtle deflector dredge (TDD) for all vessels except LAGC vessels that use a dredge less than 10.5 feet when fishing in the Mid-Atlantic in May-October.
A14	Under Development	Update EFH designations and measures to minimize the impacts of fishing on EFH for all FMPs in New England. Implement specific measures to protect deep-sea corals.

1.4 DETAILED BACKGROUND ON ROTATIONAL AREA MANAGEMENT

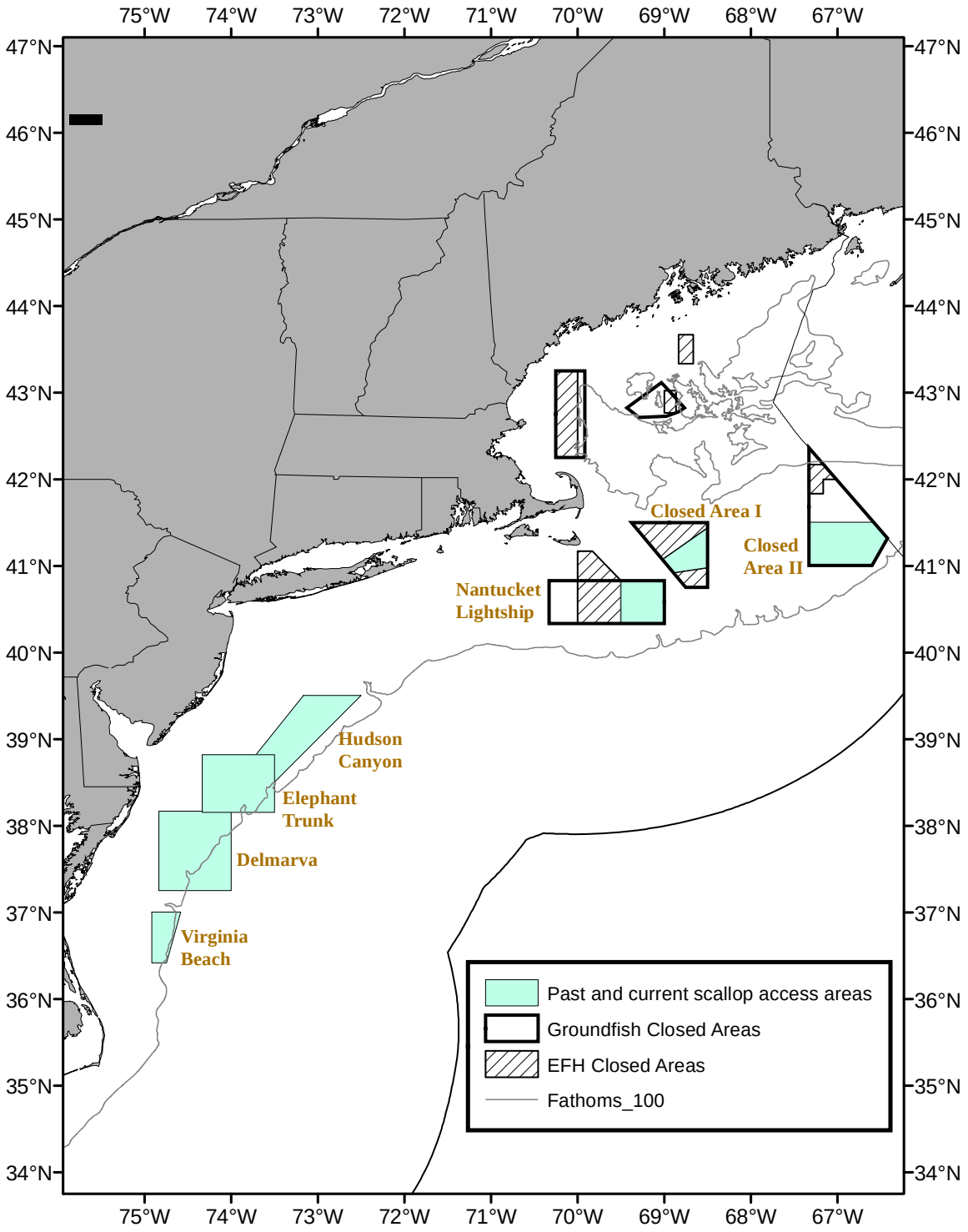
Amendment 10 introduced area rotation: areas that contain beds of small scallops are closed before the scallops experience fishing mortality, then the areas re-open when scallops are larger, producing more yield-per-recruit. The details of which areas should close, for how long and at what level they should be fished were described and analyzed in Amendment 10. Except for the access areas within the groundfish closed areas on Georges Bank, all other scallop rotational areas should have flexible boundaries. Amendment 10 included a detailed set of criteria or guidelines that would be applied for closing and re-opening areas. Framework adjustments would then be used to actually implement the closures and allocate access in re-opened areas. The general management structure for area rotation management is described in Table 4. An area would close when the expected increase in exploitable biomass in the absence of fishing mortality exceeds 30% per year, and re-open to fishing when the annual increase in the absence of fishing mortality is less than 15% per year. Area rotation allows for differences in fishing mortality targets to catch scallops at higher than normal rates by using a time averaged fishing mortality so the average for an area since the beginning of the last closure is equal to the resource-wide fishing mortality target (80% of F_{max}, estimated to be $F = 0.23$).

Figure 1 shows the boundaries of current and past scallop access areas (green shaded) on Georges Bank and in the Mid-Atlantic. Areas that are closed to the scallop fishery are indicated as well: groundfish mortality closed areas (hollow) and EFH closed areas (hatched).

Table 4- General management structure for area rotation management as implemented by Amendment 10

Area type	Criteria for rotation area management consideration	General management rules	Who may fish
Closed rotation	Rate of biomass growth exceeds 30% per year if closed.	No scallop fishing allowed Scallop limited access and general category vessels may transit closed rotation areas provided fishing gear is properly stowed. Scallop bycatch must be returned intact to the water in the general location of capture.	Any vessel may fish with gear other than a scallop dredge or scallop trawl Zero scallop possession limit
Re-opened controlled access	A previously closed rotation area where the rate of biomass growth is less than 15% per year if closure continues. Status expires when time averaged mortality increases to average the resource-wide target, i.e. as defined by the Council by setting the annual mortality targets for a re-opened area.	Fishing mortality target set by framework adjustment subject to guidelines determined by time averaging since the beginning of the most recent closure. Maximum number of limited access trips will be determined from permit activity, scallop possession limits, and TACs associated with the time-average annual fishing mortality target. Transfers of scallops at sea would be prohibited	Limited access vessels may fish for scallops only on authorized trips. Vessels with general category permits will be allowed to target scallops or retain scallop incidental catch, with a 400 pounds scallop possession limit in accordance with general category rules.
Open	Scallop resource does not meet criteria to be classified as a closed rotation or re-opened controlled access area	Limited access vessels may target scallops on an open area day-at-sea General category vessels may target sea scallops with dredges or trawls under existing rules. Transfers of scallops at sea would be prohibited	All vessels may fish for scallops and other species under applicable rules.

Figure 1 – Scallop management areas (past and present)



1.5 SUMMARY OF FY2013 DEFAULT MEASURES APPROVED IN FRAMEWORK 22

In Amendment 15 a modification was made to add a third year to each specification package as a default year that would be in place before a subsequent action rather than rollover measures from the year before. The intent is that default measures will ultimately be replaced by a subsequent action, but are likely superior in terms of potential impacts on the resource and administrative burdens associated with late implementation of frameworks compared to simply rolling over from the previous year.

The default specifications for 2013 were set by Framework 22 and the projections at that time supported 4 access area trips and 35 open area DAS for 2013 (Table 5). Annual Catch Limit (ACL) related values for this fishing year are presented in Table 6, but are expected to change in future actions when final specifications are set for FY2013 and 2014.

When the Committee reviewed the default allocations for 2013, they suggested that DAS should be 75% of the projection to be precautionary, and the Council agreed. Estimates are less certain the further out they are and it is easier to allocate more DAS in the subsequent framework that will be implemented after the fishing year starts, compared to taking DAS away. Therefore, in the event that Framework 24 is delayed and measures are not in place at the beginning of FY2013, these measures will serve as a default. If FW24 was not adopted these allocations would remain in place for all of FY2013 and beyond until replaced by a subsequent action.

Table 5 – Summary of 2013 allocations approved as default measures in Framework 22

	Closed Area I (CA1)	**Closed Area II (CA2)**	**Nantucket Lightship (NL)**	**Hudson Canyon (HC)**	**Delmarva (DMV)**	**Elephant Trunk (ETA)**	**Total AA trips**	**DAS**
2013	-	1	1	1.5	0.5	-	4	26*

** 26 DAS is 75% of the total DAS projected for FY2013 (35 DAS)*

Table 6 - ACL related values and allocations for 2013

	2013*
OFL	75,136,308
ABC	63,272,680
incidental	50,000
RSA	1,250,000
OBS	632,727
ACL after set-asides/incidental removed *(= ABC-(incidental + RSA +OBS))*	61,339,953
LA sub-ACL (94.5% of ACL) LA sub-ACT	57,966,256 43,403,576
IFQ-only (5% of ACL)= sub-ACL = ACT	3,066,998
IFQ + LA (0.5% of ACL)=sub-ACL=ACT	306,700

** 2013 measures are default and expected to be adjusted in future action*

2.0 MANAGEMENT ALTERNATIVES UNDER CONSIDERATION

2.1 FISHERY SPECIFICATIONS

2.1.1 Acceptable biological catch

The MSA was reauthorized in 2007. Section 104(a) (10) of the Act established new requirements to end and prevent overfishing, including annual catch limits (ACLs) and accountability measures (AMs). Section 303(a)(15) was added to the MSA to read as follows: ‘‘establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability.’’ ACLs and AMs are required by fishing year 2010 if overfishing is occurring in a fishery, and they are required for all other fisheries by fishing year 2011. The Council initiated Scallop Amendment 15 to comply with these new ACL requirements, and that action was implemented in 2011.

Acceptable Biological Catch (ABC) is defined as the maximum catch that is recommended for harvest, consistent with meeting the biological objectives of the management plan. The determination of ABC will consider scientific uncertainty and the Council may not exceed the fishing level recommendations of its Science and Statistical Committee (SSC) in setting ACLs (Section 302(h)(6)). The MSA enhanced the role of the SSCs, mandating that they shall provide ongoing scientific advice for fishery management decisions, including recommendations for acceptable biological catch (MSA 302(g(1)(B)). This requirement for an SSC recommendation for ABC was effective in January 2007.

Framework 21 implemented an ABC for 2010; the value was 29,578 mt (65.2 million pounds) for the overall fishery, including an estimated 3,363 mt (7.4 million pounds) for non-yield

fishing mortality (discards and incidental mortality). Therefore, the overall ABC for the fishery, excluding discards and incidental mortality was 26,219 mt (57.8 million pounds).

In FW22 the SSC's catch recommendations included mortality from discards and incidental catch. About nine million pounds of scallops are estimated to be killed each year due to discard and incidental catch mortality. After this source of mortality is removed, the ABC available to the fishery is 60.1 million pounds (27,269 mt) for 2011 and 63.8 million pounds (28,961 mt) for 2012 and 63.3 million pounds (28,700 mt) for 2013. The value after discards mortality is removed is the value that will be used as the ABC for the fishery, equivalent to ACL.

Table 7 – Summary of ABC approved by the SSC and Council for FW22 (shaded). ABC value used in the regulations and amount available to fishery after discards removed in BOLD

Year	**ABC available to fishery after discards removed**	Discards (lbs)	ABC including discards
2011	**27,269 (60,117,237 lbs)**	8,838,241	31,279 (68,957,683 lbs)
2012	**28,961 (63,847,421 lbs)**	9,420,256	33,234 (73,267,676 lbs)
2013	**28,700 (63,272,680 lbs)**	9,335,456	32,935 (72,608,136 lbs)

2.1.1.1 No Action ABC (Alternative 1)

Under "No Action" for FY 2013, the overall ABC for each year would be identical to that of the default FY 2013 ABC for the fishery of 63.3 million pounds (28,700 mt), after accounting for discards. In addition, a default ABC for 2014 would be 63.3 million pounds (28,700 mt) as well.

2.1.1.2 ABC for 2013 and 2014 (default) (Alternative 2) (Preferred Alternative)

The SSC met on September 13, 2012 and reviewed OFL and ABC recommendations prepared by the Scallop PDT. The same control rules were used: 1) OFL is equivalent to the catch associated with an overall fishing mortality rate of 0.38; and 2) ABC is set with a 25% chance of exceeding OFL where risk is evaluated in terms of the probability of overfishing compared to the fraction lass to yield. The overall fishing mortality rate used for setting ABC is 0.32.

The SSC recommends the use of the previously accepted control rule for sea scallops to set the FY 2013 and 2014 (default) OFL and ABC (both including discards) as follows in metric tons of meats:

	2013	**2014 (default)**
OFL	**31,555**	**35,110**
ABC	**27,370**	**30,353**

These values include estimated discard mortality. Therefore, when the fishery specifications are set based on these limits, the estimate of discard mortality is removed first and allocations are based on the remaining ABC available (Table 8, column to the far right).

Table 8 – Summary of OFL and ABC values approved by the SSC for Framework 24 (in metric tons)

	OFL (including discards at OFL)	ABC (including discards)	Discards (at ABC)	ABC available to fishery (after discards removed)
2013	31,555	27,370	6,366	21,004
2014 (default)	35,110	30,353	6,656	23,697

2.1.2 Specifications for limited access vessels

Specifications for the limited access fishery include DAS and access area trips. This action considered a wide range of alternatives and a summary of the various allocations for the LA fishery are described in Table 10 and Table 11. The Council adopted Alternative 2 as preferred.

2.1.2.1 No Action specifications for LA vessels

Under No Action, the sub-ACL for the LA fishery would be 58 million pounds (Table 13). DAS and area allocations are described in Table 5 – four access area trips and 26 DAS for full-time vessels. These would be the annual allocations until replaced by a subsequent action.

2.1.2.2 Alternative 1

Alternative 1 allocates the maximum amount of effort possible in each access area in 2013 and 2014 and sets open area DAS at the maximum level under the current overfishing definition (F in open areas = 0.38). When open area fishing mortality is set to the maximum level that equates to 33 DAS per full-time vessel in 2013 and 31 DAS in 2014. However, the Council decided to set the default 2014 DAS at 75% of the projection to be precautionary, 23 DAS. If final 2014 specifications are not in place by March 1, 2014 vessels will be allocated the default 2014 DAS at the start of the fishing year (23 DAS), and any additional DAS would be available after FY2014 specifications are implemented, under a separate action. 2013 DAS for part-time vessels would be 13 DAS and 3 DAS for occasional vessels (Table 11).

This alternative closes Elephant Trunk and Delmarva access areas in 2013 to protect the high levels of recruitment in those areas, and does not allocate any access area trips in 2014 default measures as a precautionary measure.

None of the access areas in 2013 can support full 18,000 pound trips. Therefore, this alternative reduces the possession limits to 13,000. Each full-time vessel would receive two trips in two of the areas available for fishing. A lottery process will be set up to allocate the trips, and it will be constrained so that one full-time vessel cannot receive more than one trip per area (Section 2.1.3). Vessels will still be permitted to trade trips.

Under Alternative 1 the access areas open in 2013 are: CA1, CA2, and HC.

The specific number of trips available in each area for this alternative is described in Table 10. The total catch from access areas in 2013 equals 7.8 million pounds (26,000 pounds per full-time vessel).

Part-time vessels would be allocated one trip allocation in 2013 equivalent to 10,400 pounds, rather than two trips at 5,200 pounds (40% of the full-time allocation of 26,000 pounds). Similarly, vessels with a limited access occasional permit would be allocated one 2,080 pound trip (8% of a FT allocation).

Default measures for 2014 do not include access area allocations. Default measures for 2014 would only include open area DAS for LA vessels. For 2014 the default DAS for FT vessels would be 23 DAS (75% of the projected 31 DAS potentially available for that fishing year). These days could be fished in any area that is not designated as an access area. The limited allocations for the default fishing year (no access area trips allocations and only 75% of projected DAS) were originally considered for FY2015 when this action was a two-year framework. However, when the Council decided to limit this action to one year (FY2013 with default measures for FY2014), the concept of limiting default allocations were applied to FY2014 - no access area allocations and DAS at 75% of projected levels.

2.1.2.3 Alternative 2 (Preferred Alternative)

Alternative 2 is an alternative that was recommended by the Scallop Advisory Panel. The premise of the alternative is to allocate the same amount of effort as Alternative 1, but to spread the 2013 effort out across more access areas. This modification would reduce the number of trips allocated to Hudson Canyon, which should help protect the strong recruitment in that area. In addition, fewer CA2 trips would be allocated under this alternative, reducing GB YT bycatch compared to Alternative 1. Instead, these 2013 trips would be available from Nantucket Lightship. The industry believes that NL is a more resilient area and moving some trips to NL would help reduce incidental mortality on small scallops in HC and have less YT bycatch compared to Alternative 1.

Open area fishing mortality would be the same as Alternative 1; it would be set to the maximum level (F in open areas = 0.38), which equates to 33 DAS per full-time vessel in 2013 and 31 DAS in 2014. However, the Council decided to set the default 2014 DAS at 75% of the projection to be precautionary, 23 DAS. If final 2014 specifications are not in place by March 1, 2014 vessels will be allocated the default 2014 DAS at the start of the fishing year (23 DAS), and any additional DAS would be available after FY2014 specifications are implemented, under a separate action. 2013 DAS for part-time vessels would be 13 DAS and 3 DAS for occasional vessels (Table 11).

This alternative closes Elephant Trunk and Delmarva access areas in 2013 to protect the high levels of recruitment in those areas, and does not allocate any access area trips in 2014 default measures as a precautionary measure.

None of the access areas in 2013 can support full 18,000 pound trips. Therefore, this alternative reduces the possession limits to 13,000. Each full-time vessel would receive two trips in two of the areas available for fishing. A lottery process will be set up to allocate the trips, and it will be constrained so that one full-time vessel cannot receive more than one trip per area. Vessels will still be permitted to trade trips.

Under Alternative 2 the areas open in 2013 are: CA1, CA2, NL, and HC.

The specific number of trips available in each area for this alternative is described in Table 10. The total catch from access areas in 2013 equals 7.8 million pounds (26,000 pounds per full-time vessel).

Part-time vessels would be allocated one trip allocation in 2013 equivalent to 10,400 pounds, rather than two trips at 5,200 pounds (40% of the full-time allocation of 26,000 pounds). Similarly, vessels with a limited access occasional permit would be allocated one 2,080 pound trip (8% of a FT allocation).

Default measures for 2014 do not include access area allocations. Default measures for 2014 would only include open area DAS for LA vessels. For 2014 the default DAS for FT vessels would be 23 DAS (75% of the projected 31 DAS potentially available for that fishing year). These days could be fished in any area that is not designated as an access area. The limited allocations for the default fishing year (no access area trips allocations and only 75% of projected DAS) were originally considered for FY2015 when this action was a two-year framework. However, when the Council decided to limit this action to one year (FY2013 with default measures for FY2014), the concept of limiting default allocations were applied to FY2014 - no access area allocations and DAS at 75% of projected levels.

The PDT reviewed this alternative and is supportive of spreading access area effort out since none of the access areas are particularly productive right now. However, concerns were raised about the potential for additional fishing mortality from RSA compensation trips. The RSA program sets aside 1.25 million pounds of scallops annually to fund research projects. Vessels that receive an RSA award are allowed to fish compensation pounds in any area open to the fishery. Therefore, this alternative would allow RSA compensation fishing in NL, and Alternative 1 would not because the area would be closed to the fishery in 2013.

In 2011 most RSA compensation was from HC, and in 2012 to date, most has been fished from NL and open areas (Table 9). The PDT expects that NL will continue to be an attractive option for RSA compensation fishing because it is close to shore, many of the access areas in the Mid-Atlantic will be closed, and open areas in the MA are not as abundant as they have been. Therefore, the PDT recommends that the Committee consider including an option that would prohibit 2013 RSA compensation fishing in Nantucket Lightship in 2013. Currently, mortality from the RSA program is assumed to come from all areas equally. However, if a disproportionate amount is removed from NL in 2013, that could impact the ability to allocate access from that area for the directed fishery in 2014.

Table 9 – Summary of scallop RSA catch (lbs) by area

Area	FY2011	FY2012 (Mar-Oct)
CA1	366,210	N/A
HC	770,619	N/A
NLS	0	259,737
OPEN	N/A	121,554

2.1.2.3.1 Option 1 – No restriction on RSA catch from NL (Preferred Alternative)

Vessels that receive RSA compensation would be allowed to fish that allocation in any area open to the fishery in 2013. If Alternative 2 is adopted that would include open areas, CA1, CA2, NL, and HC in 2013.

2.1.2.3.2 Option 2 – Prohibit RSA compensation fishing in NL in 2013

Vessels that receive RSA compensation would be allowed to fish that allocation in any area open to the fishery in 2013, except Nantucket Lightship. If Alternative 2 is adopted that would include open areas, CA1, CA2, and HC in 2013. Nantucket Lightship would not be available to vessels to fish 2013 RSA compensation catch.

2.1.2.4 Alternative 3

Alternative 3 was developed by the PDT in the event that industry was not supportive of modifying the possession limit as in Alternative 1 and 2. This alternative maintains the possession limits where they have been, i.e. 18,000 pounds per full-time LA trip allocation. Over time crew have become very familiar with what 18,000 pounds is, and since enforcement penalties are very severe for exceeding the possession limit, there are potential risks associated with modifying limits the industry has become accustomed to.

Under Alternative 3 the areas open in 2013 would be: CA2 and HC in 2013 . This alternative does not have any access in CA1 because the PDT does have concerns about the quality of scallops in this area and believes that some amount of highgrading has occurred in this area in recent years, having greater impacts on fishing mortality than assumed.

The specific number of trips available in each area for this alternative is described in Table 10. The total catch from access areas in 2013 equals 6.0 million pounds (18,000 pounds per full-time vessel).

Open area fishing mortality would be the same as Alternative 1; it would be set to the maximum level (F in open areas = 0.38), which equates to 33 DAS per full-time vessel in 2013 and 31 DAS in 2014. However, the Council decided to set the default 2014 DAS at 75% of the projection to be precautionary, 23 DAS. If final 2014 specifications are not in place by March 1, 2014 vessels will be allocated the default 2014 DAS at the start of the fishing year (23 DAS), and any additional DAS would be available after FY2014 specifications are implemented, under a separate action. 2013 DAS for part-time vessels would be 13 DAS and 3 DAS for occasional vessels (Table 11).

This alternative closes Elephant Trunk and Delmarva access areas in 2013 to protect the high levels of recruitment in those areas, and does not allocate any access area trips in 2014 default measures as a precautionary measure.

Part-time vessels would be allocated one trip allocation in 2013 equivalent to 10,400 pounds, rather than two trips at 5,200 pounds (40% of the full-time allocation of 26,000 pounds). Similarly, vessels with a limited access occasional permit would be allocated one 2,080 pound trip (8% of a FT allocation).

Default measures for 2014 do not include access area allocations. Default measures for 2014 would only include open area DAS for LA vessels. For 2014 the default DAS for FT vessels would be 23 DAS (75% of the projected 31 DAS potentially available for that fishing year). These days could be fished in any area that is not designated as an access area. The limited allocations for the default fishing year (no access area trips allocations and only 75% of projected DAS) were originally considered for FY2015 when this action was a two-year framework. However, when the Council decided to limit this action to one year (FY2013 with default measures for FY2014), the concept of limiting default allocations were applied to FY2014 - no access area allocations and DAS at 75% of projected levels.

2.1.2.5 Alternative 4

This alternative was developed by the PDT to further reduce GB YT catch in the scallop fishery in 2013 in light of the very low ABC under consideration for this stock in groundfish (GF) FW48. The Scallop Committee considered this alternative at their meeting in November and included it in the document for consideration. This alternative reduces CA2 access, directly reducing the projected catch of GB YT in the scallop fishery

Open area fishing mortality would be the same as Alternative 1; it would be set to the maximum level (F in open areas = 0.38), which equates to 33 DAS per full-time vessel in 2013 and 31 DAS in 2014. However, the Council decided to set the default 2014 DAS at 75% of the projection to be precautionary, 23 DAS. If final 2014 specifications are not in place by March 1, 2014 vessels will be allocated the default 2014 DAS at the start of the fishing year (23 DAS), and any additional DAS would be available after FY2014 specifications are implemented, under a separate action. 2013 DAS for part-time vessels would be 13 DAS and 3 DAS for occasional vessels (Table 11).

This alternative closes Elephant Trunk and Delmarva access areas in 2013 to protect the high levels of recruitment in those areas, and does not allocate any access area trips in 2014 default measures as a precautionary measure.

Under Alternative 4 the access areas open in 2013 are: HC, CA1, CA2,and NL.

The specific number of trips available in each area for this alternative is described in Table 10. The total catch from access areas in 2013 equals 6.0 million pounds (18,000 pounds per full-time vessel).

Part-time vessels would be allocated one trip allocation in 2013 equivalent to 10,400 pounds, rather than two trips at 5,200 pounds (40% of the full-time allocation of 26,000 pounds). Similarly, vessels with a limited access occasional permit would be allocated one 2,080 pound trip (8% of a FT allocation).

Default measures for 2014 do not include access area allocations. Default measures for 2014 would only include open area DAS for LA vessels. For 2014 the default DAS for FT vessels would be 23 DAS (75% of the projected 31 DAS potentially available for that fishing year). These days could be fished in any area that is not designated as an access area. The limited allocations for the default fishing year (no access area trips allocations and only 75% of

projected DAS) were originally considered for FY2015 when this action was a two-year framework. However, when the Council decided to limit this action to one year (FY2013 with default measures for FY2014), the concept of limiting default allocations were applied to FY2014 - no access area allocations and DAS at 75% of projected levels.

Similar to Alternative 2, this alternative considers access to Nantucket Lightship. Therefore, options were considered to limit 2013 RSA fishing in that area.

2.1.2.5.1 Option 1 – No restriction on RSA catch from NL

Vessels that receive RSA compensation would be allowed to fish that allocation in any area open to the fishery in 2013. If Alternative 4 is adopted that would include open areas, CA1, CA2, NL, and HC in 2013.

2.1.2.5.2 Option 2 – Prohibit RSA compensation fishing in NL in 2013

Vessels that receive RSA compensation would be allowed to fish that allocation in any area open to the fishery in 2013, except Nantucket Lightship. If Alternative 4 is adopted that would include open areas, CA1, CA2, and HC in 2013. Nantucket Lightship would not be available to vessels to fish 2013 RSA compensation catch.

Table 10 – Summary of LA access area allocation alternatives under consideration in FW24 (number of trips and associated possession limits)

		HC	Del	CA1	CA2	NL	Total # LA trips	Total # FT AA trips	FT Poss Limit	AA Allocation per FT vessel	Total AA allocation (mil lbs.)
No Action	2013	469	157	0	313	313	1252	4	18,000	72,000	23.3
	2014	469	157	0	313	313	1252	4	18,000	72,000	23.3
Alt 1	2013	245	0	119	262	0	626	2	13,000	26,000	7.8
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 2 (Preferred)	2013	210	0	118	182	116	626	2	13,000	26,000	7.8
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 3	2013	177	0	0	136	0	313	1	18,000	18,000	6.0
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 4	2013	130	0	57	50	76	313	1	18,000	18,000	6.0
	2014 Default	0	0	0	0	0	0	0	0	0	0

Note: Default 2014 allocations do not include access area trip allocations, thus are "0" in the table above. FW24 only sets default DAS allocations for FY2014. A subsequent action will set the access area allocations and final DAS allocations for FY2014.

Table 11 – Summary of LA open area DAS allocation alternatives under consideration in FW24 (2014 are default allocations – 75% of projected DAS)

	2013			2014		
	FT DAS	PT DAS	Occ DAS	FT DAS	PT DAS	Occ DAS
No Action	26	10	2	26	10	2
Alt 1	33	13	3	23	9	2
Alt 2 (Preferred)	33	13	3	23	9	2
Alt 3	33	13	3	23	9	2
Alt 4	33	13	3	23	9	2

2.1.3 Lottery mechanism for allocating access area trips for limited access vessels under specification Alternatives 1-4

This is not a stand -alone alternative. The Committee included a provision in this action, based on input from the Advisory Panel, to allocate trips randomly by lottery similar to how trips were allocated under FW22, but to restrict the number of trips per area to one trip. This provision would apply under any of the specifications alternatives and would prevent one vessel from getting more than one trip per area. Since the biomass varies per area, this method was viewed as the fairest way to allocated trips so that one vessel is not disadvantaged, or advantaged by getting two trips from one particular area. Vessels will still be permitted to trade trips and the lottery for the first year of the framework will be included in the framework submission document so that vessels have more time to plan their business for FY2013.

After the Council voted on Alternative 2 as the preferred alternative, NMFS developed the split trip list for full-time vessels. See Table 12. These proposed trip assignments are based on permit data from November 2012 and are dependent upon permit renewals for the 2013 fishing year. Should NMFS approve Framework 24, these allocation assignments will be updated prior to implementation to reflect any vessel replacements or ownership changes that may occur. Any adjustments to this information will be made publically available.

Table 12 – 2013 Scallop access area allocations for full-time vessels

Note: These proposed trip assignments are based on permit data from November 2012 and are dependent upon permit renewals for the 2013 fishing year. Should NMFS approve Framework 24, these allocation assignments will be updated prior to implementation to reflect any vessel replacements or ownership changes that may occur. Any adjustments to this information will be made publically available. *Denotes a permit currently in CPH

Permit	Vessel or CPH Name	Nantucket Lightship	Hudson Canyon	Closed Area 1	Closed Area 2	Sum	Owner	CAT	Address 1	Address 2	City	State	Zip	Telephone
149867	2005 WALKER BAY EXPLORER	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-5300
220886	SUSAN MARIE	0	1	0	1	2	SOUTH BAY SEAFOOD INC	5	4408 PARK BOULEVARD		WILDWOOD	NJ	08260	(609) 522-3400
250968	ALEXANDRA L	0	1	0	1	2	BLUE BILL FISHERIES INC	2	PO BOX 497		CAPE MAY	NJ	08204	(609) 884-3405
251687	BELLA ROSE	0	1	0	1	2	CHALLENGE FISHERIES INC	2	PO BOX 173	LEIGHTON ROAD	BASS HARBOR	ME	04653	(207) 266-1960
251729	NEGOTIATOR	0	1	1	0	2	T & T FISHERIES LLC	5	118 SPRINGERS MILL ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 463-0768
251730	SOVEREIGN STAR	1	1	0	0	2	SOVEREIGN STAR FISHING INC	5	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
310909	JENNA LEE	0	1	0	1	2	JENLEE FISHERIES INC	2	PO BOX 34		CENTERVILLE	MA	02632	(508) 790-3181
310912	INHERITANCE	0	1	1	0	2	MONTREAL FISHING CORP	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
310915	AMANDA ASHLEY	1	0	1	0	2	JULIE RENEE INC	5	552 ROWE ROAD		AURORA	NC	27806	(252) 670-1176
310918	KARINA	0	1	0	1	2	KARINA LLC	5	47 EAST BEAVER DRIVE		CAPE MAY COURT HOUSE	NJ	08210	(609) 374-3465
310927	JEFFREY SCOTT	1	0	1	0	2	TRAWLER JEFFREY SCOTT INC	2	353 PAGAN RIDGE		SMITHFIELD	VA	23430	(757) 870-9473
310928	COOL CHANGE	1	0	1	0	2	J T B K FISHING CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
310941	COVE	0	1	0	1	2	COVE FISHING CORP	2	20 BLACKMER STREET		NEW BEDFORD	MA	02744	(508) 789-3067
310945	GRAND LARSON III	0	1	0	1	2	GRAND LARSON INC	2	PO BOX 731	18 EAST 13TH ST	BARNEGAT LIGHT	NJ	08006	(609) 548-1625
310947	MS MANYA	0	1	1	0	2	CAPT JOHN INC	2	PO BOX 609	16 EAST 12TH ST	BARNEGAT LIGHT	NJ	08006	(609) 494-2094
310963	MISS TAYLOR	0	1	0	1	2	B DOCK SEAFOOD LLC	5	103 LEDDON STREET		MILLVILLE	NJ	08332	(252) 722-4333
310982	ANDY TWO	0	1	0	1	2	F/V ANDY ONE INC	7	3018 CALCUTT DRIVE		MIDLOTHIAN	VA	23113	(804) 379-5717
310985	KATHRYN MARIE	0	1	1	0	2	KATHRYN MARIE SCALLOPING COMPANY LLC	5	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
310986	MISS LESLIE	1	1	0	0	2	MASS FISHING CORP	5	1 CAPE STREET		NEW BEDFORD	MA	02740	(508) 993-9505
310992	STEPHANIE B II	0	1	0	1	2	BENAVIDEZ SEAFOOD INC	2	202 SCOTCH TOM WAY		GRAFTON	VA	23692	(757) 898-4307
310994	FURIOUS	0	1	1	0	2	EMPIRE SCALLOP LLC	5	322 NEW HAVEN AVENUE		MILFORD	CT	06460	(203) 876-8923
310998	HELEN LOUISE	0	1	1	0	2	HELEN LOUISE INC	7	552 ROWE ROAD		AURORA	NC	27806	(252) 670-1176
320026	F NELSON BLOUNT	0	1	1	0	2	F NELSON BLOUNT INC	2	PO BOX 609	16 EAST 12TH ST	BARNEGAT LIGHT	NJ	08006	(609) 494-2094
320130	OCEAN WAVE	0	1	1	0	2	OCEAN WAVE SCALLOP CO INC	5	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
320134	ELIZABETH	1	0	1	0	2	THIRTY FATHOM FISH CORP	2	PO BOX 772		BARNEGAT LIGHT	NJ	08006	(609) 494-2207
320306	MISS SUE ANN	1	0	1	0	2	F/V MISS SUE ANN LLC	5	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
320333*	CAPT BUCKY SMITH	0	1	0	1	2	CAPE MAY BAIT INC		PO BOX 497		CAPE MAY	NJ	08204	(609) 884-3405
320394	SHEARWATER	0	1	1	0	2	G L HATCH INC	5	6 TOWN CLERK ROAD		OWLS HEAD	ME	04854	(207) 596-0185
320416	ADRIANNA	0	1	0	1	2	F/V ADRIANNA LLC	7	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
320422	NORREEN MARIE	1	0	0	1	2	F/V NORREEN MARIE LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
320571	LINDSAY L	1	0	1	0	2	LINDSAY L INC	2	PO BOX 731	18 EAST 13TH ST	BARNEGAT LIGHT	NJ	08006	(609) 494-7392
320582	ASHLEY GAIL	0	1	0	1	2	ISLAND PRIDE SEAFOOD INC	5	5430 WHITE HALL ROAD		GLOUCESTER	VA	23061	(757) 880-1919
320634	WILLIAM LEE	0	1	1	0	2	CARKEZ FISHERIES INC	5	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 965-0525
320655	ATLANTIC WARRIOR	0	1	0	1	2	ATLANTIC WARRIOR INC	2	4408 PARK BOULEVARD		WILDWOOD	NJ	08260	(609) 522-3400
320657	TRAVIS & NATALIE	0	1	1	0	2	F/V TRAVIS & NATALIE LLC	5	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
320814	MASTER BRAXTON	0	1	0	1	2	TRAWLER MASTER BRAXTON INC	2	PO BOX 250	101 SOUTH AVENUE	ORIENTAL	NC	28571	(252) 249-0123
320857	GASTON BELL	0	1	0	1	2	CHESAPEAKE ATLANTIC SFD HRVST INC	7	PO BOX 250	4146 ORCHARD CREEK ROAD	ORIENTAL	NC	28571	(252) 249-0123
321022	ALEXANDRIA DAWN	0	1	0	1	2	ALEXANDRIA DAWN FISHERIES INC	5	PO BOX 825		MONTAUK	NY	11954	(631) 834-1878
321109	TENACIOUS	1	0	1	0	2	F/V MICHELLE INC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
321122	MISS SHAUNA	0	1	1	0	2	MISS SHAUNA LLC	2	1 CAPE STREET		NEW BEDFORD	MA	02740	(508) 993-9505
321131	PRIDE & JOY	0	1	0	1	2	T & S FISHERIES LLC	5	118 SPRINGERS MILL ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 463-0768

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321135	ANN M	0	1	1	0	2	ANN M FISHING CORP	5	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
330103	DISCOVERY	1	0	0	1	2	SECOND CHANCE FISHERIES LLC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
330126	PREDATOR	0	1	0	1	2	PREDATOR FISHERIES INC	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
330147	OCEAN CAT	0	1	0	1	2	NEW OCEAN LLC	2	74 MAIN STREET		FAIRHAVEN	MA	02719	(508) 996-3742
330166	GOLDEN NUGGETT	0	1	0	1	2	F/V GOLDEN NUGGETT INC	5	940 SHIRLEY AVENUE		CAPE MAY	NJ	08204	(609) 886-1558
330215	PEROLA DO CORVO	0	1	1	0	2	SASHA FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
330258	GODS MERCY	0	1	0	1	2	GOD'S MERCY LLC	2	97 KEEL ROAD		GRANTSBORO	NC	28529	(252) 745-7243
330269	OCEAN PROWLER	0	1	1	0	2	NEW OCEAN LLC	2	74 MAIN STREET		FAIRHAVEN	MA	02719	(508) 996-3742
330272	CHALLENGE	0	1	1	0	2	CHALLENGE FISHERIES LLC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
330285	RELENTLESS	0	1	0	1	2	OAJ INC	2	1436 HIGHWAY 539	WARREN GROVE	BARNEGAT	NJ	08005	(609) 607-0841
330288	JEAN MARIE	1	0	1	0	2	JEAN MARIE INC	5	354 BROAD CREEK LOOP ROAD		NEWPORT	NC	28570	(252) 726-8158
330292	LILLIE BELLE	0	1	0	1	2	TRAWLER CAPT FUD LLC	5	PO BOX 3321		NEW BERN	NC	28564	(252) 514-7003
330301	EXPECTATION	1	0	1	0	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
330308	BARBARA PAULINE	1	0	0	1	2	BARBARA PAULINE INC	5	120 KEYPORT ROAD		NORTH CAPE MAY	NJ	08204	(609) 886-6729
330311	STACY LEE	1	0	1	0	2	STACY LEE LLC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330325	OCEAN BOY	0	1	0	1	2	OCEAN BOY INC	5	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330331	CAPT BOB	0	1	0	1	2	EDGAR SEAFOOD PRODUCTS INC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
330336	MISS AMANDA	1	0	1	0	2	MISS AMANDA INC	5	354 CREEK LOOP ROAD		NEWPORT	NC	28570	(252) 726-8158
330348	OCEAN PURSUIT	0	1	1	0	2	NEW OCEAN LLC	2	74 MAIN STREET		FAIRHAVEN	MA	02719	(508) 996-3742
330361	LITTLE JESSE	1	0	0	1	2	RDM CORPORATION OF SUFFOLK	2	PO BOX 5415	2909 AMES COVE ROAD	SUFFOLK	VA	23435	(757) 869-9386
330368	VIRGINIA CLIPPER	0	1	0	1	2	B & C TRAWL INC	2	PO BOX 726		NEWPORT NEWS	VA	23607	(757) 869-4313
330378	CAPT PEABODY	0	1	0	1	2	WILLIAM F PEABODY	2	PO BOX 553		NEWPORT NEWS	VA	23607	(757) 245-3022
330380	ABRACADABRA	1	0	0	1	2	TRAWLER ABRACADABRA INC	5	688A TOWNBANK ROAD		NORTH CAPE MAY	NJ	08204	(609) 886-2575
330394	WILLIAM & LAUREN	0	1	0	1	2	F/V WILLIAM & LAUREN INC	2	PO BOX 866	5 WEST 8TH ST	BARNEGAT LIGHT	NJ	08006	(609) 494-0367
330396	MOTIVATION	0	1	1	0	2	F/V MOTIVATION LLC	2	118 SPRINGERS MILL ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 425-8983
330399	LADY ROSLYN	1	0	0	1	2	F/V LADY ROSLYN LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
330434	INSTIGATOR	1	0	0	1	2	CDK TRAWLERS INC	5	7312 PACIFIC AVENUE		WILDWOOD CREST	NJ	08260	(609) 522-1598
330449	CAROLINA CAPES	1	0	0	1	2	LAS GUERAS INC	2	1636 JANKE ROAD		VIRGINIA BEACH	VA	23455	(757) 460-2716
330461	VIRGINIA LYNN	1	0	1	0	2	VIRGINIA LYNN COMMERICAL FISHING INC	2	536 SHARK LANE		MANAHAWKIN	NJ	08050	(609) 335-4828
330476	MIZ JUANITA B	0	1	1	0	2	CAPTAIN MARSHALL INC	2	PO BOX 210		SEAFORD	VA	23696	(757) 898-8512
330489	RAELEEN MICHELLE	0	1	1	0	2	WHITE FISHERIES INC	5	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
330491	EILEEN RITA	1	0	0	1	2	BILL AND EILEEN LLC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
330504	LINDA	0	1	0	1	2	BOAT SANTA RITA II INC	5	1 MORETTO DRIVE		PEABODY	MA	01960	(617) 650-5436
330521	JERSEY CAPE	1	0	1	0	2	CAPE TRAWLERS INC	2	997 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-7600
330535	SUSAN MARIE II	0	1	0	1	2	F/V SUSAN MARIE INC	2	4408 PARK BOULEVARD		WILDWOOD	NJ	08260	(609) 522-3400
330543	MISS WILMA ILENE	0	1	0	1	2	TRAWLER WILLIAM F PEABODY INC	2	PO BOX 553		NEWPORT NEWS	VA	23607	(757) 245-3022
330550	MISS MADDY	1	0	0	1	2	MADDY INC	2	PO BOX 731	18 EAST 13TH ST	BARNEGAT LIGHT	NJ	08006	(609) 494-7392
330566	HAWK	0	1	0	1	2	HAWK SCALLOP CO INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330578	MISS VERTIE MAE	1	0	0	1	2	TRAWLER MISS VERTIE MAE INC	2	PO BOX 553		NEWPORT NEWS	VA	23607	(757) 245-3022
330581	FAIR WIND	0	1	0	1	2	BOAT VENTURE INC	5	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
330586	WARRIOR	0	1	0	1	2	WARRIOR FISHING CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
330597	BEACHCOMBER	1	0	1	0	2	BEACHCOMBER INC	5	PO BOX 6426		NEWPORT NEWS	VA	23606	(800) 561-4168
330620	CAPTAIN LYMAN	1	0	0	1	2	WWJT INC	5	PO BOX 6426		NEWPORT NEWS	VA	23606	(321) 223-7200
330622	OCEAN PRINCESS	0	1	0	1	2	OCEAN PRINCESS INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330626	CAPT JEFF	1	0	1	0	2	BHG SCALLOP LLC	5	353 PAGAN RIDGE		SMITHFIELD	VA	23430	(757) 870-9473
330629	OCEAN LADY	0	1	1	0	2	OCEAN FISHING LLC	2	20 BLACKMER STREET		NEW BEDFORD	MA	02744	(252) 636-3861
330636	NAVIGATOR	0	1	1	0	2	CAROLINA GIRL III INC	2	PO BOX 600		SEAFORD	VA	23696	(757) 898-8512
330654	IAN NIGEL	0	1	0	1	2	IAN NIGEL INC	2	PO BOX 6426		NEWPORT NEWS	VA	23606	(321) 223-7200
330663	CRYSTAL & REBECCA	0	1	1	0	2	TRAWLER CRYSTAL & REBECCA INC	2	PO BOX 553		NEWPORT NEWS	VA	23607	(757) 245-3022

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330668	CHIEF	0	1	0	1	2	CHIEFTAIN SCALLOP COMPANY	2	14 CANFIELD ROAD		ESSEX	CT	06426	(860) 767-2441
330683	CHRISTIAN & ALEXA	0	1	1	0	2	TRAWLER DIANNE & MAUREEN INC	2	98 INLET TERRACE		BELMAR	NJ	07719	(732) 681-4006
330687	SASSY GIRL	1	0	1	0	2	FULCHER ENTERPRISES INC	5	PO BOX 3321	1101 HIGHWAY 70 EAST	NEW BERN	NC	28564	(252) 514-7003
330690	STONINGTON JO	0	1	0	1	2	STONINGTON FISH & LOBSTER INC	2	PO BOX 289		STONINGTON	CT	06378	(860) 535-0882
330703	COURAGEOUS	0	1	0	1	2	COURAGEOUS FISHING CORPORATION	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
330720	KRIS & AMY	1	0	0	1	2	KRIS & AMY FISHING INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
330729	FISHERMANS DREAM	1	0	0	1	2	H & T COMMERCIAL FISHING CO	5	268 INDIAN TRAIL ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 465-9919
330742	OCEAN PRIDE	0	1	1	0	2	OCEAN PRIDE INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330749	MY GIRL	0	1	0	1	2	MY GIRL INC	7	268 INDIAN TRAIL ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 465-9919
330778	ATLANTIC BOUNTY	0	1	0	1	2	F/V ATLANTIC BOUNTY LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
330780	OCEAN GOLD	1	0	0	1	2	OCEAN GOLD INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330781	FREEDOM	0	1	0	1	2	NEW FREEDOM FISHING CORP	2	20 BLACKMER STREET		NEW BEDFORD	MA	02744	(508) 996-3742
330783	SEA QUEST	0	1	0	1	2	SEA QUEST INC	2	PO BOX 497		CAPE MAY	NJ	08204	(609) 884-3405
330784	U-BOYS	0	1	0	1	2	U-BOYS LLC	2	48 WATER STREET		HAMPTON	VA	23663	(757) 728-0600
330786	SASSY SARAH	0	1	0	1	2	HIWALL INC	5	48 WATER STREET		HAMPTON	VA	23663	(757) 728-0600
330788	MIZ ALMA B	1	0	0	1	2	TEJANO CORP	2	PO BOX 210		SEAFORD	VA	23696	(757) 898-8512
330791	GABRIELLE PAIGE	0	1	1	0	2	B&C FISHERIES LLC	5	PO BOX 43		HUDGINS	VA	23076	(804) 725-6510
330793	CAPTAIN BILLY HAVER	0	1	0	1	2	CAPTAIN JUAN INC	2	1636 JANKE ROAD		VIRGINIA BEACH	VA	23455	(757) 460-2716
330796	HEAR NO EVIL	1	0	0	1	2	HEAR NO EVIL FISHING CORP	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
330798	PACER	1	0	0	1	2	OCEAN FISHING LLC	2	20 BLACKMER STREET		NEW BEDFORD	MA	02744	(508) 996-3742
330799	DEFIANT	1	0	0	1	2	FLAVIAN FISHING CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
330800	CHIEF & CLYDE	1	0	0	1	2	CHIEF SCALLOPING CORPORATION	5	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
330803	OCEAN FOX	0	1	1	0	2	NEW OCEAN LLC	2	74 MAIN STREET		FAIRHAVEN	MA	02719	(508) 996-3742
330806	SUZEE Q	1	0	1	0	2	SUZEE Q LLC	2	74 CARRIAGE HILL DRIVE		POQUOSON	VA	23662	(757) 868-7405
330807	DICTATOR	0	1	0	1	2	DICTATOR INC	2	PO BOX 1206		SOUTHWEST HARBOR	ME	04679	(207) 244-5328
330809	CHRISTOPHERS JOY	0	1	1	0	2	CHRISTOPHERS JOY INC	2	1835 WELFORD ROAD		JACKSONVILE	FL	32207	(904) 254-5863
330811	VANTAGE	1	0	0	1	2	NELSON FISHING INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 479-0729
330816	LADY EVELYN	0	1	0	1	2	F/V LADY EVELYN LLC	7	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
330817	CHAZS TOY	0	1	1	0	2	DIAMOND SHOAL SEAFOOD INC	2	PO BOX 610	4146 ORCHARD CREEK ROAD	ORIENTAL	NC	28571	(252) 249-0123
330818	ADVENTURESS	1	0	0	1	2	F/V ADVENTURESS LLC	5	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
330829	JANE CAROLYN	0	1	0	1	2	TRAWLER CAPT ALFRED INC	5	P O BOX 100		HOBUCKEN	NC	28537	(252) 745-5331
330832	CRYSTAL GIRL B	0	1	1	0	2	CRYSTAL GIRL INC	5	268 INDIAN TRAIL ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 465-9919
330834	DANIEL JOSEPH	0	1	1	0	2	TRAWLER GARLAND CHRISTOPHER INC	2	PO BOX 250	101 SOUTH AVENUE	ORIENTAL	NC	28571	(252) 249-0123
330910	CAMERON SCOTT	1	0	1	0	2	VENTURE FISHING LLC	2	353 PAGAN RIDGE		NEWPORT NEWS	VA	23430	(757) 870-9473
330848	FISHERMANS DREAM B	0	1	0	1	2	FISHERMANS DREAM COMM FISHING INC	7	268 INDIAN TRAIL ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 465-9919
330852	GASTONS LEGACY	0	1	0	1	2	FULCHER TRAWLING LLC	2	PO BOX 3321		NEW BERN	NC	28564	(252) 637-1552
330860	ASHTON MATTHEW	1	0	1	0	2	TRAWLER RICHARD HEATH INC	7	PO BOX 3321	1101 HIGHWAY 70 EAST	NEW BERN	NC	28564	(252) 514-7003
330865	JOHN & NICHOLAS	0	1	0	1	2	JOHN & NICHOLAS INC	7	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330870	TONY TWO	1	0	1	0	2	TONY ONE INC	2	102 CLUB ROAD		SUFFOLK	VA	23435	(757) 593-3463
330871	THE CHIEF	0	1	1	0	2	CC SCALLOPING INC	5	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
330875	CAPT KENNY	0	1	0	1	2	B & C SCALLOP COMPANY INC	5	PO BOX 841		MATHEWS	VA	23109	(804) 725-3794
330877	MIZ-B	1	0	0	1	2	BENAVIDEZ AND SONS INC	2	PO BOX 210		SEAFORD	VA	23696	(757) 898-8512

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330884	LUCKY DANNY II	0	1	0	1	2	LUCKY DANNY INC	7	3018 CALCUTT DRIVE		MIDLOTHIAN	VA	23113	(804) 379-5717
330885	KARAH D	0	1	0	1	2	KARAH D INC	2	921 AIR STRIP ROAD		BAYBORO	NC	28515	(252) 745-4956
330886	MEKONG	0	1	0	1	2	RUBY S LLC	2	333 JUDGES LANE		NORTH PLAINFIELD	NJ	07063	(908) 727-5555
330891	MISS CROCKETT	0	1	0	1	2	CHINCOTEAGUE BAY SEAFOOD INC	2	5430 WHITE HALL ROAD		GLOUCESTER	VA	23061	(757) 247-9000
330893	KAREN NICOLE	0	1	0	1	2	KAREN NICOLE INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330895	PURSUIT	1	1	0	0	2	VIRGINIA VENTURE CORP	2	PO BOX 600		SEAFORD	VA	23696	(757) 898-8512
330896	MIRAGE	0	1	1	0	2	MIRAGE FISHING LLC	5	1 CAPE STREET		NEW BEDFORD	MA	02740	(508) 993-9505
330898	MASTER JAMES	1	0	1	0	2	F/V MASTER JAMES INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330899	CAPT POTTER	0	1	1	0	2	SIDDIE GOLDEN INC	5	P O BOX 100		HOBUCKEN	NC	28537	(252) 745-5331
330900	LADY DEBORAH	0	1	0	1	2	F/V LADY DEBORAH LLC	2	PO BOX 250	101 SOUTH AVENUE	ORIENTAL	NC	28571	(252) 249-0123
330902	RESILIENT	0	1	0	1	2	ONEONTA FISHERIES INC	5	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
330903	DISCOVERY II	1	0	0	1	2	DISCOVERY SEAFOOD INC	2	154 LEMON ROAD		FARMINGDALE	NJ	07727	(732) 267-2741
330906	OCEAN PROWLER	1	0	1	0	2	OCEAN PROWLER INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330907	ANDREA A	1	1	0	0	2	ANDREA A LLC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
330908	GROWLER	1	0	1	0	2	COVE FISHING CORP	2	74 MAIN STREET		FAIRHAVEN	MA	02719	(508) 996-3742
410019	MICHIGAN	0	1	1	0	2	TAURUS FISHING CORP	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410045	CHRISTINE & JULIE	0	1	0	1	2	GALLANT FISHERIES INC	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410068	PATIENCE	1	1	0	0	2	PATIENCE FISHERIES LLC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410074	DONNY C	0	1	1	0	2	EXPEDITION FISHING CO INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410080	HARVESTER	0	1	1	0	2	HARVESTER FISHERIES LLC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410095	NASHIRA	1	0	1	0	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410103	ELISE G	0	1	1	0	2	ELISE G LLC	5	997 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-7600
410127	INDEPENDENCE	0	1	0	1	2	T & R FISHING INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410129	CHRISMAR	1	0	0	1	2	CHRISMAR INC	2	549 FOREST ROAD		CHESAPEAKE	VA	23322	(757) 482-3238
410134	LET IT RIDE	0	1	0	1	2	LET IT RIDE FISHING CORP	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410145	KATHY ANN	1	0	0	1	2	KATHRYN ANN FISHING INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410146	CELTIC	0	1	0	1	2	CELTIC FISHERIES LLC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410147	BARBARA ANNE	1	0	0	1	2	F/V BARBARA ANNE LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
410150	TINA LYNN	0	1	1	0	2	HILL ENTERPRISES INC OF NJ	2	627 BREAKWATER ROAD		CAPE MAY	NJ	08204	(609) 884-7262
410151	ABIGAIL & MYLES	0	1	0	1	2	TRAWLER CRYSTAL & REBECCA INC	2	PO BOX 553		NEWPORT NEWS	VA	23607	(757) 245-3022
410153	FRANK & MARIA	1	0	0	1	2	TRAWLER DIANE MARIE INC	2	48 WATER STREET		HAMPTON	VA	23663	(757) 728-0600
410154	PONTOS	0	1	1	0	2	F/V PONTOS LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
410156	SANTA BARBARA	1	0	0	1	2	CHRISTINA & SANDRA FISH CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410157	JANE ELIZABETH	0	1	0	1	2	JOHN AND JANE LLC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410161	RESOLUTE	0	1	0	1	2	TYLER FISHING LLC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410167	PATRIOTS	1	0	0	1	2	PATRIOTS CORP	2	7 CONWAY STREET		NEW BEDFORD	MA	02740	(508) 999-5607
410169	VIRGINIA WAVE	0	1	0	1	2	VIRGINIA WAVE INC	2	5430 WHITE HALL ROAD		GLOUCESTER	VA	23061	(757) 880-1919
410173	AMY MARIE	0	1	0	1	2	CAPE CLAM INC	2	997 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-7600
410174	EDGARTOWN	0	1	1	0	2	NORDIC INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410175	LUZITANO	1	1	0	0	2	THE HOPE II INC	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410176	VIRGINIA DARE	0	1	1	0	2	HARBOR SEAFOOD	2	PO BOX 726		NEWPORT NEWS	VA	23607	(757) 869-4314
410178	SEA RANGER	0	1	1	0	2	BRONCO FISHERIES INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410179	FRANCIS M LEE SR	0	1	0	1	2	SEA PRODUCTS INC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
410182	VIRGINIA REEL	1	0	1	0	2	GABRIELLE PAIGE CORPORATION	2	PO BOX 825		MONTAUK	NY	11954	(516) 429-4735
410184	PAUL & MICHELLE	1	0	1	0	2	FAIRHAVEN FISHING CORP	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410185	JULIE G	1	0	0	1	2	W W FISHERIES LIMITED	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410187	FORTUNE HUNTER	1	0	1	0	2	MISTY SEAS INC	2	PO BOX 518	RUTH DRIVE	AURORA	NC	27806	(252) 322-5695
410192	ARAHO	1	0	1	0	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410193	DEFIANT	0	1	0	1	2	CAROLINA DREAM INC	2	PO BOX 600		SEAFORD	VA	23696	(757) 898-8512
410195	KATHY ROSE	0	1	1	0	2	MARGARET N ROSE	2	PO BOX 86	131 WINDMILL POINT DRIVE	VANDEMERE	NC	28587	(252) 745-5338

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410200	CHIEF & CLYDE II	0	1	0	1	2	WARRIOR SCALLOPING CORPORATION	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 992-9524
410202	JANICE LYNELL	0	1	0	1	2	TRAWLER YVONNE MICHELLE INC	2	PO BOX 553		NEWPORT NEWS	VA	23607	(757) 245-3022
410205	FOREMOST	0	1	0	1	2	F/V FOREMOST INC	5	51 SIEGTOWN ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 463-8843
410210	TROPICO	0	1	0	1	2	TROPICO FISHING INC	2	655 PINE HILL ROAD		WESTPORT	MA	02790	(508) 636-5971
410211	STARDUST	0	1	0	1	2	S J FISHERIES INC	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410213	CAPT MALC	0	1	1	0	2	COMPANION OF WANCHESE INC	2	48 WATER STREET		HAMPTON	VA	23663	(757) 728-0600
410214	AMBASSADOR	0	1	0	1	2	TONNESSEN FISHERIES INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(617) 996-0313
410215	HUNTRESS	0	1	0	1	2	ISAKSEN FISHING CORPORATION	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(617) 996-0313
410219	YVONNE MICHELLE	1	0	0	1	2	TRAWLER YVONNE MICHELLE INC	2	PO BOX 553		NEWPORT NEWS	VA	23607	(757) 245-3022
410221	JUSTICE	0	1	1	0	2	NORDIC INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 997-5331
410226	ZEUS	1	0	1	0	2	STEPHANIE FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410228	VIRGINIA QUEEN	0	1	0	1	2	GLOUCESTER SEAFOOD OF VA INC	2	5430 WHITE HALL ROAD		GLOUCESTER	VA	23061	(757) 880-1919
410229	AVENGER	0	1	0	1	2	AVENGER FISHING LLC	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410232	SUSAN L	0	1	0	1	2	FIVE FATHOMS INC	2	PO BOX 497		CAPE MAY	NJ	08204	(609) 884-3405
410235	ELIZABETH & NIKI	0	1	0	1	2	ELIZABETH & NIKI FISHING CORP	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410236	VILA DO CONDE	0	1	1	0	2	VILA DO CONDE INC	2	19 ROSSI DRIVE		CAPE MAY	NJ	08204	(609) 884-7828
410238	STEPHANIE VAUGHN	0	1	0	1	2	C & I FISHING CORP	5	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410239*	LEADER	0	1	0	1	2	FLAVIAN FISHING CORP		114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(774) 526-1940
410247	FRONTIER	1	0	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410248	MAELSTROM	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410249	WESTPORT	0	1	1	0	2	E & J SCALLOP CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410251	AMBER NICOLE	0	1	0	1	2	AMBER NICOLE INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
410253	SETTLER	1	0	1	0	2	FRONTIER FISHING CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 758-4236
410255	MISS MAUDE	1	0	0	1	2	FAITH EVELYN INC	2	48 WATER STREET		HAMPTON	VA	23663	(757) 728-0600
410261	LEGACY	1	1	0	0	2	ADMIRAL INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 758-3427
410267	MADISON KATE	0	1	0	1	2	SEA VENTURES LLC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410268	GENERATION	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410269	FRIENDSHIP	1	0	0	1	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410270	MARGARET ROSE	1	0	1	0	2	POOR BOY LLC	2	659 CRAWFORD ROAD		CAPE MAY	NJ	08204	(609) 884-9068
410275	APOLLO	0	1	1	0	2	APOLLO FISHING LLC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410279	NADIA LEE	1	1	0	0	2	ATLANTIC SHELLFISH INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
410280	AMBITION	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410281	OCEAN LEADER	0	1	1	0	2	NEW OCEAN LLC	2	74 MAIN STREET		FAIRHAVEN	MA	02719	(508) 996-3742
410282	KAYLA ROSE	1	0	1	0	2	AJ SCALLOPING INC	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410284	MARY ANNE	0	1	0	1	2	BOAT MARY ANNE INC	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410285	SILVER SEA	1	0	0	1	2	F/V SILVER SEA LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
410288	HERITAGE	0	1	0	1	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410289	JERSEY GIRL	1	0	1	0	2	F/V JERSEY GIRL LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
410290	RELENTLESS	0	1	0	1	2	CAROLINA CLIPPER INC	2	PO BOX 600		SEAFORD	VA	23696	(757) 898-8512
410291	LITTLE SAMMIE	1	0	0	1	2	SAMMIE EUGENE WILLIAMS	5	200 MAIN STREET		SWANQUARTER	NC	27885	(252) 926-1851
410293	FEARLESS	0	1	0	1	2	S & F FISHING INC	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410300	LINDA	1	0	0	1	2	L V FISHING INC	2	20 BLACKMER STREET		NEW BEDFORD	MA	02744	(508) 996-3742
410309	BOUNTIFUL II	0	1	1	0	2	ISAKSEN FISHING CORPORATION	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410315	DIVINE MERCY	0	1	0	1	2	DIVINE MERCY LLC	2	97 KEEL ROAD		GRANTSBORO	NC	28529	(252) 745-7243
410323	ENDURANCE	0	1	1	0	2	SAI FISHERIES INC	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 993-0235
410326	KAREN ELIZABETH	1	0	1	0	2	SALT POND FISHERIES INC	2	81 POINT AVENUE		WAKEFIELD	RI	02879	(401) 741-1831
410337	MISS STEVIE B	1	0	0	1	2	MISS STEVIE B CORP	2	202 SCOTCH TOM WAY		GRAFTON	VA	23692	(757) 898-8512
410338	THOR	1	0	0	1	2	THOR FISHING CORPORATION	2	74 GREEN STREET		FAIRHAVEN	MA	02719	(508) 993-5342
410341	FREEDOM	0	1	1	0	2	HAAKONSEN LLC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410343	EILEEN MARIE	1	0	0	1	2	EILEEN MARIE FISHING INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334

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410346	CORSAIR	0	1	0	1	2	CORSAIR FISHING INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 509-8100
410347	JANICE JULIE	0	1	0	1	2	W G FISHERIES INC	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410353	OCEAN HUNTER	0	1	0	1	2	NEW OCEAN LLC	2	74 MAIN STREET		FAIRHAVEN	MA	02719	(508) 996-3742
410357	JOAN MARGUERITE	0	1	0	1	2	C & S FISHERIES INC	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(774) 836-5803
410363	LADY OF FATIMA	1	0	1	0	2	CAPT SANTOS FISHING CORPORATION	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410364	ITALIAN PRINCESS	0	1	1	0	2	ITALIAN PRINCESS INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
410366	ACT IV	1	0	1	0	2	NORPORT INC	2	305 DELANO ROAD		MARION	MA	02738	(508) 748-2827
410371	NANCY ELIZABETH	0	1	0	1	2	NANCY ELIZABETH LLC	2	997 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-7600
410384	THUNDER BAY	0	1	1	0	2	F/V ADRIANNA LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
410386	INCENTIVE	0	1	1	0	2	INCENTIVE FISHERIES LLC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410390	MONOMOY	0	1	0	1	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410392	MAJESTIC	0	1	0	1	2	MAJESTIC FISHING LLC	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410393	NORTH QUEEN	1	0	1	0	2	NORTH QUEEN FISHING INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410394	CONTENDER	0	1	0	1	2	MICHIGAN FISHING CORP	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410413	LIBERTY	0	1	0	1	2	NORDIC INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410414	DETERMINATION	0	1	1	0	2	F/V DETERMINATION INC	2	607 SEASHORE ROAD		CAPE MAY	NJ	08204	(609) 884-1771
410415	HUNTER	0	1	0	1	2	HUNTER SCALLOPING COMPANY LLC	5	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410416	NORDIC PRIDE	1	0	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410417	ATLANTIC	1	0	1	0	2	KAVANAGH FISHERIES INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410418	CANYON EXPRESS	1	0	1	0	2	COVE FISHING CORP	5	20 BLACKMER STREET		NEW BEDFORD	MA	02744	(508) 996-3742
410419	BRITTANY ERYN	0	1	0	1	2	BLUE SEAS VENTURES LLC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410420	DILIGENCE	1	0	1	0	2	DILIGENCE INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410422	TRADITION	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410423	CAROLINA QUEEN III	1	0	0	1	2	CAROLINA QUEEN II INC	2	PO BOX 600		SEAFORD	VA	23696	(757) 898-8512
410430	SANDRA JANE	0	1	0	1	2	J & M FISHING INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410432	ENDEAVOR	0	1	0	1	2	HANSEN SCALLOPING INC	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410441	CAROLINA BOY	1	0	0	1	2	CAROLINA BOY INC	2	PO BOX 600		SEAFORD	VA	23696	(757) 898-8512
410444	TYLER N NOAH	0	1	0	1	2	VILA NOVA FISHING INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410451	VILA NOVA DO CORVO II	0	1	1	0	2	VILA NOVA DO CORVO II INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410455	PATTY JO	0	1	0	1	2	STONINGTON FISH & LOBSTER INC	2	PO BOX 289		STONINGTON	CT	06378	(860) 535-0882
410456	PAMELA ANN	0	1	0	1	2	STAR LLC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410459	SANTA MARIA	1	0	0	1	2	SANTA MARIA FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 997-2197
410463	BETH ANNE	1	0	1	0	2	BETH ANNE FISHING INC	5	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410469	ANTICIPATION	1	1	0	0	2	F/V ANTICIPATION LLC	2	985 OCEAN DRIVE		CAPE MAY	NJ	08204	(609) 884-3000
410476	ITALIAN PRINCESS	1	0	1	0	2	ITALIAN PRINCESS INC	2	PO BOX 600		SEAFORD	VA	23696	(757) 898-8512
410489	VENTURE	1	0	1	0	2	NORDIC INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410493	SANTA ISABEL	0	1	1	0	2	SANTA ISABEL FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 997-2197
410494	DECISIVE	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410496	KATHY MARIE	0	1	0	1	2	ARNIES FISHERIES INC	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410499	KATHY & JACKIE	1	0	1	0	2	KATHY & JACKIE FISHING CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410505	KATHY ANN	1	0	1	0	2	KATHY ANN CORPORATION	2	PO BOX 772		BARNEGAT LIGHT	NJ	08006	(609) 548-5020
410507	GUIDANCE	0	1	0	1	2	GUIDANCE FISHING CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410508	LAUREN & MATTHEW	1	0	1	0	2	TRAWLER MISS VERTIE MAE INC	2	PO BOX 553		NEWPORT NEWS	VA	23607	(757) 245-3022
410514	YANKEE PRIDE	0	1	0	1	2	YANKEE PRIDE FISHERIES INC	2	81 POINT AVENUE		WAKEFIELD	RI	02879	(401) 741-1831
410519	ACORES	1	1	0	0	2	IVONILDE FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410541	DIANE MARIE	1	0	0	1	2	DIANE MARIE FISHERY INC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 509-8100
410547	REGULUS	1	1	0	0	2	EMPIRE FISHERIES LLC	2	322 NEW HAVEN AVENUE		MILFORD	CT	06460	(203) 876-8923
410550	FJORD	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410551	RANGER	0	1	1	0	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730

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410552	RAIDERS	1	0	0	1	2	PATRIOTS CORPORATION	2	7 CONWAY STREET		NEW BEDFORD	MA	02740	(508) 999-5607
410553	RESOLUTION	0	1	1	0	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410554	K A T E	1	0	1	0	2	COMPASS FISHING CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410556	QUEEN OF PEACE	1	0	1	0	2	SANTOS FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410558	WEATHERLY	0	1	0	1	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410561	K A T E II	0	1	0	1	2	COMPASS FISHING CORP	2	113 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 996-0525
410564	ILHA BRAVA	1	1	0	0	2	C & C FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410571	REDEMPTION	0	1	0	1	2	F/V REDEMPTION LLC	2	118 SPRINGER MILL ROAD		CAPE MAY COURT HOUSE	NJ	08210	(609) 425-8983
410572	NESKONE	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410575	INSPIRATION	1	0	1	0	2	AARSHEIM FISHING CORP	2	305 DELANO ROAD		MARION	MA	02738	(508) 748-2827
410578	MISS GEORGIE	1	0	0	1	2	MISS GEORGIE INC	7	552 ROWE ROAD		AURORA	NC	27806	(252) 670-1176
410579	CAPT GASTON	0	1	0	1	2	LEGACY TRAWLING INC	2	PO BOX 3321		NEW BERN	NC	28564	(252) 637-1552
410586	SHARON K	0	1	1	0	2	KENPAC FISHING CORP	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410590	VILA NOVA DO CORVO I	1	0	0	1	2	VILA FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410592	ELIZABETH AMBER	1	0	1	0	2	ACM SCALLOP CORPORATION	2	353 PAGAN RIDGE		SMITHFILED	VA	23430	(757) 870-9473
410593	GOOD NEWS II	0	1	1	0	2	DELORES OF WANCHESE INC	2	48 WATER STREET		HAMPTON	VA	23663	(757) 728-0600
410595	POLARIS	0	1	1	0	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410596	ZIBET	0	1	0	1	2	ZIBET INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0331
410597	GEORGES BANKS	0	1	0	1	2	G & J FISHERIES INC	2	114 MACARTHUR DRIVE		NEW BEDFORD	MA	02740	(508) 994-4264
410598	CRYSTAL AND KATIE	0	1	0	1	2	KATIE & CRYSTAL LLC	2	74 CARRIAGE HILL DRIVE		POQUOSON	VA	23662	(804) 868-7405
410599	WISDOM	0	1	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-5300
410600	ALASKA	1	0	0	1	2	INVINCIBLE FISHING CORPORATION	2	20 BLACKMER STREET		NEW BEDFORD	MA	02744	(508) 996-3742
410601	HORIZON	0	1	1	0	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410603	ARCTURUS	1	0	1	0	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410604	ATHENA	0	1	0	1	2	ATHENA FISHING CORP	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410607	VANQUISH	0	1	0	1	2	NELSON FISHING INC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 479-0729
410608	VAUD J	1	1	0	0	2	VAUD J INC	2	PO BOX 497		CAPE MAY	NJ	08204	(609) 884-3405
410610	CONCORDIA	0	1	0	1	2	KVILHAUG LLC	2	2 MIDDLE STREET		FAIRHAVEN	MA	02719	(508) 996-0313
410612	HERA II	0	1	1	0	2	S & S FISHING LLC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410613	GYPSY GIRL	1	0	0	1	2	ORION VENTURE LLC	2	84 FRONT STREET		NEW BEDFORD	MA	02740	(508) 992-3334
410614	ROST	1	0	0	1	2	NORDIC FISHERIES INC	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730
410615	PYXIS	0	1	1	0	2	OHARA CORPORATION	2	14 HERVEY TICHON AVENUE		NEW BEDFORD	MA	02740	(508) 993-6730

2.1.4 Specifications for limited access general category (LAGC) IFQ vessels

Specifications for the LAGC fishery include an overall IFQ allocation for vessels with LAGC IFQ permits, a hard TAC for vessels with a LAGC NGOM permit, and a target TAC for vessels with a LAGC incidental catch permit (40 pound permit).

2.1.4.1 No Action specifications for LAGC IFQ vessels

Under No Action, the allocations for the LAGC vessels are described Table 13. The TAC for IFQ-only vessels would be about 3.2 million pounds and the TAC for full-time, part-time, and occasional vessels with LAGC IFQ permits would be about 300,000 pounds. LAGC IFQ vessels would be allocated 893 trips in HC, 298 in Delmarva and 595 in Nantucket Lightship. These would be the annual fleetwide allocations for general category vessels until they are replaced by a subsequent action. If no action is taken, these allocations would also be set for FY 2014.

Table 13 – Summary of LAGC IFQ allocations under the default 2013 measures adopted in Framework 22

2013	LAGC ACL	%
Total	3,373,697	5.5%
	LAGC TAC in AA	**GC AA trips****
HC	535,794	893
DMV	178,598	298
CAI	N/A	N/A
CAII	0	0
NLS	357,196	595
Total AA	1,071,589	1,786

****Allocated as a fleetwide number of trips based on 600 pound trips**

2.1.4.2 FW24 specification alternatives for LAGC vessels (Preferred Alternative)

The total sub-ACL for the LAGC fishery is the same regardless of the allocation scenario selected (Alternative 1-4). The LAGC IFQ fishery is allocated 5.5% of the total ACL for the fishery. A portion of LAGC IFQ is reserved for LA vessels with LAGC IFQ permits (0.5%) and the remaining catch is available for vessels with LAGC IFQ permits (Table 14). For FY2013 the total LAGC IFQ is equivalent to about 2.4 million pounds. The default 2014 IFQ allocation is about 2.8 million pounds.

Table 14 – Summary of LAGC IFQ allocations under consideration in FW24 (same for all allocation scenarios)

LAGC Allocations	2013	2014 (default)
IFQ-only (5% of ACL)= sub-ACL = ACT	2,227,142 (1010 mt)	2,520,026 (1,144 mt)
IFQ + LA (0.5% of ACL)=sub-ACL=ACT	222,714 (101 mt)	252,103 (114 mt)

This action is considering two options for allocating fleetwide trips to the LAGC IFQ fishery. No Action is to allocate 5.5% of the total 2013 access area TAC for every area open in a particular year. And a second option would be to take the 5.5% from CA2 and prorate those trips proportionally among the remaining areas open in a particular year. As with the limited access scallop fleet, no access area trips would be allocated for the 2014 default LAGC IFQ measures. If final specifications are not in place before the start of the 2014 fishing year vessels with LAGC IFQ would be permitted to fish their 2014 default quota allocations from open areas only. Once a subsequent action is implemented to set final 2014 measures, LAGC IFQ vessels would be permitted to fish their quota from access areas with available LAGC trips.

2.1.4.2.1 Option 1 - Allocate 5.5% of each access area TAC to the LAGC IFQ fishery

This alternative would allocate 5.5% of the access area TAC per area to the LAGC fishery in the form of fleetwide trips. Vessels would still be restricted to the possession limit of 600 pounds. Once the fleetwide max is projected to be fished, NMFS would close that access area to LAGC IFQ vessels for the remainder of the 2013 fishing year. See Table 15 for a summary of the trips that would be available to the LAGC fishery.

2.1.4.2.2 Option 2 - Allocate 5.5% of the total access area TAC available and prorate LAGC IFQ trips proportionally in all areas open that year excluding CA2 (Preferred Alternative)

This alternative would allocate 5.5% of the 2013 access area TAC per area to the LAGC fishery in the form of fleetwide trips. However, the trips available from CA2 would be shifted to other access areas closer to shore. All CA2 trips would be divided equally among the other areas open that year. For example, under Alternative 2 the LAGC fishery would be allocated 217 trips in CA2 in 2013. Under this alternative those trips would be shifted to Husdon Canyon, CA1, and NL proportionally, adding about 72 additional trips per area. This alternative would provide 5.5% of total access area effort to the LAGC fishery, regardless of which areas are open.

Vessels would still be restricted to the possession limit of 600 pounds. Once the fleetwide max is projected to be fished, NMFS would close that access area to LAGC IFQ vessels for the remainder of the fishing year. See Table 15 for a summary of the trips that would be available to the LAGC fishery.

Table 15 – Summary of alternatives for LAGC fleetwide trips per access area for FY2013

2013		HC	Del	CA1	CA2	NL	Total TAC and # trips
No Action	AA TAC	4,419	1,473	0	2,777	2,946	11,615
	LAGC TAC	243	81	0	0	162	486
	# LAGC trips (Option 1)	893	298	0	0	595	1786
	# LAGC trips (Option 2 - no CA2)	893	298	0	0	595	1786
Alt 1	AA TAC	1445	0	704	1523	0	3672
	LAGC TAC	79	0	39	84	0	202

	# LAGC trips (Option 1)	292	0	142	308	0	742
	# LAGC trips (Option 2 - no CA2)	446	0	296	0	0	742
Alt 2 (Preferred Alt With Option 2)	AA TAC	1212	0	692	1072	662	3638
	LAGC TAC	67	0	38	59	36	200
	# LAGC trips (Option 1)	245	0	140	217	134	735
	# LAGC trips (Option 2 - no CA2)	317	0	212	0	206	735
Alt 3	AA TAC	1446	0	0	1213	0	2659
	LAGC TAC	80	0	0	67	0	146
	# LAGC trips (Option 1)	292	0	0	245	0	537
	# LAGC trips (Option 2 - no CA2)	537	0	0	0	0	537
Alt 4	AA TAC	1060	0	623	405	621	2709
	LAGC TAC	58	0	34	22	34	149
	# LAGC trips (Option 1)	214	0	126	82	125	547
	# LAGC trips (Option 2 - no CA2)	241	0	153	0	153	547

2.1.5 Northern Gulf of Maine hard-TAC

The Council approved a separate limited entry program for the NGOM with a hard-TAC. Framework 24 will need to consider a separate hard TAC for this area for 2013 and 2014(default. Individuals qualified for a permit if their vessel had a general category permit when the control date was implemented (November 1, 2004). There is no landings qualification for this permit. Vessels would be restricted to fish in this area under a 200 pound possession limit until the overall hard-TAC was reached. In 2011, 110 vessels were issued a LAGC NGOM scallop permit during all of or part of the year and 164 other vessels were issued a LAGC permit in CPH. The majority of the 110 NGOM permits in 2011 were from MA (53 vessels) and 35 from Maine. Ten vessels are homeported in NH, and the rest are from NC, NJ, RI and NY.

Amendment 11 specifies that the Scallop PDT will recommend a hard-TAC for the federal portion of the scallop resource in the NGOM. The amendment recommends that the hard-TAC be determined using historical landings until funding is secured to undertake a NGOM stock assessment. The hard TAC for 2010 was 70,000 pounds. The Council considered the TAC in FW23 for 2012 again because that action also considered allowing NGOM vessels to declare state only trips, and that catch would not count against the federal TAC. While that measure was approved, the Council decided not to lower the NGOM TAC because catch from LAGC IFQ vessels that fish in the NGOM will still count against the TAC. Therefore, the TAC was set at 70,000 pounds for 2012 as well.

2.1.5.1 No Action NGOM TAC – 70,000 pounds (Preferred Alternative)

The NGOM hard TAC would remain at 70,000 pounds until changed by a future scallop action.

2.1.5.2 FW24 NGOM TAC alternative based on new survey results – 58,000 lb

A scallop resource survey was conducted in 2012 to estimate the scallop biomass in the federal portion of the NGOM management area. This project was funded by a 2011 RSA award, and

updated the first survey of this area that was conducted in 2009. About 200 stations were completed in the 2012 survey in five overall survey areas. Overall the biomass was very patchy and some areas had poor meat conditions (smaller meats on Platt's and Fippennies Banks compared to shell heights) (Figure 8 - Figure 10). Most biomass found in SE part of NGOM management area (offshore from northeastern MA in survey areas 4 and 5) with some recruitment observed in that area as well.

The PDT reviewed the results of this survey and recommend that the TAC for Framework 24 be set using the same assumptions developed in Framework 22. See Section 2.6.3.2.1 of Framework 22 for more information about survey methods and biomass estimate analyses. The PDT recommends using the lower 25th percentile because there is substantial variability in the federal water biomass estimate in this region and it is a generally accepted principle that data poor/high uncertainty stocks require more precaution. Therefore, the PDT recommended the TAC be set at the 25th percentile at an exploitation rate of 0.25 and dredge efficiency of 0.50. **Using updated values, that equals a hard TAC of 58,000 pounds.**

Since FW23 vessels with a NGOM permit, as well as a state scallop permit, can declare before leaving on a trip whether they will be fishing in state or federal waters. If a vessel is going to fish exclusively in state waters catch will not apply to the NGOM hard TAC. However, if a vessel is going to fish at all in federal waters, the entire catch from the trip is applied against the NGOM hard TAC. Catches in the NGOM have been well below the recent hard TAC of 70,000 pounds. Catch in 2011 was about 8,000 pounds and about 4,000 pounds in 2012 to date.

Table 16 – Biomass estimates for NGOM survey for a range of dredge efficiency assumptions

ExRate	0.25						
DREDGE.EFF	Biomass percentile	q0.05	q0.25	q0.5	MEAN	q0.75	q0.95
0.40	Biomass Estimate (MT)	84.91	132.55	183.60	188.70	236.40	321.06
	TAC(MT)	21.23	33.14	45.90	47.18	59.10	80.27
	TAC(lbs)	46,799.82	73,054.64	101,191.21	104,004.90	130,290.38	176,955.81
0.50	Biomass Estimate (MT)	67.93	106.04	146.88	150.96	189.12	256.85
	TAC(MT)	16.98	26.51	36.72	37.74	47.28	64.21
	TAC(lbs)	37,439.86	58,443.71	80,952.96	83,203.92	104,232.31	141,564.64
0.54	Biomass Estimate (MT)	62.90	98.18	136.00	139.78	175.11	237.82
	TAC(MT)	15.72	24.55	34.00	34.95	43.78	59.46
	TAC(lbs)	34,666.53	54,114.55	74,956.45	77,040.67	96,511.40	131,078.37

2.1.6 Target TAC for incidental catch permits

Amendment 11 includes a provision that the Scallop FMP should consider the level of mortality from incidental catch and remove that from the projected total catch before allocations are made. The amendment requires the PDT to develop an estimate of mortality from incidental catch and remove that from the total. This section includes a summary of the PDT estimate and the value that was removed from the total projected catch before allocations to the limited access and general category fisheries were made. In 2010, 294 vessels qualified for an incidental catch permit; 275 were issued on vessels and 19 in CPH. The majority of permits are on vessels

homeported in Massachusetts (113 vessels) followed by New Jersey, Rhode Island, North Carolina and New York.

2.1.6.1 No Action Incidental catch TAC– 50,000 pounds (Preferred Alternative)

TAC would remain at 50,000 pounds until modified by a future action. This catch is removed before ACLs are allocated to the limited access and limited access general category vessels.

2.1.7 Measures to address delayed implementation of Framework 24

The Council decided to move final action for this framework until the November 2012 Council meeting so that the results from the most recent scallop resource surveys could be used. When final action is in November the earliest the action could be implemented is May 2013, two months after the start of the fishing year on March 1. While this adds complexity to the management program, the Council supports that using recent survey information outweighs the benefits of having the framework in place on March 1.

2.1.7.1 No Action – No specific 2013 payback measures to address negative impacts of delayed implementation of FW24

Vessels will be permitted to fish under 2013 default allocations from FW22 until FW24 is implemented to replace them. Default 2013 allocations include 26 open area DAS for FT LA vessels and 4 access area trips. Default 2013 IFQ allocation is about 3.4 million pounds for all vessels with LAGC IFQ permits. Vessels could exceed this action's intended allocations in 2013, but no action would be taken to account for these overages, or attempt to prevent future FY impacts (i.e., exceeding sub-ACLs in 2013 could result in AMs in 2014).

2.1.7.2 Payback measures for limited access vessels in 2013 (Preferred Alternative)

Come March 1, 2013 default measures implemented under FW22 will be in place. Default measures are described in section of this framework (Section 1.5). Total DAS are 26 DAS, which is less than the alternatives under consideration in this framework (33 DAS). Therefore, come March 1, 2013 all full-time vessels will be allocated 26 DAS, and after implementation of FW24 they will be allocated an additional number of DAS (7 DAS for FT vessels).

Default 2013 access area allocations are a different story. The allocations that will be in effect on March 1, 2013 are very different than the alternatives under consideration in this action. The primary area of concern is Hudson Canyon. Under default 2013 allocations all FT LA vessels will be allocated two 18,000 pound trips, total of just under 12 million pounds. Under most alternatives in this action only a portion of the fleet will be allocated a trip in Hudson Canyon, a total of 2.3 to 3.2 million pounds depending on the scenario. This is a dramatic difference, and has the potential to have negative impacts on the resource particularly because there is very strong recruitment in that area, so fishing should be limited to reduce incidental mortality of small scallops.

For this reason the Advisory Panel developed a "payback" measure for vessels that fish default 2013 allocations before FW24 is implemented to replace those measures. Specifically, if a vessel takes 2013 access area trips authorized by FW22, it will have to give up all 2013 access area trips authorized to that vessel under FW24, plus twelve 2013 open area DAS.

Vessels that take trips into HC (at reduced possession limit) that are ultimately authorized by FW24 and allocated to that vessel will not be penalized if the trips are made before implementation of FW24. This does not apply to carryover HC trips from FY 2012. The rationale for this payback is to protect the recruitment in HC as much as possible by providing a strong disincentive for vessels to overfish the area due to the delay in FW24 implementation and the 2013 default measures.

> For example, under allocation alternatives 1 and 2 (2 trips at 13,000 lb/trip), Vessel A and Vessel B are both allocated 2 HC trips (18,000 lb/trip), in addition to a CA2 and NLS trip, at the start of FY 2013. Under FW24 measures, Vessel A is allocated one trip in CA2 and one trip in CA1, and Vessel B is allocated one trip in HC and one trip in CA2 (13,000 lb/trip). Between March 1, 2013, and FW24's implementation, Vessel A takes an HC trip and lands 18,000 lb while Vessel B takes an HC trip and lands 13,000 lb. Under this scenario, once FW24 is implemented, because Vessel A took an HC trip, its 2013 allocation would be reduced to 21 DAS (33 DAS- 12 DAS) and it would lose all of its 2013 access area trips. In this example, by taking one (or part of one) 18,000 lb trip, the vessel loses approximately 30,000 lb in DAS, assuming an LPUE of 2,500 lb/DAS, and loses its other 13,000 lb access area trip. By landing 18,000 lb, the vessel takes a net loss of 33,000 lb. If Vessel A took 2 HC trips (36,000 lb), it would incur a net loss of 15,000 lb. Because Vessel B is allocated an HC trip at 13,000 lb under FW24, that vessel would not have to payback any pounds for fishing that trip prior to FW24's implementation.
>
> For Alternatives 3 and 4 (1 trip at 18,000 lb/trip), if Vessel A took one (or part of one) HC trip at 18,000 lb/trip, the vessel would lose 12 DAS once FW24 was implemented, resulting in a net loss of 30,000 lb. If the vessel took 2 HC trips (36,000 lb total), the vessel would incur a net loss of 7,000 lb once FW24 was implemented.

The PDT discussed this recommendation and supports implementation of a payback measure to reduce incentive to fish in HC at FW22 levels. The PDT adds that vessels with small dredge vessels may have even more incentive to fish in HC. The average LPUE for these vessels is lower than LA vessels, so a higher payback may be justified to provide less incentive for small dredge vessels (Table 17 and Table 18). "DAS Adj." shows the values for small dredge after adjusting with the LPUE ratios (corresponding to 10 open area DAS for FT vessels).

Table 17 - LPUE by dredge size in the open areas (excluding trips with LPUE>10000lb.)

Year landed	LA Plan	Number of trips	Scallop Landings	Total DAS	LPUE	Ratio SMD/FD	DAS adj.
2010	FT	672	15753977	6321	2492		10
	FTSD	149	2841679	1300	2186	88%	11.4
2010 Total		**821**	**18595656**	**7621**	2440		
2011	FT	627	16028896	5540	2893		10
	FTSD	116	2607774	979	2664	92%	10.8
2011 Total		**743**	**18636670**	**6519**	2859		

Data Sources: VMS Activity and VT Databases – Landings are from VTR and DAS is from VMS

Table 18 - LPUE by dredge size in the open areas (excluding trips with LPUE <=600lb. or >6000lb.)

Year landed	LA Plan	Number of trips	Scallop Landings	Total DAS	LPUE	Ratio SMD/FD	DAS adj.
2010	FT	593	14,350,709	5,685	2,524		10
	FTSD	137	2,624,928	1,192	2,202	87%	11.5
2010 Total		730	16,975,637	6,877	2,468		
2011	FT	558	14,290,295	5,004	2,856		10
	FTSD	97	2,207,864	815	2,709	95%	10.5
2011 Total		655	16,498,159	5,819	2,835		
Grand Total		1385	33,473,796	12,696	2,637		

Data Sources: VMS Activity and VT Databases – Landings are from VTR and DAS is from VMS

2.1.7.3 Payback measures for LAGC IFQ vessels for 2013 (Preferred Alternative)

The situation is different for LAGC vessels with IFQ. Under the default 2013 measures, the total LAGC sub-ACL is higher than the sub-ACL being proposed by FW24. Therefore, on March 1, 2013 each vessel will be awarded more quota than they ultimately will receive once FW24 is implemented.

Therefore, the proposed payback (to be accounted for in 2013 following FW24 implementation) is:

> If a vessel transfers (lease or permanent) all of its allocation to other vessels prior to FW24's implementation (transfers more than it ends up being allocated), the vessel(s) that transferred in the pounds will receive a pound-for-pound deduction in FY 2013 (not the vessel that leased out the IFQ). If more than one vessel leased in pounds from a single IFQ allocation/vessel, the overage will be distributed proportionally across all of those vessels. The onus is on the vessel owners to have a business plan to account for the mid-year adjustments in lieu of these payback measures. Vessel owners can calculate their FW24 allocations (NMFS can provide this information as well) and know how much they can lease to avoid any overages incurred through leasing full allocations prior to the implementation of FW24.

For example, Vessel A is allocated 5,000 lb at the start of FY 2013, but would receive 3,500 lb once FW24 is implemented. If Vessel A transfers 5,000 lb to Vessel B prior to FW24's implementation, Vessel B would lose 1,500 lb of that transfer once FW24 is implemented.

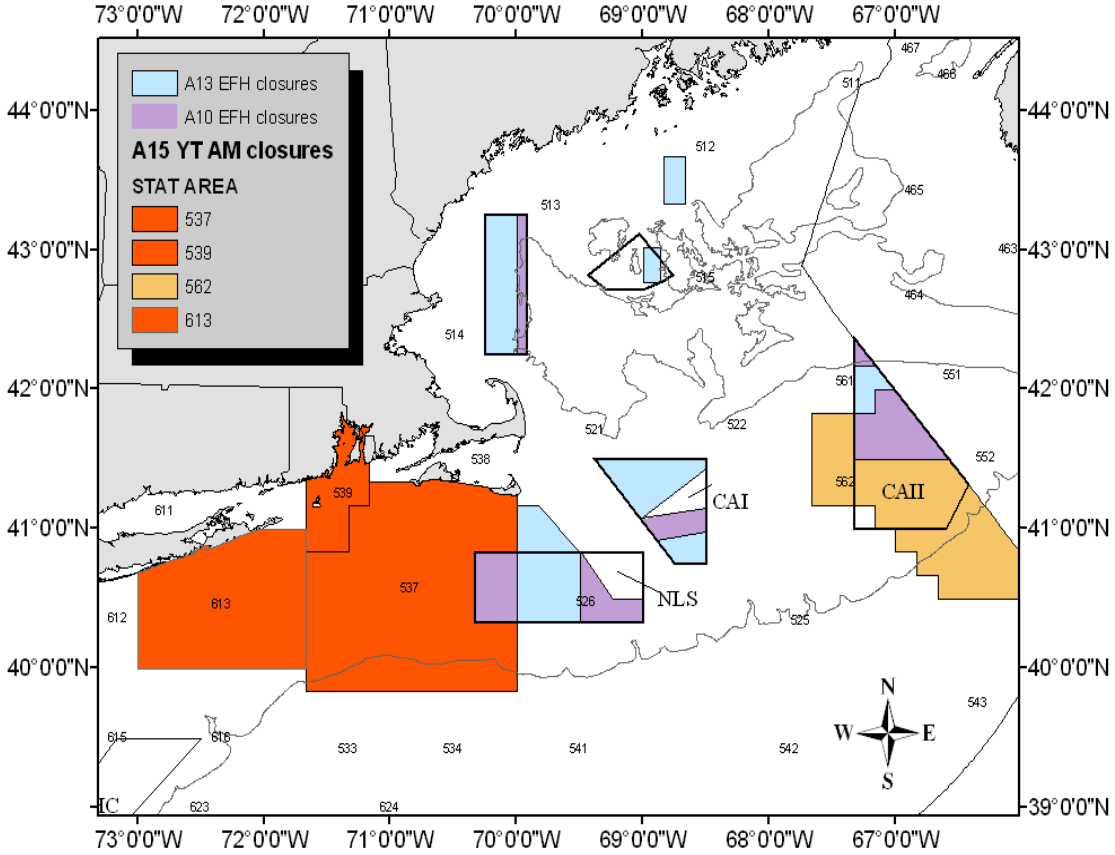
NOTE: There is already an AM for IFQ overages and that will apply to this as well: If a vessel fished more than its FW24 IFQ allocation between March 1 and when Framework 24 is implemented, it will receive a pound-for-pound deduction in FY 2014, along with any other

incurred overages. And if any AA IFQ overages occur, a subsequent action (Framework 25) could consider what to do.

2.2 MEASURES TO REFINE THE MANAGEMENT OF THE YT FLOUNDER BYCATCH IN THE SCALLOP FISHERY

Amendment 16 to the Multispecies FMP established a YT sub-ACL for the scallop fishery. For the first year (2010) the groundfish fishery was held accountable if the total ACL was exceeded while the Council developed specific accountability measures for the scallop fishery through the Scallop FMP. By 2011, Amendment 15 to the Scallop FMP was implemented which included a specific AM for the YT sub-ACLs (GB and SNE/MA stocks) for the scallop fishery. If a sub-ACL is exceeded, starting March 1 the following fishing year a pre-identified area (Figure 2) would close to all limited access scallop vessels for a specified period of time based on the overage. Because the area for the Southern New England/Mid-Atlantic spans a large amount of the LAGC fishing grounds in that area and bycatch by the fleet was believed to be relatively low, since the fleet is only allocated 5.5% of the projected scallop catch, the Council decided that the LAGC fleet should be exempt from this AM in areas where they are allowed to fish under NE Multispecies FMP exempted fisheries.

Figure 2 - Map showing statistical areas subject to YT AM closures for LA vessels *(Orange is SNE/MA stock area, and yellow is GB, Note that GB AM area includes the entire access area in CA2).*



Following Amendment 16 to the Multispecies FMP and Amendment 15 to the Scallop FMP the Council has made several modifications to the overall YT sub-ACL structure to improve effectiveness and optimize yield. Scallop Framework 23 included measures to improve the effectiveness of the YT AMs by refining AM closure schedules to better reflect bycatch rates. Rather than the closures starting on March 1 and remaining closed for successive months based on the percent overage, the areas now close starting with months with the highest bycatch rates first. In addition, Framework 23 also included a measure that would improve the flexibility and effectiveness of YT AMs by authorizing the Regional Administrator to revise decisions regarding implementation of approved AMs based on final estimates of bycatch, if they differ from preliminary estimates. Finally, Framework 23 also considered specific AMs for the LAGC fishery, but those measures were rejected so they could be addressed in this action instead.

The Council decided to remove the issue of AMs for the LAGC fishery from consideration in Framework 23 for two primary reasons. First, new information became available at the final Council meeting that impacted the type of alternatives developed in this action, as well as the

analyses of the alternatives. Second, the Council also discussed work priorities for 2012 at this final meeting and had already discussed that there may be superior solutions to managing bycatch sub-ACLs and AMs that are not currently frameworkable.

In addition to measures taken in the Scallop FMP, there have also been modifications under the Multispecies FMP to improve the effectiveness and management of the YT ACL. Framework 47 included several modifications to improve the administration of the YT sub-ACL. First, the cap that limited the catches of yellowtail flounder in the Georges Bank access areas to 10 percent of the ACL was eliminated. This measure had negative impacts on the scallop fishery by causing derby fishing. Because ACLs limit the overall amount of scallops and yellowtail that can be caught, restricting the amount that can be caught in the access areas was viewed to be a redundant rule that is no longer necessary to meet mortality objectives.

Two additional measures were adopted by the Council in Framework 47 to change the administration of the sub-ACL. The first implemented AMs for the scallop fishery only if the overall ACLs for either Georges Bank or SNE/MA are exceeded or, if the total ACL for a given broad stock area is not exceeded but the scallop fishery exceeds its sub-ACL for that area by 50 percent or more. The second uses in-season data, when possible, to recalculate the amount of yellowtail flounder needed in the scallop fishery sub-ACL (Georges Bank only), enabling a transfer to the groundfish fishery, if necessary. Both of these measures are expected to still prevent overfishing of YT flounder by keeping total catch under the overall ACL, but provide flexibility to help optimize yield of both scallops and YT flounder under the constraints of the total ACL.

This action is considering three measures that are designed to further refine the management of the YT flounder sub-ACL allocated to the scallop fishery. The first one, modify the GB access area seasonal restrictions, is designed to further reduce yellowtail flounder bycatch and optimize scallop yield by providing limited access in portions of GB closed areas during the time of year with the lowest YT bycatch rate. The second alternative, accountability measures for the LAGC fishery, is designed to improve accountability of bycatch across the fishery since currently only the limited access fishery is subject to AMs if the fishery wide sub-ACL is exceeded. Finally, this action considers modifying when AMs trigger if a YT sub-ACL is exceeded. This alternative is developed to improve the administration of the YT sub-ACL by basing the trigger on a complete dataset from a particular fishing year, rather than the trigger being based on a forecast of catch with an incomplete dataset. Since there is already flexibility to change AMs based on final data, per Framework 23, this would eliminate the need to complete a forecast and potentially impose (or not impose) measures that may have to later be corrected. It has become apparent that under the current data constraints it is not practical to make a reliable forecast of YT catch mid-year for a fishery that varies spatially so much from year to year.

2.2.1 Modification of Georges Bank access area seasonal restrictions

Based on two primary sources of analyses the Scallop PDT developed several options for modifying the GB access area seasonal restrictions. The first source of information is an analysis the Scallop PDT completed using observer data in and around access areas on GB. A generalized linear model (GLM) was developed to estimate bycatch rates by month using

observer data from months the access areas have been open and modeling the bycatch rates for months the areas have been closed using data observer data from surrounding open areas.

The second source of information is based on results from a 2011 RSA project titled, "*Optimizing the Georges Bank Scallop Fishery by Maximizing Meat Yield and Minimizing Bycatch*." Fourteen research trips were conducted in both Closed Area I and II from October 2010 through April 2012. Seasonal variations in scallop meat weights and YT flounder bycatch rates were evaluated. The Research Steering Committee reviewed the methods and results for this final report submitted in June 2012 and deemed it sufficient for the PDTs to use in developing management measures, even though additional data will be collected over the next year. The final report from this research has been included with this action, Appendix IV.

The PDT also evaluated seasonal variations in scallop meat weights to identify seasons with the highest scallop meat weights. Finally, the GF PDT evaluated the 2011 RSA monthly bycatch data as well in terms of seasonal variations on YT and windowpane bycatch. Input from the GF PDT has been incorporated in Section 5.6 – Impacts on bycatch and other fisheries.

Appendix III includes more detailed analyses of these sources of information.

The PDT discussed whether the GB YT AM schedule for limited access vessels would need to be revised if the GB AA seasonal restrictions were modified in this action. The PDT believes that modifying the season to better overlap with higher YT catch months is another proactive measure to help reduce YT bycatch overall. Therefore, at this time the PDT did not develop modifications to the GB YT AM schedule based on potential modifications to the GB access area seasons. As the AM is currently implemented, the CA2 access area would be closed to the scallop fishery starting in October-November if an AM were triggered and the sub-ACL was exceeded by 3% or less (Table 19).

If this action modifies the seasonal closures it is possible the AM area (statistical area 562 including the access area in CA2) could be closed during the fall already, regardless of whether an AM is triggered or not. Therefore, for lower overage amounts (less than 14%) the current AM schedule for GB YT will only restrict fishing in the open areas within the AM area (portion of stat area 562 west of Closed Area II) (Figure 2). If there is a larger overage, CA2 would be closed in December (if over 14%), as well as August (if over 16%), as well as July (if over 39%), and all year if the overage if over 56%. Therefore, the PDT believes the current AM schedule would still be effective at reducing YT bycatch in combination with the modified seasonal openings for the GB access areas.

Table 19 – Current GB YT AM schedule for years when CA2 is open

GB YT AM Schedule (FW23)	
Overage	LA Closure
3% or less	Oct-Nov
3.1-14%	Sept-Nov
14.1-16%	Sept-Jan
16.1-39%	Aug-Jan
39.1-56%	Jul-Jan
Greater than 56%	All year, Mar-Feb

2.2.1.1 No Action GB access area seasonal restrictions – closure from Feb. 1 – June 14

The access areas in Closed Area I, Closed Area II, and Nantucket Lightship would remain closed to scallop fishing from February 1 through June 14. Any access area trips in those three areas would be restricted to take place between June 15 and January 31.

2.2.1.2 Modify GB access area seasonal restrictions

The Scallop PDT developed a wide range of options to consider based on updated analyses of YT bycatch and monthly variations in scallop meat weights. Option 1 is designed to close the access areas when scallop meats weights are poorest, to reduce overall time gear is fishing since there is a fixed possession limit in access areas. Option 2 is primarily focused on closing areas for YT bycatch only. Option 3 combines months with highest YT bycatch rates and poor scallop meat weights. Finally, there is also an alternative to eliminate the seasonal closure all together (Alternative 2.2.1.3). Table 20 compares the alternatives considered.

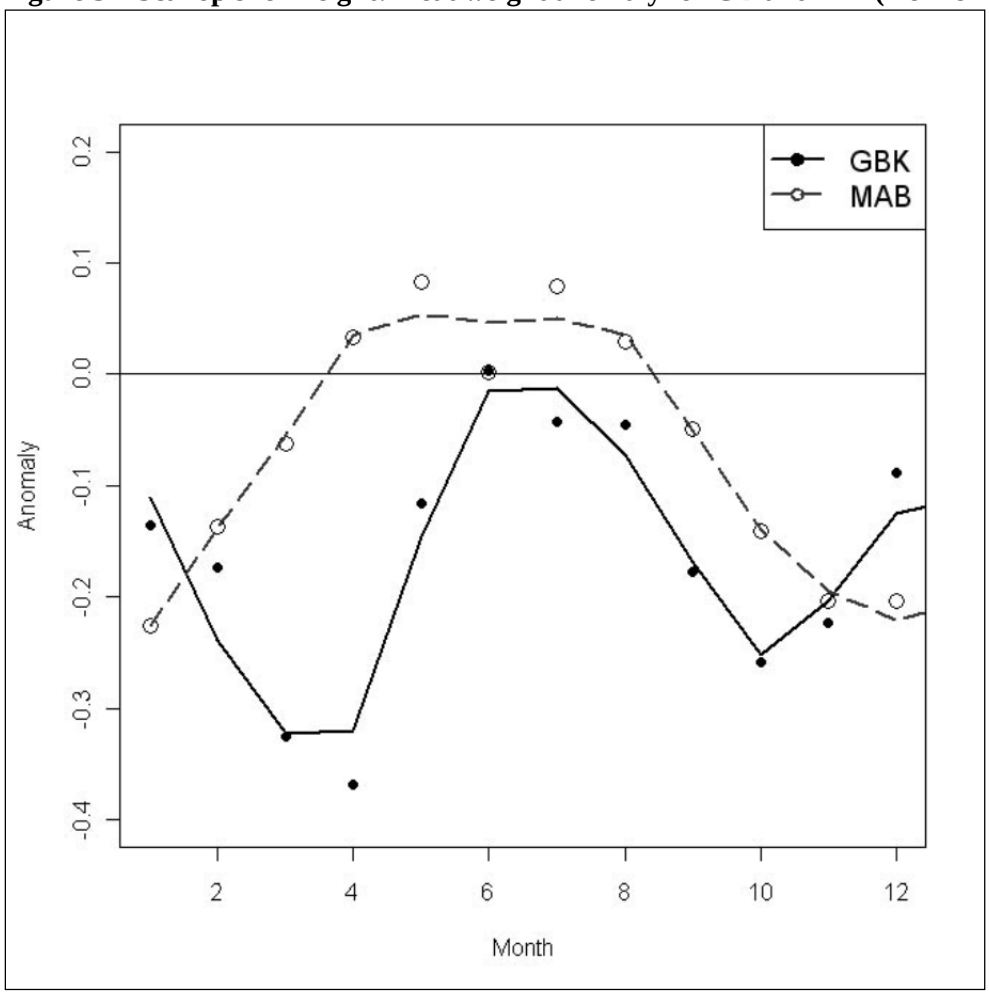
2.2.1.2.1 Option 1 - Closure period would be modified to provide access during months with highest scallop meat weights to reduce fishing time and scallop fishing mortality

The Scallop PDT reviewed the observer and RSA monthly bycatch data and recommends that one alternative be considered that is primarily based on scallop meat weight variations. The month with the highest meat weights on GB is typically June, and the lowest is October (Figure 3). The average meat weights are about 20% greater in June than in October (See Appendix III for more information about scallop meat weight variation by season).

Since there is a possession limit for access area trips vessels are limited to a specific poundage per trip. Therefore, the greater the meat weight per animal the fewer scallops will be harvested and reduce fishing time compared to fishing when scallop meats weights are less. This translates into less potential bycatch and lower scallop fishing mortality compared to months with lower scallop meat weights in the fall and winter and higher YT bycatch rates in the fall.

The PDT recommends this alternative close all three access areas from September 1 – April 30. The areas would be closed for eight months and open for four months. All three access areas would have the same schedule.

Figure 3 – Scallop shell height: meat weight anomaly for GB and MA (Hennen and Hart, *In press*)

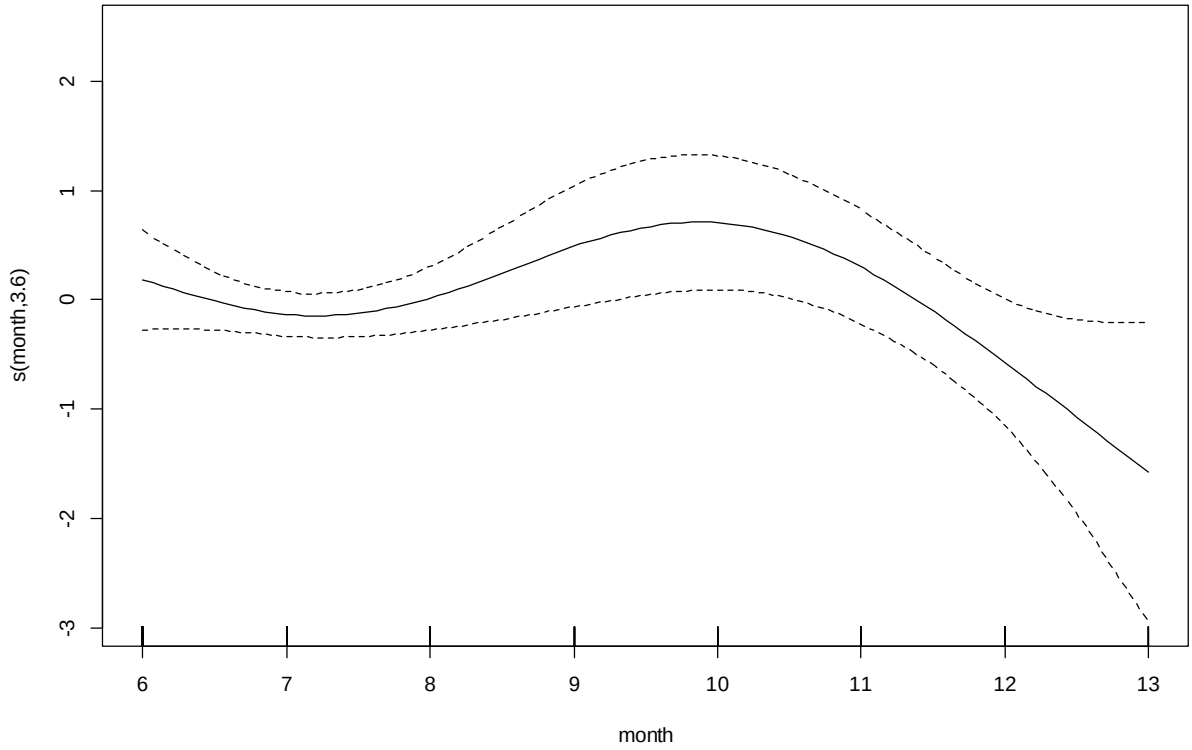


2.2.1.2.2 Option 2 - Closure period would be modified to only the months with highest yellowtail flounder bycatch

The Scallop PDT reviewed the observer and RSA monthly bycatch data and recommends that one alternative be considered that would only close the areas during the time of year with highest YT bycatch rates and presence of YT. Looking at both sources of data, the months when YT bycatch rates and abundance of bycatch are highest, particularly in CA2, are September – November (See Figure 4 and Appendix III for a summary of the monthly bycatch rate information).

<u>The PDT recommends this alternative close all three access areas from Sept. 1 – Nov 30.</u>

Figure 4 - GAM model for observer data in CA2 June-January only – month effect



2.2.1.2.3 Option 3 – Advisory Panel recommendation (Preferred Alternative)

Based on an AP recommendation, the Committee revised one of the GB seasonal closure alternatives so that only CA2 would be closed from Aug15-Nov15 (Figure 5 and **Figure 6**), and CA1 and NL would not have seasonal closures. The main rationale provided from the AP meeting was that overall bycatch is low in CA1 and there does not seem to be a strong seasonal difference. For NL the bycatch rates of SNE/MA YT are not as high in the access area compared to other areas farther west (south of Long Island). Therefore, imposing a seasonal restriction may not do much and could actually shift effort into higher bycatch areas if vessels fish in open areas when NL is closed.

Based on input from the monthly bycatch program in CA2 it was explained that there are areas outside of CA2 (to the south and west) that have high bycatch of YT in June and July, but then fish seem to move on the bank in late summer and fall (in Closed Area 2). It should be noted that WP flounder bycatch is highest in CA2 between Jan-March. Therefore, overall for CA2, the Aug15-Nov15 season is a combination of the lowest meat weights and highest YT bycatch.

<u>This option would only have a seasonal restriction for Closed Area II from August 15-November 15; the other two access areas on GB would be open year round.</u>

Figure 5 - Box and whisker plot of the distribution of the bycatch ratio by station of YT in CA2 for each month of the survey. The mean, 25 and 75 percentiles (interquartile range), and outliers shown. Data from multiple years combined.

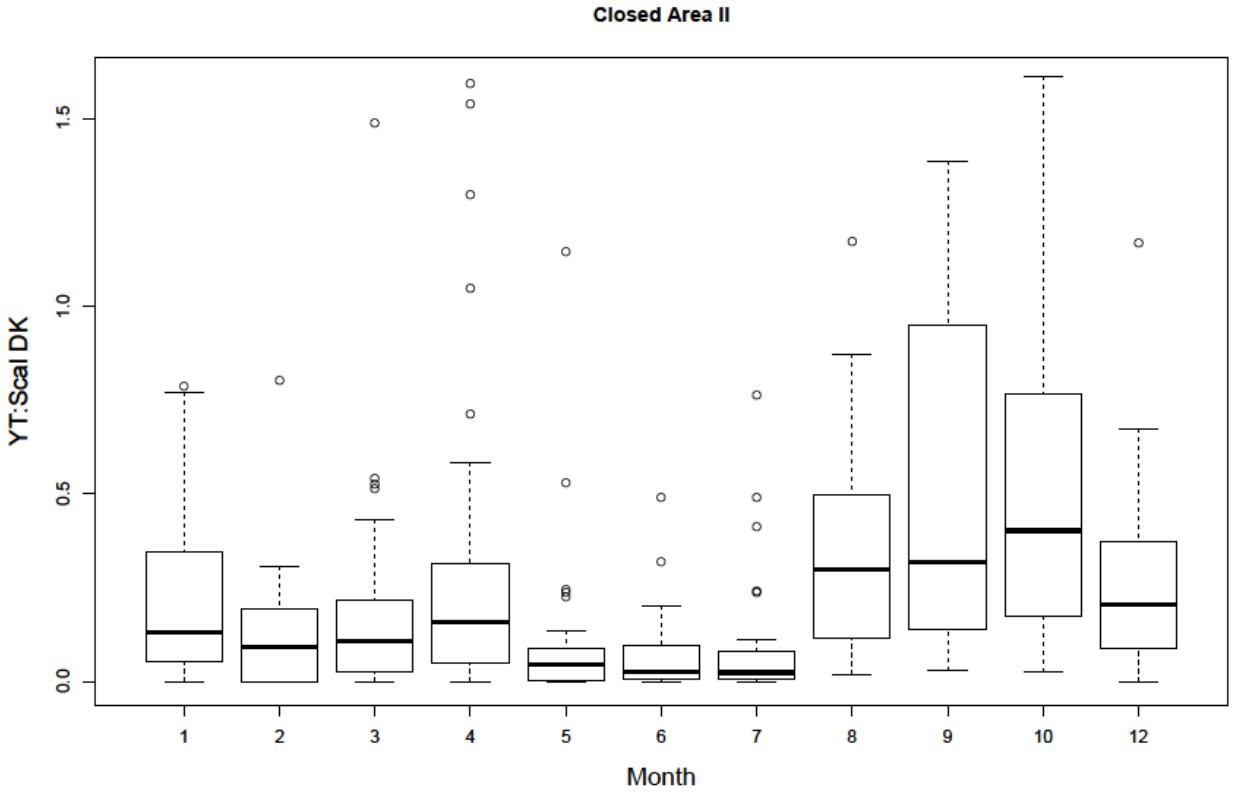
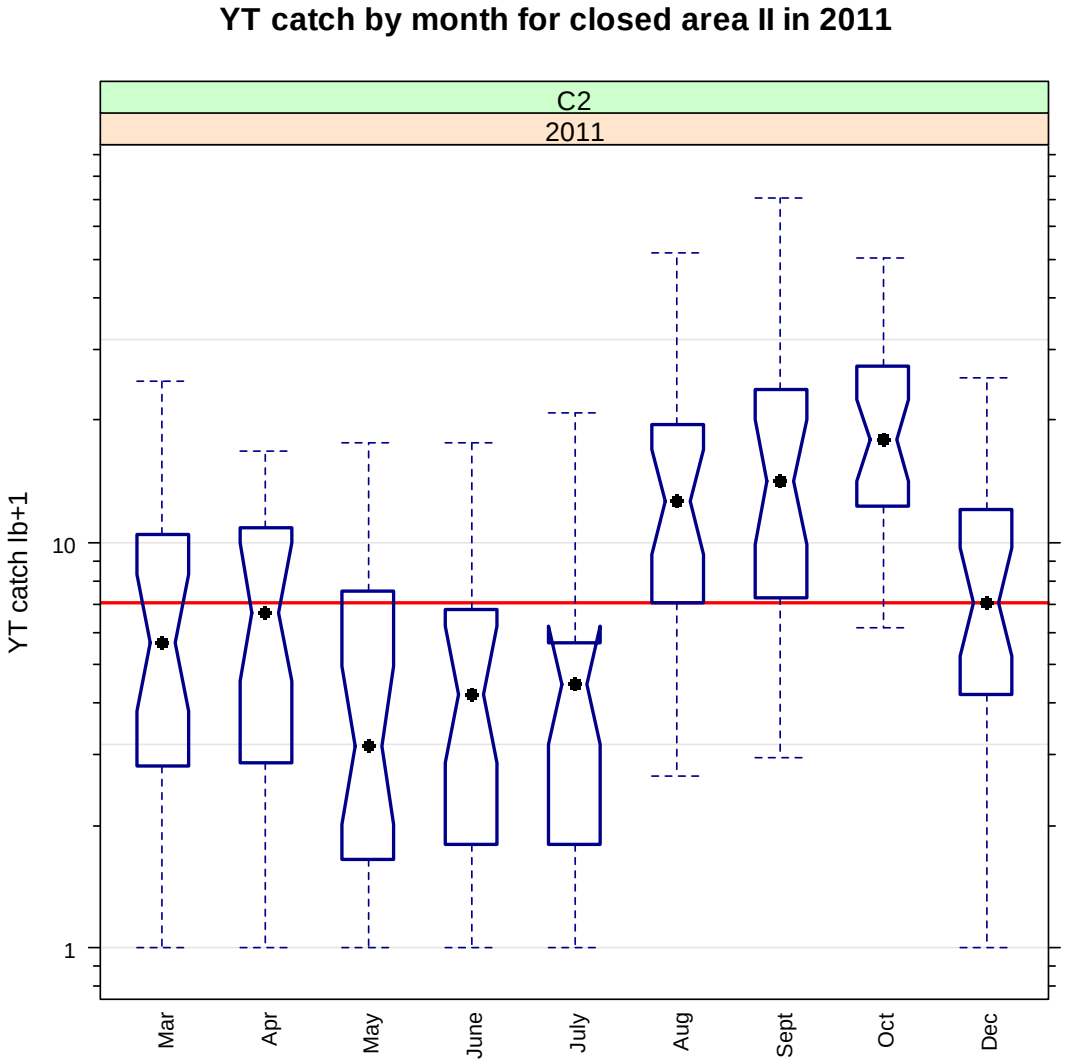


Figure 6 - Boxplots of yellowtail catch (lb) +1 per two in closed area II by month for 2011. Y-axis scale is logarithmic. Black dots are medians and non-overlapping notches indicate approximately 95% confidence interval for differences in median. Folded notch for July indicates that notch for that month may not be reliable. Red line is median yellowtail catch rate for all months pooled. No sampling occurred in January, February or November in 2011.



2.2.1.3 Eliminate GB access area seasonal restrictions

This alternative would remove any seasonal restriction for scallop fishing in portions of the existing GF closed areas. This alternative may be selected if it is found that limited scallop fishing in portions of the GF closed areas year round would not have substantial negative impacts on groundfish mortality and spawning.

The current seasonal closures have been in place since 1999, the first year the scallop fishery was granted access into Closed Area II. Framework 11 ultimately prohibited scallop fishing from February 1 through June 14 to avoid disrupting spawning aggregations of overfished groundfish stocks that spawn primarily during the spring and early summer months.

Table 20 – Summary of GB Access Area seasonal restriction alternatives under consideration in FW24

	No Action	Modify Season				Eliminate Season
		Option 1	Option 2	Option 3 (Preferred Alternative)		All Areas
Access Area	**All areas**	**All areas**	**All areas**	**CA2**	**CA1/NL**	
Mar	C	C	O	O	O	O
Apr	C	C	O	O	O	O
May	C	O	O	O	O	O
Jun	O (6/15)	O	O	O	O	O
Jul	O	O	O	O	O	O
Aug	O	O	O	C (Aug 15)	O	O
Sep	O	C	C	C	O	O
Oct	O	C	C	C	O	O
Nov	O	C	C	C (Nov 15)	O	O
Dec	O	C	O	O	O	O
Jan	O	C	O	O	O	O
Feb	C	C	O	O	O	O
Total Months Closed	**4.5**	**8**	**3**	**3**	**0**	**0**

2.2.2 Measures to address YT flounder bycatch in the LAGC fishery

At the very end of the process for Framework 23 the Council learned that the YT bycatch rate for the LAGC trawl fishery is substantially higher than the LA and LAGC dredge fisheries. The Council wanted to take more time to develop specific accountability measures for this segment of the fleet since the measures in FW23 were for the LAGC fishery combined. As the process developed the Committee decided to expand the range of alternatives to include possible sub-divisions of the scallop fishery sub-ACL of YT, thus specific AMs have been developed for LAGC vessels that use dredge as well as trawl gear.

The LAGC fishery does catch YT in some areas and fisheries. However, it is limited to the SNE/MA YT stock and CC/GOM YT by dredge vessels only. In 2011 and 2012, the LAGC trawl fishery is estimated to have caught a substantial percent of the total SNE/MA YT catch by the scallop fishery; about 17% of the catch in 2011 and over 23% of the catch in FY2012 to date (Table 21). The LAGC dredge fishery has caught between 1-2% of the total SNE/MA YT catch. Therefore, the following AMs have been developed focusing on LAGC trawl vessels fishing in SNE/MA and LAGC dredge vessels in SNE/MA if their total catch exceeds a specific threshold only.

Table 21 – Estimate of YT catch by the scallop fishery by permit type for FY 2011 and FY2012 to date (March-October 10, 2012). Source: NOAA Fisheries Sea Scallop Fishery Monitoring website (http://www.nero.noaa.gov/ro/fso/scal.htm)

2011

	Limited Access Vessels				LAGC Vessels				Total		
	Kept	Discards	Catch	% of ACL	Dredge	Trawl	Dredge (%Total)	Trawl (%Total Catch)	Total catch	sub-ACL	% of subACL
GB	22399	162489	184888	41.8% (99.9% catch)	80	19	0.0%	0.0%	184987	442688	41.8%
SNE/ MA	2105	198705	200810	111% (82.2% catch)	2707	40958	1.5% (1.1% catch)	22.5% (16.8% catch)	244275	180779	135.2%

2012 (March-Oct 24)

	LA Vessels		**LAGC Vessels**				**Total**		
	Catch	**% of ACL**	**Dredge**	**Trawl**	**Dredge %ACL**	**Trawl %ACL**	**Total catch**	**sub-ACL**	**% of subACL**
GB	340529	98.40%	73	0	0.02%	0.00%	340602	345905	98.50%
		(99.9% catch)							
SNE/ MA	89751	32.00%	2323	28061	0.80%	10.00%	120136	279987	42.90%
		(75% catch)			(1.9% catch)	(23.4% catch)			

2.2.2.1 No Action YT bycatch in the LAGC fishery – catch under the scallop fishery sub-ACL with no AMs

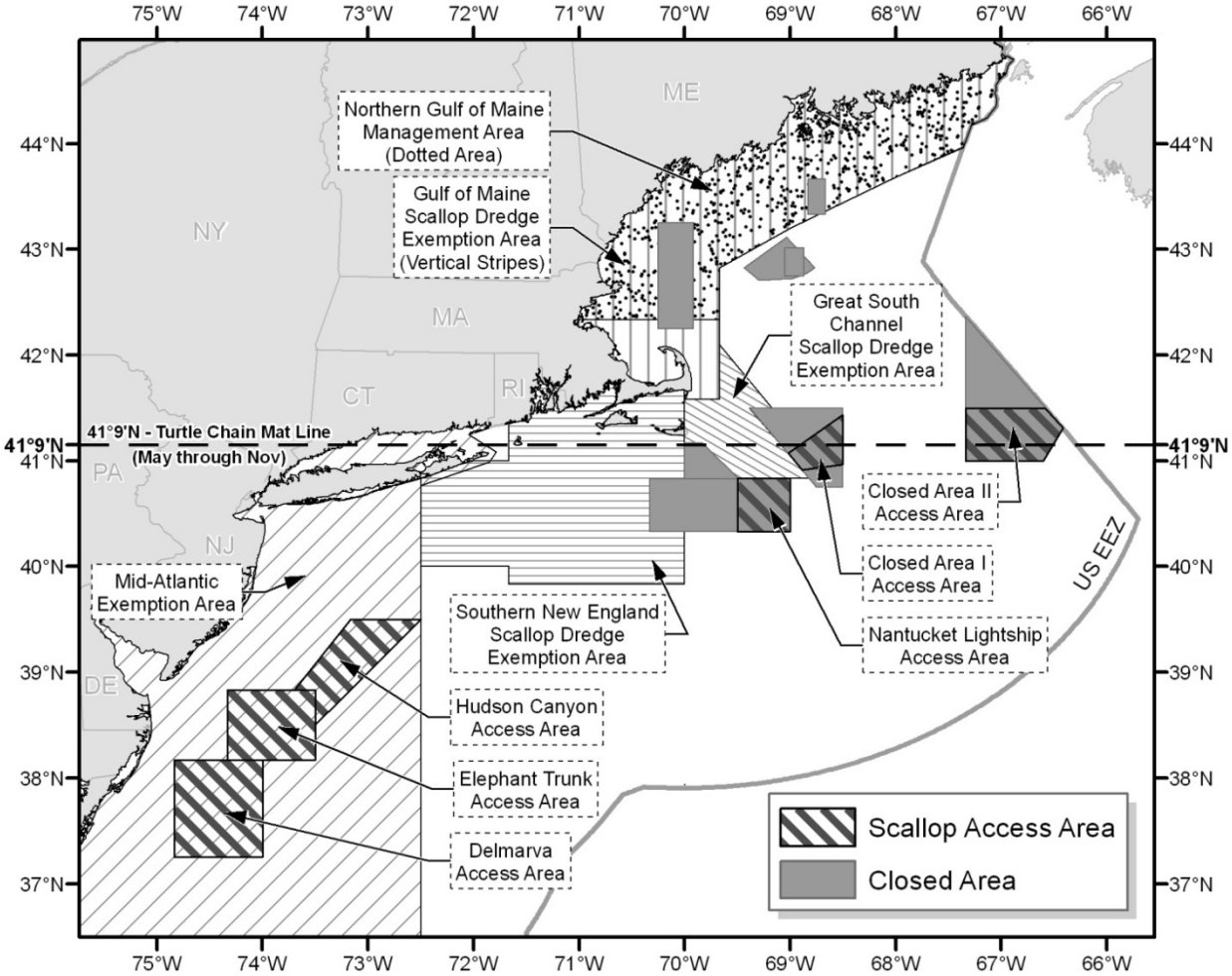
Under No Action, the only fleet subject to the YT AMs is the limited access scallop fishery. Vessels with a LAGC permit (dredge and trawl) would not be subject to potential AM closures. YT catch by LAGC vessels would still count against the scallop fishery YT sub-ACLs (GB and SNE/MA), but if an AM is triggered, LAGC vessels are exempt from those measures.

2.2.2.2 YT AMs for LAGC vessels using *trawl* gear

LAGC vessels may only use trawl gear on declared scallop trips in the MA. East of 72°30', LAGC vessels on a declared IFQ trip must fish in the scallop dredge exemption areas, requiring the use of dredges (Figure 7). If fishing on a declared groundfish trip (targeting groundfish and using trawl gear), an LAGC vessel may land up to 600 lb of their scallop IFQ, but any YT catch would go against the vessel sector ACE or common pool sub-ACL. Therefore, the amount of trawl effort on scallop trips (and also the substantial portion of YT catch, which is applied against the scallop sub-ACL) is limited to the MA west of 72°30'.

<u>Since there is no trawl fishing on GB it is not necessary to have an AM for this segment of the fishery for that YT stock area. This action does not consider an AM for LAGC trawl vessels for GB YT.</u>

Figure 7 – Map of fishery management areas for the scallop fishery



2.2.2.2.1 Southern New England / Mid-Atlantic YT AM

The only YT stock area that LAGC trawl vessels fish in, and therefore have their YT catch count against the scallop sub-ACL, is the SNE/MA YT stock area. For the last two years the estimate of catch for this component of the scallop fishery has been a substantial percentage of the total YT catch. Therefore, the options below consider AMs to help reduce incentive to catch YT by this segment of this fishery and reduce bycatch and improve accountability.

2.2.2.2.1.1 LAGC trawl AM for SNE/MA YT – Option 1 – area restriction

If the overall SNE sub-ACL for the scallop fishery is exceeded the AM for LAGC vessels with trawl gear would be a prohibition on the use of trawl gear in statistical areas 612 and 613 for a

specified period of time to account for the overage (Figure 8). Vessels with trawl gear will NOT be permitted to switch to dredge gear and fish in areas closed by this AM.

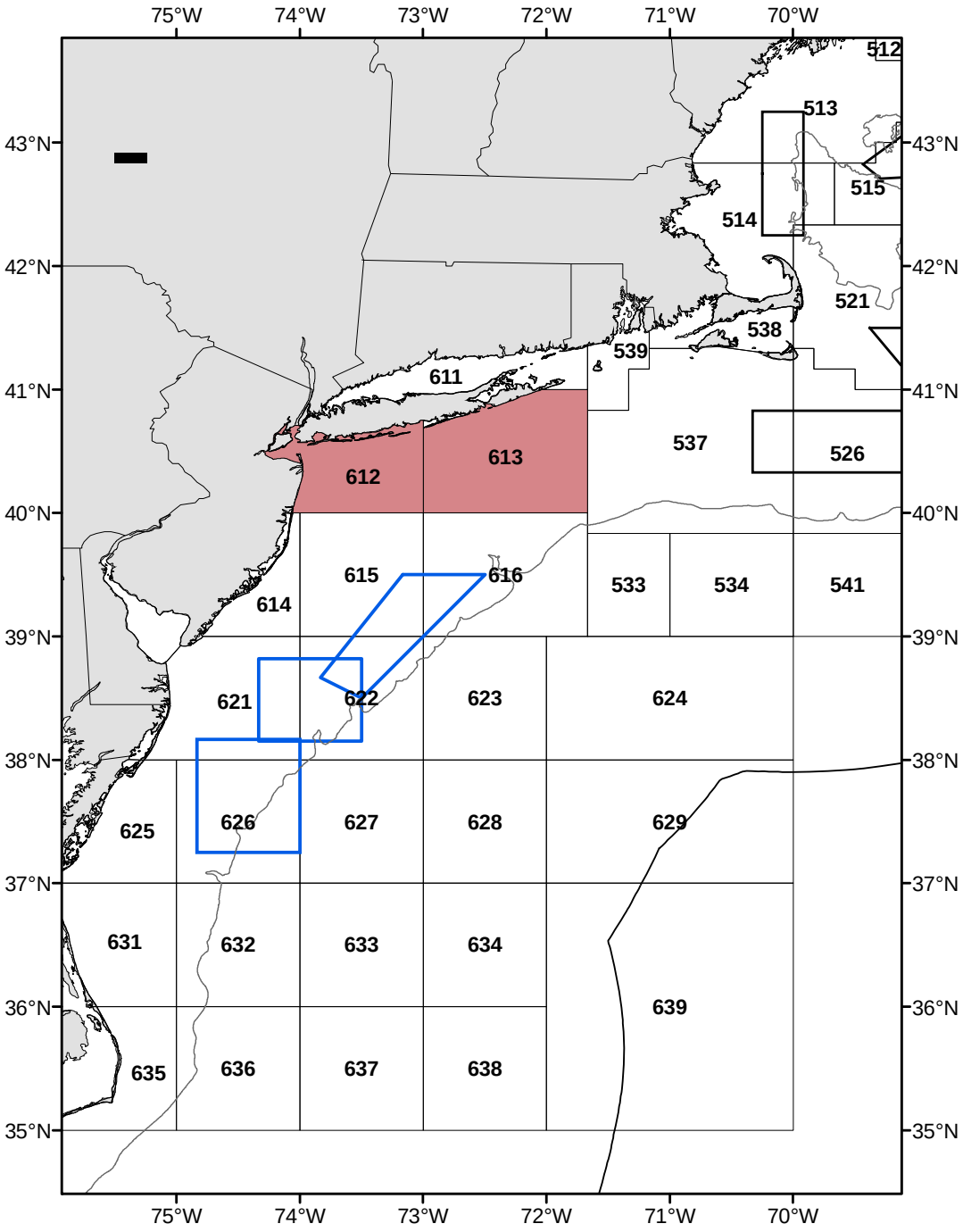
The AM schedule will be the same as the SNE/MA YT AM schedule for LA vessels, except the closure will only apply to LAGC vessels up to a 15% overage. If the scallop fishery catch exceeds the total sub-ACL by more than 15% this AM area would re-open to LAGC trawl vessels, but the SNE/MA YT AM area for LA vessels would remain closed to LA vessels (Figure 2 - statistical areas 537, 539, and 613).

This modification to the schedule was developed to recognize that these vessels are more limited in terms of areas they can fish. The AM area would be closed during the spring and winter when bycatch rates are typically higher; however to reduce potential disproportional economic impacts on smaller vessels, the AM area would remain open for LAGC trawl vessels during part of the year they historically fished in that area (summer and fall). No matter what the overage is, LAGC trawl vessels would be allowed to fish in the AM area during the months of July – November.

Table 22 – SNE/MA YT AM schedule based on overage of sub-ACL. After 15% overage LAGC vessels with trawl gear would be permitted to fish in the AM area.

Overage	AM Closure
2% or less	Mar-Apr
2.1-3%	Mar-Apr, and Feb
3.1-7%	Mar-May, and Feb
7.1-9%	Mar-May, and Jan-Feb
9.1-12%	Mar-May, and Dec-Feb
12.1-15%	Mar-June, and Dec-Feb
~~15.1-16%~~	~~Mar-June, and Nov-Feb~~
~~16.1-18%~~	~~Mar-July, and Nov-Feb~~
~~18.1-19%~~	~~Mar-Aug, and Oct-Feb~~
~~19.1% or more~~	~~Mar-Feb~~

Figure 8 – SNE/MA YT AM area for LAGC trawl vessels (statistical areas 612 and 613)



2.2.2.2.1.2 LAGC trawl AM for SNE/MA YT – Option 2 – gear restriction in 613 and 612 (Preferred Alternative)

The Council modified this option at the November Council meeting to reflect additional AP and Committee input on this subject. Specifically, the SNE/MA YT AM for the LAGC trawl fishery could be triggered two different ways under this option. First, the AM would be triggered if the estimated catch of SNE/MA YT by the LAGC trawl fishery is more than 10% of the total SNE/MA YT sub-ACL for the scallop fishery. For example, if the total scallop fishery SNE/MA YT sub-ACL was 50 mt, this AM would trigger for the LAGC trawl fishery if the estimated catch by that segment was more than 5mt. In this case, the AM closure season would be March-June and again from December – February (total of seven months). This is the most restrictive closure season under consideration for this AM, and was recommended in this case to reduce incentive to catch YT by the LAGC trawl fishery.

The Council recommended 10% as a reasonable ceiling for this segment of the fishery. Ten-percent is less than this fishery has been catching in recent years so will increase inventive to reduce bycatch from current levels. However, it is high enough to reflect that this gear type does catch more YT than dredge gear. The Council can adjust this threshold in a future action. To be clear, this is not a subdivision of the scallop fishery sub-ACL of SNE/MA YT. The fishery is still under one overall sub-ACL, but if this segment of the fishery exceeds 10% of that allocation, the seasonal closure would be implemented regardless of whether the total sub-ACL was exceeded or not.

The second way an AM could trigger for this segment of the fishery under this option is if the overall SNE/MA YT AM is triggered. If the scallop fishery exceeds their sub-ACL overall, and total SNE/MA YT ACL is exceeded, LAGC trawl vessels would be subject to a seasonal closure of statistical areas 612 and 613. In this case the schedule would be the same as described in Table 22, regardless of the amount the LAGC trawl fishery may have caught of the total. If both of these caveats are triggered (i.e., the trawl fishery catches more than 10% of the total SNE/MA YT sub-ACL <u>and</u> the overall SNE/MA YT sub-ACL is exceeded), the most restrictive AM schedule would apply.

The percentages in Table 22 reflect the total overage of the sub-ACL; they are not specific to the percent caught by the LAGC trawl fishery. The Council recommended this option because it is more restrictive in that AMs trigger for this fleet if the overall sub-ACL is exceeded, as well as if this segment catches a much higher portion of YT catch compared to scallop catch. However, this option is more flexible than Option 1 because it allows a trawl vessel to covert to dredge gear, a gear type with lower YT bycatch. And it is more flexible than Option 3 because it is not a gear restriction for the entire SNE/MA YT stock area.

If both of these caveats are triggered (i.e., the trawl fishery catches more than 10% of the total SNE/MA YT sub-ACL <u>and</u> the overall SNE/MA YT sub-ACL is exceeded), the most restrictive AM would apply.

If the overall SNE sub-ACL for the scallop fishery is exceeded the AM for LAGC vessels with trawl gear would be a prohibition on the use of trawl gear in statistical areas 612 and 613 for a specified period of time to account for the overage (Figure 8). Vessels with trawl gear WOULD

be permitted to switch to dredge gear and fish in areas closed by this AM. If a vessel does switch to dredge gear it would be subject to any AMs that may be in place for that gear type. Vessels would be permitted to switch back to trawl gear later in the year or when fishing in areas outside of the AM closure.

The AM schedule will be the same described above for Option 1 – same as the LA AM schedule, except the closure will only apply to LAGC trawl vessels up to a 15% overage of the total sub-ACL. Similarly, fishing with trawl gear could still occur in the AM areas during the months of July through November regardless of the YT overage.

2.2.2.2.1.3 LAGC trawl AM for SNE/MA YT – Option 3 – gear restriction

If the overall SNE sub-ACL for the scallop fishery is exceeded the AM for LAGC vessels with trawl gear would be a prohibition on the use of trawl gear in any part of that YT stock area for the following fishing year. A vessel would be permitted to convert to dredge gear for the following fishing year. If a vessel does convert to dredge gear it would be subject to any AMs the LAGC dredge vessels are subject to. A vessel could revert to a trawl vessel after the year an AM is effective or stay as a dredge vessel.

2.2.2.3 YT AMs for LAGC vessels using *dredge* gear

Recent catches of GB YT by the LAGC dredge fishery are relatively minor, 1-2% of the total SNE/MA sub-ACL. Therefore, the PDT recommends that AMs be considered for the LAGC dredge fishery, but only if that segment of the fishery catches more than a specified percentage of total catch.

2.2.2.3.1 Southern New England / Mid-Atlantic YT AM (Preferred Alternative)

If the total sub-ACL is exceeded and an AM is triggered for the scallop fishery, the LAGC dredge fishery would not have a specific AM unless their estimated catch was more than 3% of the total catch by the scallop fishery. For example, if the total sub-ACL for the scallop fishery was 50 mt and the LAGC dredge fishery was estimated to catch 1 mt, AMs would not trigger for this fleet even if the total sub-ACL was exceeded. However, if their catch is more than 3% of the SNE/MA YT sub-ACL, more than 1.5 mt using the same 50 mt sub-ACL example, and both the overall scallop fishery sub-ACL and total ACL was exceeded, the same LA AM area (statistical areas 613, 537, and 539) would close to LAGC dredge vessels, but under a different schedule.

This threshold is different than the one under consideration for the LAGC trawl fishery. That 10% threshold was included as an informal cap or additional way to trigger an AM on that fishery if it exceeds 10% of the sub-ACL. This threshold instead was designed as a way to relieve the LAGC dredge fishery from AMs if they are triggered since total catch from this segment of the fishery is such a small percentage of the total. AMs will not trigger on this fishery if it exceeds 3% of the sub-ACL; only if the total sub-ACL and ACL are exceeded AND the LAGC dredge fishery catches more than 3% of the sub-ACL.

The LA AM schedule was modified to recognize that LAGC dredge vessels are not as mobile and there are some vessels that would be disproportionally impacted by these measures. Therefore, a schedule was developed that leaves some of the AM area open for parts of the year

when traditional fishing has occurred, but closes the areas during higher YT bycatch months (Table 23). Specifically, area 539 could close all year if the overage is over 16% because that area has the highest bycatch rates historically. Area 537 would never close to LAGC dredge vessels between July-October regardless of the overage, and area 613 would never close June – January. These modifications to the schedule were designed to minimize impacts on smaller dredge vessels, but close the areas during higher YT bycatch months.

The 3% overage exemption was included to recognize that bycatch from this segment of the fishery is typically very small and these closures could impact some vessels disproportionally. However, 3% was viewed as a level that would still keep this segment of the fishery accountable for YT bycatch and provide incentive to reduce YT bycatch. To be clear, this is not a subdivision of the scallop fishery sub-ACL of SNE/MA YT. The fishery is still under one overall sub-ACL, but if the LAGC dredge fishery stays under 3% of the SNE/MA sub-ACL they are exempt from AMs. The Council can adjust this threshold in a future action.

Table 23 – SNE/MA YT AM schedule for LAGC dredge vessels if scallop fishery AM is triggered and LAGC dredge catch is more than 3% of total sub-ACL

	AM closure area and duration		
Overage	539	537	613
2% or less	Mar-Apr	Mar-Apr	Mar-Apr
2.1% - 7%	Mar-May, Feb	Mar-May, Feb	Mar-May, Feb
7.1% - 12%	Mar-May, Dec-Feb	Mar-May, Dec-Feb	Mar-May, Feb
12.1% - 16%	Mar-Jun, Nov-Feb	Mar-Jun, Nov-Feb	Mar-May, Feb
16.1% or greater	All year	Mar-Jun, Nov-Feb	Mar-May, Feb

2.2.2.3.2 Georges Bank YT AM

There is very little LAGC dredge effort in the GB YT stock area, mostly confined to CA1 access area trips. There is essentially no YT bycatch from this segment of the fleet (Table 21). The only option considered here is the same AM area and schedule that is in effect for the LA fishery. If an AM is triggered, statistical area 562, including all of the access area within CA2, would close to LAGC dredge vessels under the same AM schedule already in place for LA vessels. See Figure 2 and Table 24. If this measure is not selected in this action, there would be no GB YT AM for LAGC vessels; the current AM would remain in place for LA vessels only.

Table 24- GB YT AM Schedule – varies depending on whether CA2 is closed or open

GB YT AM Schedule – CA2 CLOSED		GB YT AM Schedule – CA2 OPEN	
Overage	LA Closure	Overage	LA Closure
1.9% or less	Sept-Nov	3% or less	Oct-Nov
2.0 - 2.9%	Aug-Jan	3.1-14%	Sept-Nov
3.0 – 3.9%	Mar, Aug-Feb	14.1-16%	Sept-Jan
4.0 – 4.9%	Mar, Jul-Feb	16.1-39%	Aug-Jan
5.0 – 5.9%	Mar-May, Jul-Feb	39.1-56%	Jul-Jan
6% or greater	All year	Greater than 56%	All year, Mar-Feb

2.2.3 Timing of AMs for the scallop fishery YT flounder sub-ACL

2.2.3.1 No Action timing of YT AMs – AMs trigger in subsequent year (Year 2)

Under No Action, NFMS makes a determination on or about January 15 if the scallop fishery is expected to exceed the YT flounder sub-ACLs for that fishing year. This determination is based on a projection that includes assumptions of expected scallop for the remainder of the fishing year, as well as yellowtail bycatch rates from the previous year's observer data if those data for the current FY are not available. Before the start of the next fishing year NMFS announces if AMs are triggered, based on the January projection, and predefined areas would close to the limited access scallop fishery based on the AM schedule in Framework 23 and the AM trigger thresholds outlined in FW47 to the NE Multispecies FMP. Once all the data are available for the previous year (i.e., full FY scallop landings, full FY observer data), NMFS re-estimates YTF catch and, if the new estimate shows a different conclusion when compared to the sub-ACLs than the initial projection, could re-evaluate the decision to trigger AMs.

2.2.3.2 AMs trigger in Year 2 (if reliable data available mid-year) or Year 3 (after a full year of data available) (Preferred Alternative)

This alternative would alleviate the need to develop a mid-year estimate to determine if AMs trigger in circumstances when reliable information is not available. If adopted, should reliable information be available that a YTF sub-ACL has been exceeded during a fishing year, the respective AM for that YTF stock area would be implemented at the start of the next fishing year (i.e., the No Action approach outlined above; "Year 2" implementation). This approach could be used in situations where the ACL for a stock is low, an overage is known early in the fishing year, and AM determinations are based on actual catch and landings rather than projections.

However, under this alternative, if reliable information is not available to make a mid-year determination of the need to implement an AM for the YTF sub-ACL, NMFS would wait until enough information is available (i.e., when the total observer and catch data is available for that FY) before making a decision to implement an AM. AMs would not be implemented mid-year so, under this scenario, the AMs would be implemented in Year 3.

Because of the complexity of administering the YTF AM in the scallop fishery, this alternative would streamline the overall process for determining if an AM in the scallop fishery should be triggered. Because FW47 to the NE Multispecies FMP requires a determination of whether or not the total YT flounder ACL has been exceeded, and because that information wouldn't be fully available until after the April 30th end of the multispecies FY, this alternative reduces the administrative and industry burden of continuously re-evaluating the AM determination, depending on data variability. This alternative is also consistent with a similar alternative being considered in FW48 to the NE Multispecies FMP.

2.3 MEASURES TO IMPROVE THE FLEXIBILITY AND EFFICIENT USE OF LAGC IFQ BY ALLOWING TRANSFER OF QUOTA MID-YEAR

Members of the LAGC IFQ fishery requested that the Council consider this measure to improve the effectiveness of the IFQ program. Some vessels are hesitant to lease because regulations

currently prevent re-leasing. Therefore, if something happens during the year that prevents a vessel from harvesting leased quota, like a failed engine or health issue, that vessel cannot release the quota to recoup the cost. In addition, if a vessel has fished any of its annual quota in a fishing year, it is not permitted to lease out during the same fishing year. These two restrictions were included in Amendment 11 due to concerns about the ability to manage all the lease transfers in this fishery in a timely way. Now that NMFS has more experience with sector management and leasing between sectors, it may be more feasible to provide more flexibility.

2.3.1 No Action – Sub-leasing and leasing IFQ during the year (if portion fished) is prohibited

Currently if a vessel with a LAGC IFQ permit has landed any scallops during a fishing year, it is prohibited from leasing out quota. In addition, IFQ can only be transferred once during a given fishing year, sub-leasing is not permitted. Applications for IFQ transfers must be submitted 30 days before the date on which the applicants desire to have the IFQ effective. These provisions do not apply to vessels that have both a LAGC IFQ and LA scallop permit. Those vessels are prohibited from leasing LAGC IFQ altogether.

2.3.2 Allow transfer of LAGC IFQ during the year (Preferred Alternative)

This alternative would allow sub-leasing and transfer of quota after an LAGC IFQ vessel landed scallops and would allow IFQ to be transferred more than once. This alternative, if selected, is composed of two parts that would be implemented separately.

First, an LAGC vessel would be allowed to lease out the remainder of its base allocation after it has fished some of its original IFQ. For example, a vessel that has a base allocation of 10,000 lb only lands 2,000 lb before deciding to stop fishing for scallops for the remainder of the year. Under this alternative, the vessel would be able to transfer (temporarily or permanently) out its remaining 8,000 lb to other IFQ vessels during the fishing year. Because this is a relatively minor adjustment to how NMFS monitors the fishery, and does not involve extensive programming changes, NMFS would be able to implement this portion of the alternative along with other Framework 24 measures (i.e., May 2013), if approved.

The second aspect of this alternative would enable an IFQ vessel to transfer IFQ that it received through a previous transfer (i.e., a sub-lease to another vessel) to or another IFQ vessel or vessels. For example, a vessel that has a base allocation of 10,000 lb also leased in 5,000 lb from other IFQ vessels. After fishing only 2,000 lb, the vessel's engine blows. Under this alternative, the vessel would be allowed to lease (or permanently transfer) out its remaining quota to one or more vessels, including both its base allocation and the quota it has leased in. Furthermore, that quota could be fished on another vessel in the same year. This provision allows for quota to be transferred more than once during a fishing year and for that quota to be fished from multiple vessels.

Because sub-leasing will add more complexity to IFQ monitoring, and because NMFS is currently making a number of programming changes to the databases to improve monitoring in this fishery, NMFS would be able to implement this by March 2014 (i.e., following the completion of other adjustments). Waiting until the start of FY 2014 will also avoid

implementing a sub-leasing alternative mid-year, which would further complicate IFQ accounting for FY 2013.

In order to process IFQ sub-leasing applications, NMFS would require that both parties involved in a sub-leasing request (i.e., the transferor and the transferee) must be up-to-date with their data reporting (i.e., all VMS catch reports, VTR, and dealer data must be up-to-date).

Because this alternative would increase the complexity of NMFS IFQ monitoring, cost recovery fees would likely increase if this alternative is selected.
This alternative does not change the carryover provision that a vessel is permitted to carryover up to 15% of its original quota allocation, including leased quota.

These provisions do not apply to vessels that have both a LAGC IFQ and LA scallop permit. Those vessels are prohibited from leasing or permanently transferring LAGC IFQ altogether.

This alternative would also require adjustments to how NMFS applies scallop IFQ towards the ownership and vessel caps. Sub-transfers complicate the ownership/vessel cap accounting, requiring stronger controls. To ensure accurate accounting and avoid the potential for abuse of the IFQ cap restriction, all pounds that have been on a vessel during a given FY should be counted towards ownership or vessel caps, no matter how long the pounds were "on" the vessel (i.e., even if a vessel leases in 100 lb and transfers out those pounds 2 days later, those 100 lb should count towards the caps).

For example, Owner A has an IFQ permit on Vessel 1 with an allocation consisting of 2.5% of the total IFQ allocation and also has a permit on Vessel 2 with an allocation of 2.0%, for a total of 4.5% ownership of the total IFQ allocation. If Owner A leases in an addition 0.5% onto Vessel 2 and then sub-leases that 0.5% to another vessel owned by a separate entity (Owner B), because those pounds were under his ownership at one point during the given FY, he would still have reached his ownership cap, as well as the vessel caps for both vessels. As such, Owner A could continue to lease out (or permanently transfer) IFQ pounds to other owners, but could not transfer in any more IFQ until the next FY.

2.4 MEASURES TO EXPAND THE CURRENT OBSERVER SET-ASIDE PROGRAM TO INCLUDE LAGC VESSELS IN OPEN AREAS

This topic was first raised by the PDT. The observer coverage rate for the LAGC fishery in open areas is generally much lower than the observer coverage rate for LAGC access area fishing and LA fishing since those activities are included in the industry funded observer program. Having more precise bycatch information for all segments of the scallop fishery would be beneficial. Therefore, this section includes an alternative to expand the observer set-aside program to include LAGC vessels in open areas. Finally, during development of this measure it was discussed that the program could be more flexible if observer set-aside was not area specific.

The Observer set-aside program was first used when scallop vessels gained access into portions of GF closed areas under FW11/FW39. The set-aside program was expanded in Amendment 10

to include other access areas and open areas for limited access vessels. This program has enabled higher observer coverage rates in the scallop fishery compared to other fisheries in the region. However, there is one segment of the scallop fishery with lower coverage rates (LAGC fishing in open areas) that could benefit from more coverage. Particularly now that the scallop fishery is subject to bycatch sub-ACLs, it would be useful to have more observer data to rely on for monitoring these ACLs more precisely. Table 25 summarizes the observer coverage for the scallop fishery for the last few years, and Table 26 summarizes the usage of observer set-aside per area, as well as the percent coverage per area for the fishery.

Table 25 – Summary of observed trips in the scallop fishery from observer set-aside program

Area	2009		2010		2011	
Elephant Trunk	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**3**		**2**		**Reverted to OA**	
Limited Access Dredge	113	1007	54	535	10	96
LAGC Dredge	114	263	0	0	0	0
Limited Access Trawl	0	0	1	5	0	0
LAGC Trawl	2	5	0	0	0	0
Delmarva	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**1**		**1**		**1**	
Limited Access Dredge	37	299	38	323	38	323
LAGC Dredge	32	71	9	13	1	3
Limited Access Trawl	0	0	0	0	0	0
LAGC Trawl	5	11	11	24	1	3
Hudson Canyon	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**Closed**		**Closed**		**1**	
Limited Access Dredge	0	0	0	0	41	305
LAGC Dredge	0	0	0	0	24	34
Limited Access Trawl	0	0	0	0	0	0
LAGC Trawl	0	0	0	0	4	10
Closed Area II	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**1**		**Closed**		**0.5**	
Limited Access Dredge	23	199	0	0	22	190
Closed Area I	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**Closed**		**Closed**		**1.5**	
Limited Access Dredge	0	0	0	0	56	416
LAGC Dredge	0	0	0	0	2	4
Nantucket Lightship	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**Closed**		**1**		**Closed**	
Limited Access Dredge	0	0	33	242	0	0
LAGC Dredge	0	0	25	49	0	0
Open Area	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
Limited Access Dredge	137	1381	114	1149	136	1342
Limited Access Trawl	0	0	0	0	0	0
Totals (Industry Funded)	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
Limited Access Dredge	310	2886	239	2249	303	2672
LAGC Dredge	146	334	34	62	27	41
Limited Access Trawl	0	0	1	5	0	0
LAGC Trawl	7	16	11	24	5	13
Totals (Combined)	**463**	**3236**	**285**	**2340**	**335**	**2726**
LAGC Open Area	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
(Federall Funded trips)						
LAGC Dredge	38	43	60	67	81	91
LAGC Trawl	1	1	23	35	4	6

2.4.1 No Action – LAGC observed trips in open areas are not under the scallop observer set-aside program – directly funded by NMFS

Currently, if a LAGC vessel is required to carry an observer on a trip fishing in open areas, on a non-access area trip, the Northeast Fisheries Observer Program covers the cost of that observer. All other scallop trips (LAGC trips in access areas, LA trips in both open and access areas) are under the Scallop Observer Set-aside Program. If a vessel is required to carry an observer in these fisheries the vessel is responsible to pay for the observer. The vessel is compensated in either additional pounds in access areas or DAS in open areas to help defray the cost of the observer. These pounds and DAS are set-aside and equal to one-percent of the total ACL. Under No Action, LAGC trips in open areas will continue to be funded directly by the Northeast Fisheries Observer Program, and will not be under the observer set-aside program.

2.4.2 Include open area trips by LAGC vessels under the current observer set aside program (Preferred Alternative)

All LAGC vessels would be required to call in with their expected trip usage (i.e. weekly, bi-weekly), similar to current requirements for LAGC trips in access areas. If required to carry an observer that vessel would be permitted to land an additional poundage of scallops, either on that trip above the possession limit, or on a subsequent trip that fishing year. The compensation for carrying an observer in open areas would essentially be like an additional allocation of quota, except is could not be transferred to another vessel or carried over to the following fishing year. The compensation poundage would be set by NMFS the same time other compensation rates are available. A LAGC vessel would receive compensation based on a trip level basis, not per day. The pounds would be deducted from the set-aside available for open areas, unless modified by Alternative 2.4.2.1.2.

The Agency is not responsible for regulating the price of an observer, but it is assumed that if a LAGC trip in open areas is a fraction of a day, say less than 15 hours there should be a lower charge for that observer than a trip that is 24 hours or more.

2.4.2.1 Modify the observer set-aside allocation

2.4.2.1.1 No Action observer set aside allocation – 1% of ABC/ACL

One-percent of the total ACL for the scallop fishery would be set-aside to compensate vessels for the cost of carrying an observer, as specified under Amendment 15 and would to be divided proportionally into access areas and open areas in order to set the compensation and coverage rates and monitor this set-aside harvest by area. Under No Action, these area-specific TACs will continue to be specified in the regulations. If the set-aside for a given area is fully harvested, based on the TACs in the regulations, there would be no mechanism to transfer TAC from one area to another. As a result, any vessel with an observed trip in an area with no remaining observer set-aside would have to pay for the observer without compensation.

2.4.2.1.2 Same allocation (1% of ABC/ACL) but not area specific (Preferred Alternative)

One-percent of the total ACL for the scallop fishery would be set-aside to compensate vessels for the cost of carrying an observer, as specified under Amendment 15. Although the specification-setting frameworks would still have to divide up the observer set-aside proportionally by access

and open areas in order to set the compensation and coverage rates and for monitoring purposes (i.e., in order to determine if fishing activity in one area is using up more of the set-aside compensation than anticipated when the compensation rate was set), these TACs would not be officially set in the regulations (See Table 29 in Section 3.1.2 for the FY 2013 breakdown of observer set-aside pounds by area). Instead, set-aside could be transferred from one area to another, based on NMFS in-house area-level monitoring that determines whether one area will likely have excess set-aside while another may not. The set-aside would be considered completed harvested when the full one percent is landed, at which point there would be no more compensation for any observed scallop trip, regardless of area. NMFS would continue to proactively adjust compensation rates mid-year in order to minimize the chance that the set-aside would be harvested prior to the end of the FY.

Table 31 is a summary of observer set-aside usage in the last two fishing years. The set-aside has not been exhausted for any area in 2010 or 2012. However, it has been close for some areas. Allowing set-aside to be flexible by area will help reduce the change the total set-aside will be exhausted and vessels pay for observers without compensation.

Table 26 – Summary of observer set-aside usage and associated observer coverage rates for 2010 and 2011 (NERO scallop monitoring webpage)

	2010		2011*	
	Usage	**Coverage**	**Usage**	**Coverage**
Open Areas	70% (95/135 DAS)	7% LA	66% (90/136 DAS)	9.5% LA
CA1	N/A	N/A	62% (69K/111K)	LA - 9% GC - 4%
CA2	N/A	N/A	90% (31K/35K)	LA – 11.7%
NL	70% (42K/59K)	LA - 8% GC - 5%	N/A	N/A
HC	N/A	N/A	74% (55K/74K)	LA – 9.8% GC – 4.8%
ETA	79% (90K/113K)	LA - 6% GC - 0%	14% (16K/113K)	LA – 6.2%
DEL	98% (57K/58K)	LA - 8% GC - 3%	73% (54K/74K)	LA – 7.6% GC – 7.4%

**2011 values are preliminary since final values for the fishing year are not available yet*

3.0 OTHER MEASURES

The following information is included in this section so that all allocations and fishery information is included in this document. These measures did not require specific Council action or analysis, as the processes that set these specific allocations have already been analyzed in previous scallop actions or they specified through other fishery actions but related to the scallop fishery.

3.1 AUTOMATIC MEASURES (COUNCIL ACTION AND ANLYSIS NOT REQUIRED)

3.1.1 Sub-ACLs and sub-ACTs

ACLs have been required in the scallop fishery since 2011. This section includes a summary of the ACL related terms for reference purposes only.

Table 27 – Summary of various ACL terms and values proposed for FY2013 and FY2014 (default)

	2013	2014 (default)	
OFL	69,566,867	68,585,810	lb
	31,555	31,110	mt
ABC (after discards removed)	46,305,894	52,242,942	lb
	21,004	23,697	mt
incidental	50,000	50,000	lb
	22.7	22.7	mt
RSA	1,250,000	1,250,000	lb
	567	567	mt
OBS	463,059	522,429	lb
	210	237	mt
ABC/ACL (after removing set-asides and incidental)	44,542,835	50,420,513	lb
	20,204	22,870	mt
LA sub-ACL (94.5% of ACL after set asides and incidental removed)	42,092,979	47,647,385	lb
	19,093	21,612	mt
LA sub-ACT	33,783,637	34,012,918	lb
	15,324	15,428	mt
IFQ-only (5% of ACL)= sub-ACL = ACT	2,227,142	2,521,026	lb
	1,010	1,144	mt
IFQ + LA (0.5% of ACL)=sub-ACL=ACT	222,714	252,103	lb
	101	114	mt

3.1.2 TAC set-asides for observers and research

In Amendment 15 the Council recommended that set-asides for research and observers should be removed from the overall ACL, rather than percentages of open area DAS and access area TACs.

More set-aside is actually available when this change is made because it is removed before buffers for management uncertainty are factored in. Prior to Amendment 15 set-asides were taken out from the allocation level, what is now known as the ACT, whereas now set asides are removed from the total ACL level.

The ultimate values that are set-aside for the observer and research programs are not a decision the Council has to make in each Framework. Amendment 15 changed the research set-aside from a percent to projected catch to a set poundage of 1.25 million pounds. Therefore, there are no alternative research set-aside allocations under consideration in this action. While modifying the amount of research set-aside is a frameworkable item, this action is not considering different values; thus the set-aside for the research program will be 1.25 million pounds in 2013 and 2014, as well as 2015 unless changed in a subsequent action.

The observer set-aside is still based on a percent of catch, not a set poundage, but it is a percent of the total ACL before buffers for management uncertainty are factored in. The default 2013 set-aside for the scallop observer program is 632,727 pounds (1% of the ABC=ACL). Because the compensation rates are based on pounds-per-area, the observer set-aside is divided proportionally (**Table 28**). These values would stay in effect until replaced by a subsequent action.

Table 28 – Summary of observer set-asides by area for the 2013 default measures approved in Framework 22

	FY 2013
Total ABC/ACL	**63,272,680**
HC	126,672
DMV	42,224
CAI	N/A
CAII	79,616
NL	84,448
Total AA	332,960
Open areas	299,767
OA LPUE	2,676
OA DAS	112.0
All Areas	632,727

<u>As described above, the research set-aside under FW24 will remain at 1.25 million pounds, as approved in Amendment 15. The observer set-aside will equal 1% of the ABC approved in this action, or 210 mt (463, 059 lb) (2013 ABC – 21,004 mt).</u> See Table 29 for a breakdown of the set-aside by area, applied proportionally based on the total TACs by area.

NMFS could use the proportional breakdown of the total set-aside by area below to set the initial set-aside compensation rates by area (open and access) (Table 29). These area-specific allocations are not permanent, and can be readjusted mid-year to account for more compensation being used in one area and less in another.

Table 29 – Summary of 2013 observer set-aside by area.

Area	% of TAC by area	OBS set-aside (lb)
HC		33,298
NLS		18,393
CAI		18,710
CAII		28,858
Total AA	21%	99,260
Open areas	79%	363,799
All Areas	100%	463,059

Note: This table presents the observer set-aside broken out by area (applied proportionally based on the total TAC by area), but this action is considering a measure to have one overall observer set-aside that would not be broken out by area (Section 2.4.2.1.2).

3.1.2.1 Research priorities for 2013 and 2014

The research priorities used for the RSA set-aside are defined by the Council. For 2013 and 2014 the Council approved research priorities at April 2012 Council meeting and these priorities were forwarded to NMFS for future funding solicitations. The priorities are summarized below.

HIGHEST PRIORITIES (not listed in order of importance):

- An intensive industry-based survey of each of the existing access areas (Closed Area I, Closed Area II, Nantucket Lightship, Delmarva, and Hudson Canyon). The primary deliverable of these surveys would be to estimate total allowable catches (TACs) under the rotational area management program if the data from these surveys are available by August of the prior fishing year.

- Identification and evaluation of methods to reduce the impact of the scallop fishery with respect to bycatch. This would include projects that determine seasonal bycatch rates, characterize spatial and temporal distributional patterns as well as the associated discard mortality rates of yellowtail flounder, and other key bycatch species.

- An intensive industry-based survey of areas that may be candidate access areas in the future (i.e. open areas with high scallop recruitment or closed areas that may open to fishing in the future such as groundfish mortality closed areas or current habitat closed areas).

MEDIUM PRIORITY (not listed in order of importance):

- Other resource surveys, to expand and/or enhance survey coverage in areas that have the potential to be important resource areas, but currently have a lack of comprehensive survey coverage.

- Research to support the investigation of the loggerhead turtle behavior in the Mid-Atlantic (via satellite tagging or other means) to understand their seasonal movements, vertical habitat utilization, and how and where interactions with dredge gear are occurring. This priority topic also includes monitoring of scallop dredge and trawl operations, and the development of further gear modifications if monitoring should indicate current designs are not eliminating the threat or harm to sea turtles or are resulting in unacceptable scallop catch loss.
- Studies aimed at addressing issues that were identified as research priorities at the latest assessment: i.e. incidental gear mortality, discard mortality and seasonal growth of scallops.

OTHER PRIORITIES (not listed in order of importance):

- Other scallop biology projects, including studies aimed at understanding recruitment processes (reproduction, larval and early post-settlement stages), growth, and natural mortality (including predation and disease).

- Investigation of variability in dredging efficiency across habitats, times, areas, and gear designs to allow for more accurate quantitative estimates of scallop dredge impacts on the seabed and development of practicable methods to minimize or mitigate those impacts.

- Habitat characterization research including, but not limited to: video and/or photo transects of the bottom within scallop access areas and within closed scallop areas and in comparable fished areas that are both subject and not subject to scallop fishing before and after scallop fishing commences (BACI or before after control impact dredge impact studies); identification of nursery and over-wintering habitats of species that are vulnerable to habitat alteration by scallop fishing; and other research that relates to habitats affected by scallop fishing, including, but not limited to, long-term or chronic effects of scallop fishing on marine resource productivity, other ecosystem effects, habitat recovery potential, and fine scale fishing effort in relation to fine scale habitat distribution. In particular, projects which directly support evaluation of present and candidate EFH closures to assess whether these areas are accomplishing their stated purposes and to assist better definition of the complex ecosystem processes that occur in these areas.

- Scallop and area management research, including but not limited to: evaluation of ways to control predation on scallops; research to actively manage spat collection and seeding of sea scallops; social and economic impacts and consequences of closing areas to enhance productivity and improve yield of sea scallops and other species; and estimation of factors affecting fishing power for each limited access vessel.

- Develop methodologies or alternative ways for the scallop fleet to collect and analyze catch and bycatch data on a near real-time basis (i.e. collection of scallop meat weight and quality data, specific bycatch information, etc. Potential ideas include but are not limited to: concepts like a “Study fleet”, electronic monitoring, dockside monitors, bag tags, etc.).

3.1.3 LAGC Incidental catch TAC

This framework action can modify the target TAC for vessels with incidental catch permits. However, the PDT reviewed updated catch levels for this permit category and there is no new information to suggest that the target TAC should be changed from 50,000 pounds. That level seems to still be appropriate (See Table 21 in Appendix I for recent catches for this permit type). Therefore, the target TAC for incidental catch permits will remain at 50,000 pounds for 2013 and 2014 (default). The Scallop PDT will continue to monitor this catch and make recommendations in the future if a different TAC is necessary.

3.1.4 Updated YT projections for 2013 and 2014

This section includes a summary of the updated YT flounder bycatch projections based on FW24 allocations. The Groundfish FMP is the plan that sets the YT flounder sub-ACL for the scallop fishery. Framework 48 to the Multispecies FMP is considering sub-ACL alternatives for the scallop fishery. The document includes three alternatives: Option 1 - No Action (sub-ACLs based on information available and appropriate); Option 2 – for GB sub-ACL specified as 90% of estimated catch; and Option 3 – GB sub-ACL based on 8% or 16% percent of US ABC based

on recent catch history. The allocation decision for the SNE/MA YT sub-ACL would not be as specific, and for now would be based on informative available and appropriate.

The final estimates of projected YT catch by the scallop fishery for 2013 and 2014 are summarized below (Table 30).

Table 30 – Estimated YT catch for the scallop fishery for the various FW24 specification scenarios

2013	No Action	Alt 1	Alt 2	Alt 3	Alt 4
GB Open area	34	34	34	34	34
GBC1	0	2.6	2.3	0	2.1
GBC2	97	70	49	56	19
GBTOTAL	**132**	**106.6**	**85.3**	**90**	**55.1**
% US ABC = 215 mt	61%	49%	40%	42%	26%
% US ABC = 495 mt	27%	21%	17%	18%	11%
	No Action	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**
SNEMA Open area	49	62	62	62	62
NLS	15	0	4	0	4
HCS	1	0	0	0	0
ET	1	0	0	0	0
SNEMATOT	**66**	**62**	**66**	**62**	**66**
% US ABC = 700 mt	9%	9%	9%	9%	9%
2014	**No Action**	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**
GB Open area	43	42	42	42	42
GBC1	0	0	0	0	0
GBC2	144	81	85	66	28
GBTOTAL	**186**	**123**	**127**	**108**	**71**
	No Action	**Alt 1**	**Alt 2**	**Alt 3**	**Alt 4**
SNEMA Open area	49	61	61	61	61
NLS	16	11	12	11	12
HCS	1	0	0	0	0
ET	1	0	0	0	0
SNEMATOT	**68**	**72**	**72**	**72**	**73**

Based on analyses in Framework 48 to the Multispecies FMP, the Council recommended allocating the scallop fishery a sub-ACL for GB YT based on 40% of the US ABC for 2013, and 16% for 2014-2015. The Council also recommended that 90% of the high estimate of scallop fishery catch of SNE/Mid-Atlantic yellowtail flounder should be allocated to the scallop fishery for 2013-2015, and to include a mechanism similar to the one used currently in Georges Bank yellowtail flounder for in-season transfers between the sub-ACLs of groundfish and scallop fisheries. These values were recommended and analyzed in a separate action (Framework 48 to

the Multispecies FMP) but has been referenced here to help keep track of decisions being taken in other actions related to the scallop fishery.

3.1.5 Potential SNE/MA windowpane sub-ACL

The Council passed a motion in June 2012 to consider allocating a sub-ACL for SNE/MA windowpane flounder to the scallop fishery. If that action is taken in Framework 48 to the Multispecies FMP there will be a specific sub-ACL for the scallop fishery as bycatch.

The Council recommended that the sub-ACL for the scallop fishery should be based on 90th percentile of recent catches from 2001-2010 (11/2/2). **Therefore, the Council recommends 183 mt. for 2013 and 2014, equivalent to 36% of the total US ABC after uncertainty buffers and other considerations are taken into account.** This value was considered and analyzed in a separate action (Framework 48 to the Multispecies FMP) but has been referenced here to help keep track of decisions being taken in other actions related to the scallop fishery. Framework 48 has not been approved by NMFS yet, and is not expected to be implemented until May 2013. Associated AMs will be developed in Scallop FW25, to be developed in 2013 and implemented for the 2014 fishing year. These AMs would be retroactively applied to the 2013 sub-ACL if an overage is incurred in FY 2013.

The Council also recommended that the mixed stock exemption potentially be considered for this species, but that has been put off until a future date. The Council set priorities for actions in 2013 and evaluating the mixed stock exception for windowpane flounder was not identified as a priority for 2013.

3.2 CONSIDERED BUT REJECTED ALTERNATIVES

3.2.1 2013 to 2015 scallop fishery specifications

The Council considered specifications for two fishing years (2013 and 2014) with default measures for 2015, but during development of this action decided to limit the action. There is uncertainty related to the high recruitment levels in the Mid-Atlantic, future GB yellowtail YT catch levels, and the status of the EFH Omnibus action and potential changes in habitat closure boundaries. Therefore, the Council decided to see how these issues develop in the coming year and will set specifications for fishing year 2014 in a separate action.

3.2.2 Prohibit LAGC vessels from using trawl gear

The Scallop Committee discussed this alternative as a way to reduce YT bycatch in the scallop fishery. However it was clarified by NMFS during the process that consideration of completely prohibiting use of a gear type overall, not just as an AM, if not a frameworkable change to the FMP. Prohibition of a specific gear type can be an AM, and considered by framework, but consideration of prohibiting the gear overall is not frameworkable. Such a prohibition would need to be considered in an amendment.

3.2.3 Increase the observer set-aside allocation to reduce risk of set-aside being used with addition of LAGC trips in open areas

If Alternative 2.4.2 is selected, LAGC trips in open areas under the observer set-aside program, this alternative would increase the observer set aside slightly to account for more observer coverage under this program. Including this additional coverage should only require a small increase in observer coverage (5% of total open area catch allocated to LAGC vessels); therefore a small increase in observer coverage would reduce the risk of exceeding the set-aside requiring vessels to pay for observers without compensation from the set-aside program.

The PDT did discuss that there has been excess observer coverage in recent years, so this may not be necessary. However, it was noted that this could change based on a drop in price, or a new method for estimating discards – specifically a stratified estimate. This estimate is going to be reviewed at SARC 54 and it may require additional observer coverage for all portions of the fleet. The Scallop Committee decided to reject this alternative because the current level of observer set-aside has been sufficient in recent years, especially in open areas (Table 31).

Table 31 – Summary of observer set-aside usage and associated observer coverage rates for 2010 and 2011 (NERO scallop monitoring webpage)

	2010		2011*	
	Usage	Coverage	Usage	Coverage
Open Areas	70% (95/135 DAS)	7% LA	66% (90/136 DAS)	9.5% LA
CA1	N/A	N/A	62% (69K/111K)	LA - 9% GC - 4%
CA2	N/A	N/A	90% (31K/35K)	LA – 11.7%
NL	70% (42K/59K)	LA - 8% GC - 5%	N/A	N/A
HC	N/A	N/A	74% (55K/74K)	LA – 9.8% GC – 4.8%
ETA	79% (90K/113K)	LA - 6% GC - 0%	14% (16K/113K)	LA – 6.2%
DEL	98% (57K/58K)	LA - 8% GC - 3%	73% (54K/74K)	LA – 7.6% GC – 7.4%

**2011 values are preliminary since final values for the fishing year are not available yet*

3.2.3.1 Sub-divide the SNE and GB YT flounder sub-ACLs

The current YT sub-ACL would be further sub-divided between the LA and LAGC fisheries. Every sub-ACL is required to have an associated AM.

The PDT discussed that on principle it makes sense to further sub-divide the YT sub-ACL so each fleet is accountable: LA, LAGC dredge and LAGC trawl. However, it was discussed that we do not currently have a have a good way to estimate what that further sub-division should be based on because there is inadequate observer coverage for the LAGC fishery in open areas. The YT catch estimate for LAGC trawl vessels is very uncertain. The breakdown for catch in 2010 was different than preliminary results for 2011. For example, in 2010 the LAGC trawl fishery was estimated to catch 17% of the total SNE/MA YT, but in 2011 that dropped to 7%. Therefore, the PDT recommends that the sub-ACL should NOT be further sub-divided until there is better information to identify what the percent split should be, and how it could be

monitored effectively. The Committee agreed with this rationale and removed this alternative and the following options from consideration.

3.2.3.1.1 Option 1 – 5% of the YT sub-ACL for the LAGC fishery

This option would have a total of two YT sub-ACLs; one for the LA fishery and one for LAGC vessels, all gear types for both YT sub-ACLs (GB and SNE). For example, if the total GB sub-ACL was 100 mt the LA fishery would be allocated 95 mt and the LAGC fishery would be allocated 5 mt.

3.2.3.1.2 Option 2 – percentage based on recent projections of YT catch

This option would have a total of two YT sub-ACLs for GB and SNE YT; one for the LA fishery and one for LAGC vessels, all gear types. The allocation would be based on the percent of YT caught in recent years, i.e. 2010 and 2011 YT catch projections.

Based on 2010 information the LAGC fishery caught essentially 0% of the GB YT catch (38 pounds of YT out of almost 39,000 pounds or 0.1%). Based on projections of catch for SNE YT, the LAGC fishery was estimated to catch about 20% of the total YT catch (49,893 pounds for LAGC dredge plus trawl vessels out of a total 249,146 pounds). Based on 2011 prelimianry results, that dropped to about 7%.

3.2.3.1.3 Option 3 – further divide the LAGC sub-ACL for YT by gear type

This option would have a total of three YT sub-ACLs. One for the LA fishery, one for LAGC vessels with dredge gear, and one for LAGC vessels with trawl gear. In order for this alternative to be feasible a LAGC vessel would need to declare a specific gear type for the fishing year. A vessel would be allowed to change gear types each year during their permit application, but would have to declare a specific gear type for the year.

3.2.4 Allow transfer of IFQ for LA vessels with LAGC quota

The Scallop AP and Committee included this alternative in FW24 during development of this action. It was raised to provide more flexibility for these vessels as well. Preliminary legal input from NMFS is that because leasing in any form is not permitted for LA vessels and there was some discussion of this in Amendment 11 it would likely require an amendment. Amendment 11 specifically prohibited leasing for these vessels.

3.2.5 Measure to minimize incidental take of sea turtles as per the March 14, 2008 biological opinion for the scallop fishery

According to the most recent Biological Opinion (Opinion) issued by NMFS on July 12, 2012, the agency has determined that species not likely to be affected by the Atlantic Sea Scallop FMP or by the operation of the fishery include the shortnose sturgeon, the Gulf of Maine distinct population segment (DPS) of Atlantic salmon, hawksbill sea turtles, and the following whales: North Atlantic right, humpback, fin, sei, blue, and sperm whales, all of which are listed as endangered species under the ESA. NMFS also concluded that the continued authorization of the sea scallop fishery would not have any adverse impacts on cetacean prey, and that it would not affect the oceanographic conditions that are conducive for calving and nursing of large cetaceans.

The previous biological opinion (2008), which required that NMFS limit effort in the Mid-Atlantic during times when sea turtle distribution is expected to overlap with fishing activity is no longer required. Since that opinion is now superseded by the 2012 opinion, it is no longer required that; the other four are related to ongoing research needs and identification of measures to reduce interactions and/or the severity of such interactions. This section was left in Framework 24 because the status of this issue was unclear when the Council initiated FW24 in January 2012. However, based on the recent findings of the recent biological opinion no specific measures are required for this action, so it was removed from consideration.

3.2.6 Automatic Adjustments to Year 2 access area specifications

Scallop specifications are generally set every two years in a biennial framework action. In many cases, the original projections of biomass for the second year are not realized for all areas. For example more recently, FW22 set specifications for 2011 and 2012. The original projections estimated that biomass in the Delmarva access area would be 10,873 mt, or about 24 million pounds at the start of the 2012 fishing year. The PDT met in early 2012 before the fishing year began and reviewed survey results from three separate surveys of the Delmarva area from 2011: the federal dredge survey, a paired tow dredge survey by VIMS, and the SMAST photo survey.

All three surveys saw a clear decline in biomass compared to 2010 surveys. The SMAST survey reported total biomass in that area to be 5,939 mt or about 13 million pounds, of which 10 million pounds were exploitable size. This survey was conducted in May when some 2011 fishing had already occurred, but more was expected during the remainder of the year. In June, the federal dredge surveyed the area with a total biomass estimate of 7.2 million pounds. Finally, the VIMS dredge surveyed the area in October, after the vast majority of 2011 trips were taken and their estimate was 3.7 to 4.2 million pounds of exploitable biomass, depending on which survey dredge and SH:MW conversion is used. All three estimates were a substantial reduction from the original estimate of 24 million pounds in FW22.

Since a mechanism was not in place to automatically reduce allocations in Delmarva those trips would be allocated and vessels would likely take trips in the area having increased impacts since catch rates would be much lower than anticipated. The Council requested Emergency Action to shift those trips to Closed Area I instead to avoid unforeseen consequences. To potentially avoid similar situations in the future, this action is going to consider ways to automatically adjust allocations in year 2 that would not require a subsequent action by the Council or NMFS.

Several times in the past the FMP has developed measures that would reduce trips automatically in Year 2 based on updated projections. This process was not developed in FW22 for FY2012 because none of the access areas had more than one trip allocated per area, and in some cases only a split trip allocation. In order for this adjustment to be automatic the PDT needs to develop specific thresholds upfront that trigger a reduction. The PDT generally completes an update of biomass estimates in August or September each year after survey results are available.

The PDT did not develop this further once the Committee and Council passed a motion in September supporting that FW24 be a one-year action. Instead, the Council will develop specifications for 2014 in a separate action in 2013 (FW25). Therefore, developing automatic adjustments to Year 2 allocations is not necessary in this action since it is a one year action.

Furthermore, the default measures adopted in this action only include DAS allocations and an overall IFQ allocation, so there is no risk of access areas being open at the start of the fishing year that will not ultimately be open under FW25 if it is adopted after March 1, 2014.

3.2.7 Option 3a – GB Access Area closure period would take into account scallop meat weights, YT bycatch, and traditional fishing trends

The Scallop PDT also discussed that it could be beneficial to consider an alternative for the GB seasonal closures that is based on the months when meat weights are poor, YT bycatch is high, and also takes into account traditional fishing trends. Specifically, this alternative would close the areas consistent with Option 2 when YT bycatch rates are highest, but it would be more restrictive to also limit fishing when scallop meats are poor to reduce scallop fishing mortality. Finally, this alternative would also provide for a very limited amount of fishing in the winter when some vessels traditionally take a "Christmas trip".

The Scallop PDT considered GF PDT input on this issue when designing this option. Specifically, the GF PDT commented that for CA2 the months of May, June and July appear to be the months most likely to minimize catches of YT and WP. For YTF, the months of August – November should be avoided to reduce catches of YTF. For WINP, the months of March and April should be avoided. In terms of YT spawning, the months of May and June should be avoided; but to date there has been no research on the impacts of fishing activity on YT spawning and no research available that identifies specific spawning locations.

The PDT recommends that this alternative close all three access areas from March 1-April 30, September 1-November 30, and again from January 1-February 28/29. That would leave the areas open from May 1 – August 31 and again for the month of December. Overall the areas would be closed for 7 months and open for 5.

The Committee did not include this alternative in FW24. It was discussed that the closure was too long and could have negative impacts on the market and prices by limiting access to only 4 months of the year. The seasonal data for CA1 and NL were not as compelling as CA2, so the Council did not support closures for those areas right now. It was also explained that it may be useful to get more information about seasonal bycatch from the fishery if it has access to the areas for more months during the year. The Council could always adjust this season if there is new information to suggest the areas should be closed different times to further reduce YT bycatch.

4.0 AFFECTED ENVIRONMENT (SAFE REPORT)

The following is excerpted or summarized primarily from the FEIS for Amendment 15 to the Atlantic Sea Scallop Fishery Management Plan (NEFMC, 2010). The reader is referred to that document (Available at: http://www.nefmc.org/scallops/index.html) for more detailed information on the fisheries and other resources described below. Some updates have been included, in particular new information about the fishery from 2010 and 2011, as well as a summary of recent activities related to protected resources and EFH.

4.1 ATLANTIC SEA SCALLOP RESOURCE

The Atlantic sea scallop (*Placopetcen magellanicus*) is a bivalve mollusk that is distributed along the continental shelf, typically on sand and gravel bottoms from the Gulf of St. Lawrence to North Carolina (Hart and Chute, 2004). The species generally inhabit waters less than 20° C and depths that range from 30-110 m on Georges Bank, 20-80 m in the Mid-Atlantic, and less than 40 m in the near-shore waters of the Gulf of Maine. Although all sea scallops in the US EEZ are managed as a single stock per Amendment 10, assessments focus on two main parts of the stock and fishery that contain the largest concentrations of sea scallops: Georges Bank and the Mid-Atlantic, which are combined to evaluate the status of the whole stock.

The scallop assessment is a very data rich assessment. The overall biomass and recruitment information are based on results from several surveys. First, the NEFSC has had a dedicated dredge survey since 1979 that has sampled the resource using a stratified random design. More recently, the NMFSC scallop survey has evolved into a combined dredge and optical survey. Dredge tows are still completed in each stratum, and a digital camera (Seahorse) is towed behind the survey vessel on all three legs of the survey. In addition, SMAST completes a video survey of the entire scallop resource including more intensive sampling in discrete areas that vary year to year. VIMS conducts a grid survey of various areas that also vary year to year using both a survey and commercial dredge. Finally, Arnie's Fisheries has completed very intensive optical surveys of discrete areas that also change each year using a similar towed camera (Habcam). The Scallop PDT combines the results from all available surveys to estimate sea scallop biomass and recruitment on an annual basis. For 2012, the overall biomass estimates from all survey methods were within 10% of each other; therefore there is a high degree of confidence that the 2012 biomass estimates are real.

4.1.1 Biomass

4.1.1.1 Georges Bank

The scallop abundance and biomass on Georges Bank increased from 1995-2000 after implementing closures and effort reduction measures. Biomass and abundance then declined from 2006-2008 because of poor recruitment and the reopening of portions of groundfish closed areas. Biomass increased on Georges Bank in both 2009 and 2010, mainly due to increased growth rates and strong recruitment in the Great South Channel, along with continuing concentrations on the Northern Edge and in the central portion of Closed Area I, especially just south of the "sliver" access area. All surveys in 2012 saw consistent results for GB biomass with highest concentrations in NL, the Channel, and cod HAPC (Figure 9 - Figure 11). Overall, GB biomass has been declining since 2010 (Figure 15).

Figure 9 - Total scallop biomass (g/tow) on Georges Bank from the 2012 NEFSC dredge tows and 2012 VIMS dredge tows in NL and in Closed Area II "north" and west of cod HAPC

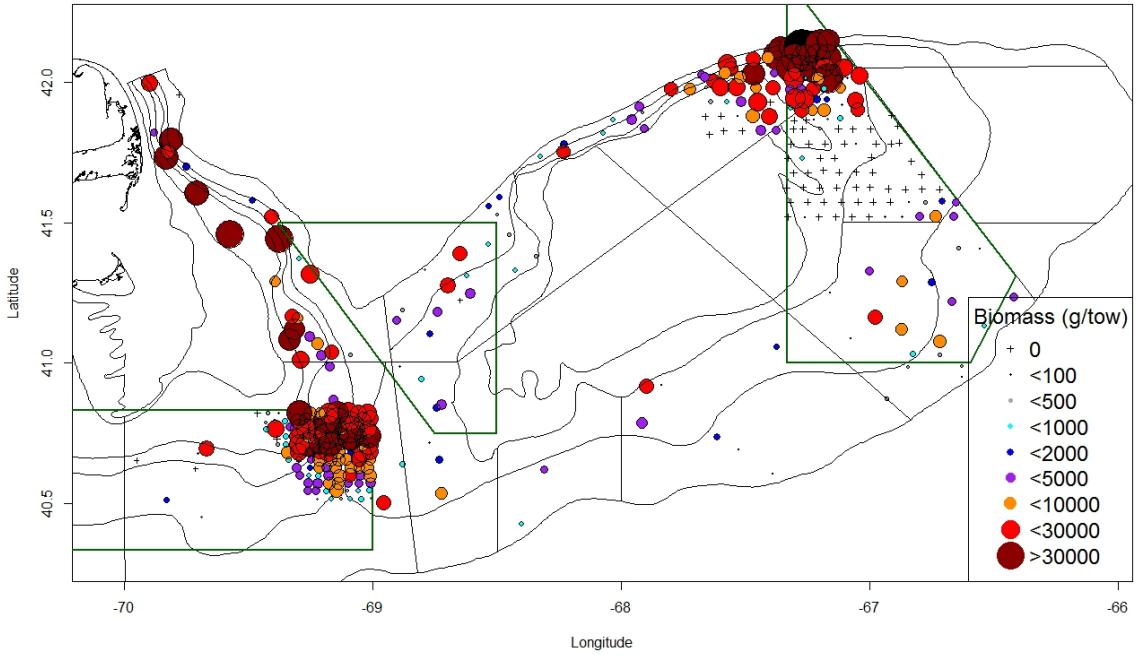


Figure 10 - Total scallop abundance (numbers per station) on Georges Bank from the 2012 SMAST video survey

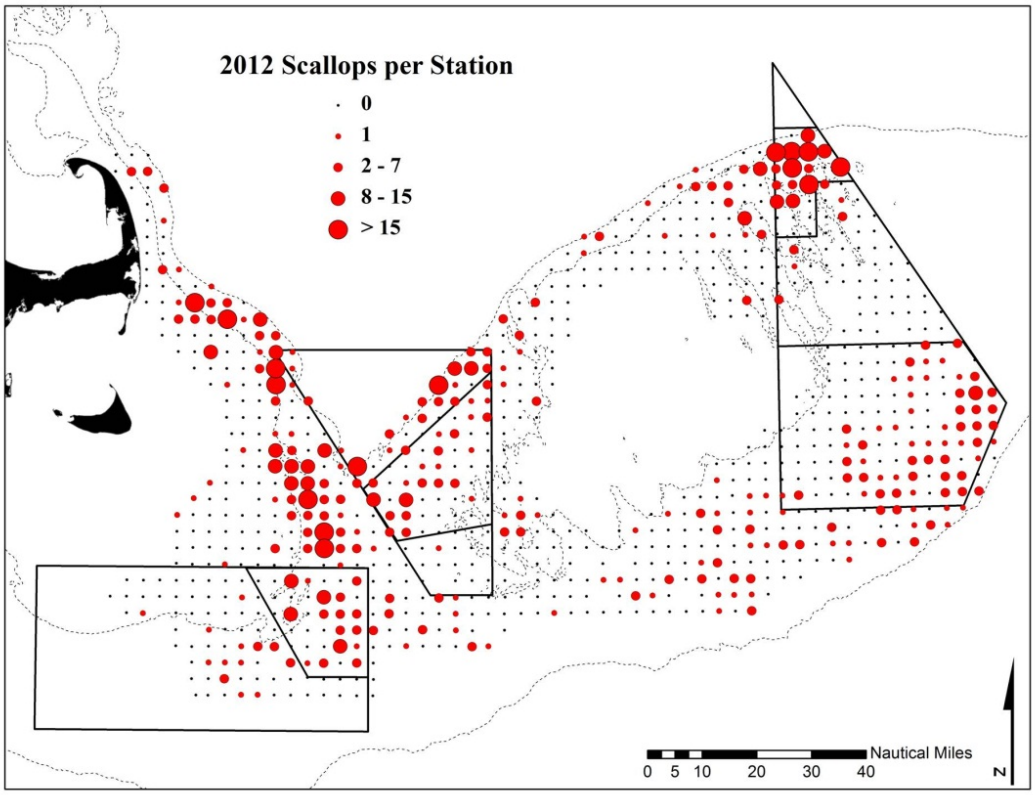
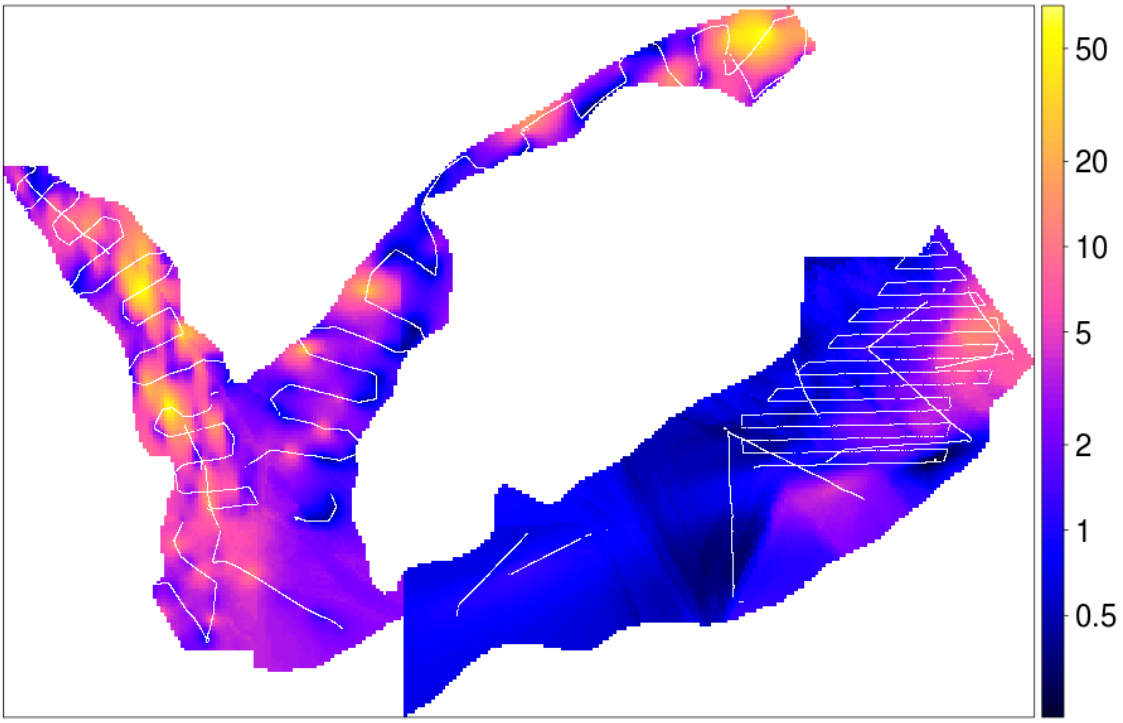


Figure 11 - Total scallop biomass on Georges Bank from the 2012 NEFSC optical survey (Seahorse)



4.1.1.2 Mid-Atlantic

In general, Mid-Atlantic biomass is declining. This is primarily from depletion of the large biomass in Elephant Trunk and several years of poor recruitment in that area (2009-2011). Figure 12 through Figure 14 show consistent results for MA biomass with highest concentrations in the Hudson Canyon access area as well as the Hudson Canyon itself (northwest of the access area). All surveys saw biomass in ETA and Delmarva, but most of these scallops are smaller. Note the SMAST figure is in numbers of scallops, and the other two are biomass. MA biomass has declined overall in recent years (Figure 15).

Figure 12 - Total scallop biomass (g/tow) for the Mid-Atlantic from the 2012 NEFSC dredge tows as well as 2012 VIMS dredge tows in Hudson Canyon and inshore NYB

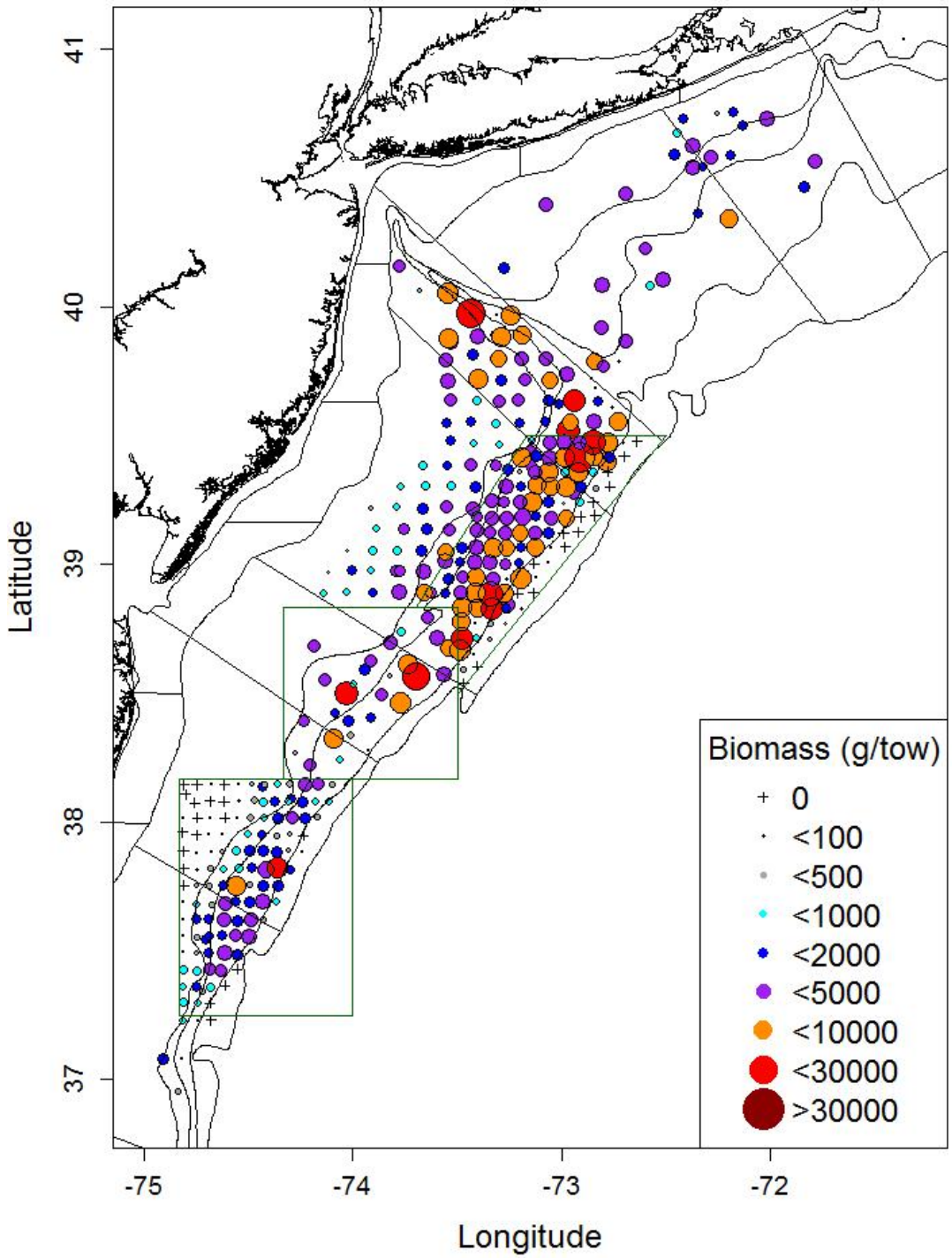


Figure 13 - Total scallop abundance (numbers per station) for the Mid-Atlantic from the 2012 SMAST video survey

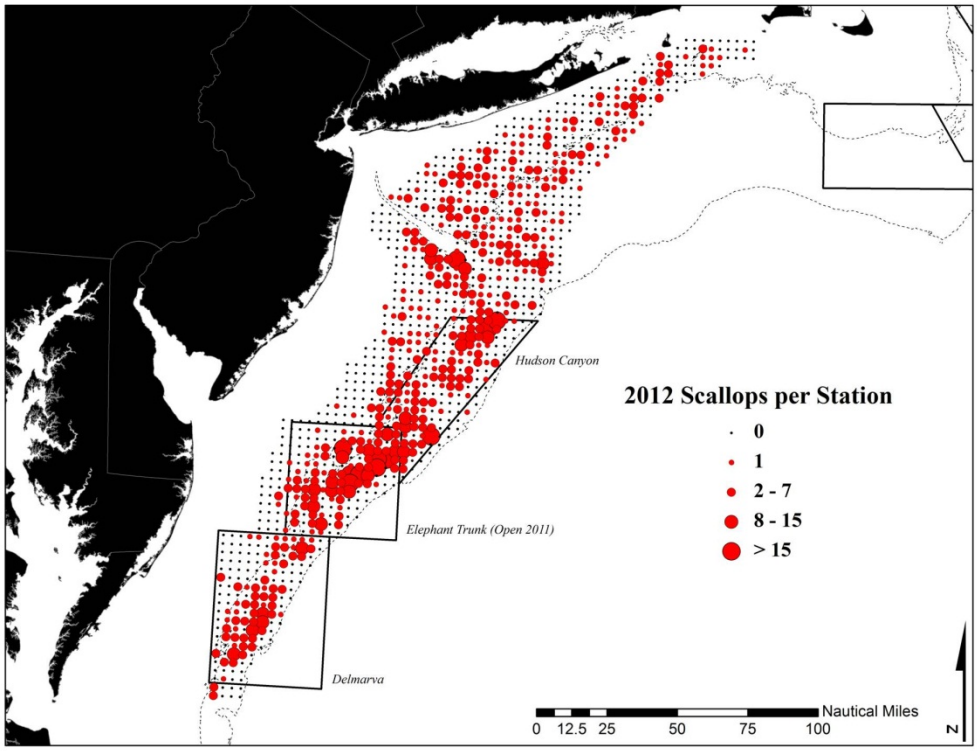


Figure 14 - Total scallop biomass for the Mid-Atlantic from the 2012 NEFSC optical survey (Seahorse)

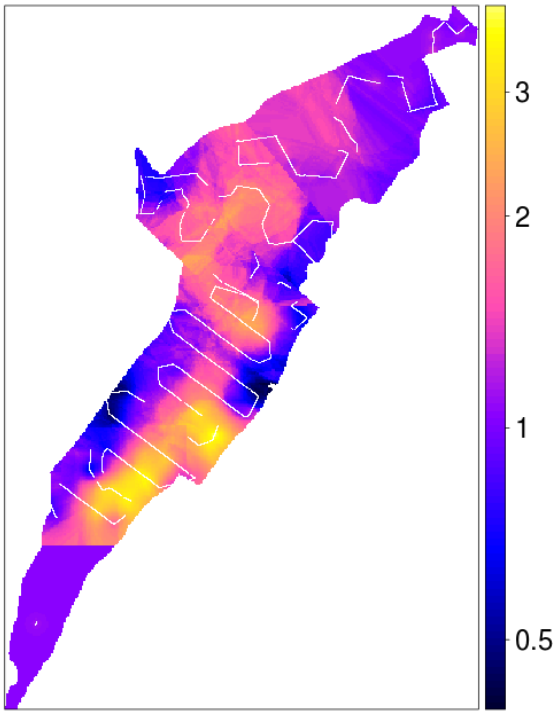
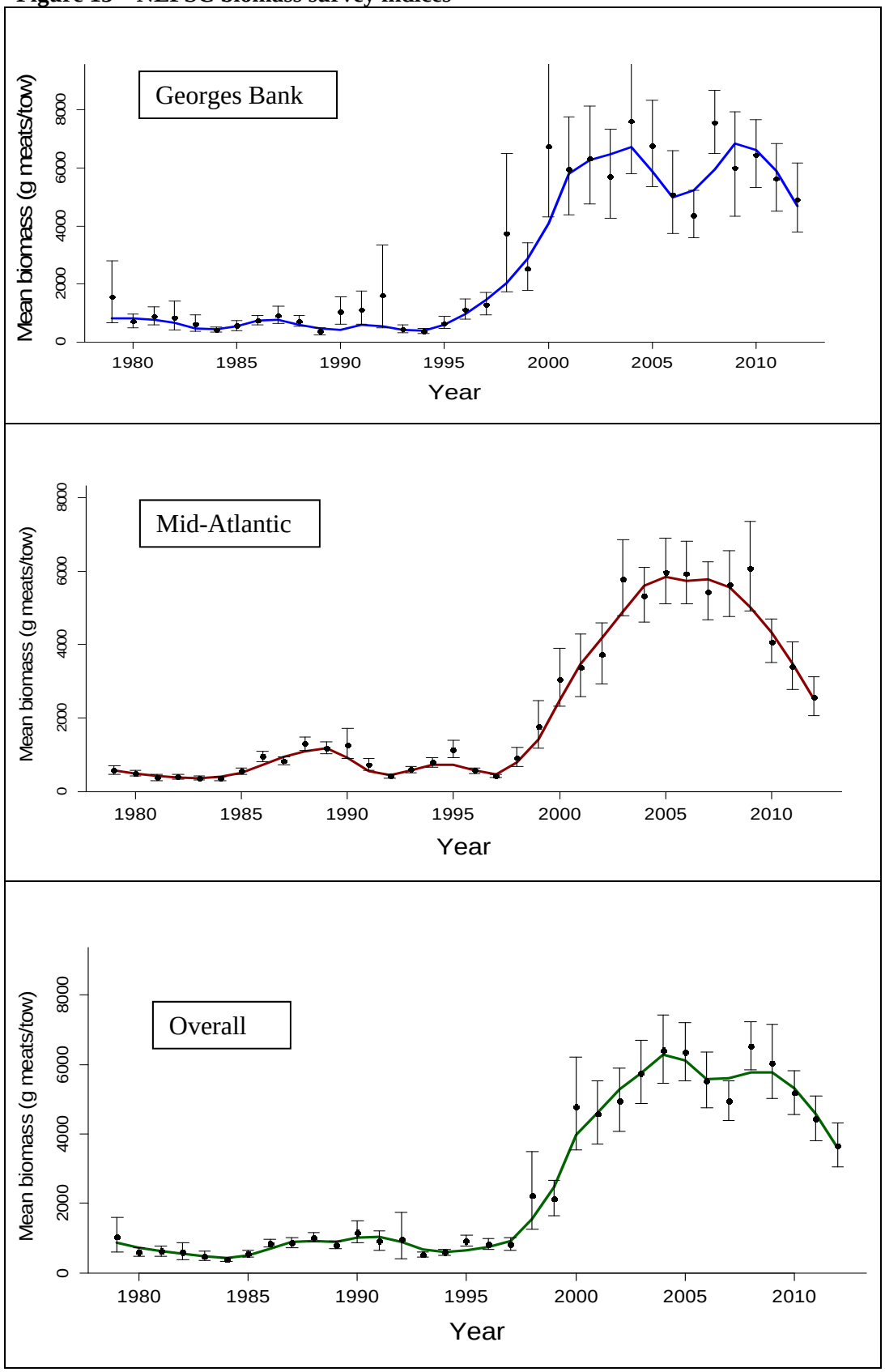


Figure 15 – NEFSC biomass survey indices



4.1.1.3 Northern Gulf of Maine

The survey was conducted during 2012 in the federal portion of NGOM management area through a 2011 RSA award. About 200 stations were completed in five overall survey areas. Overall the biomass was very patchy and some areas had poor meat conditions (smaller meats on Platt's and Fippennies Banks compared to shell heights)(Figure 16 - Figure 18). Most of the biomass was found in the SE part of NGOM management area (offshore from northeastern MA in survey areas 4 and 5) with some recruitment observed in that area as well.

Figure 16 – NGOM estimate of biomass from 2012 NGOM dredge survey

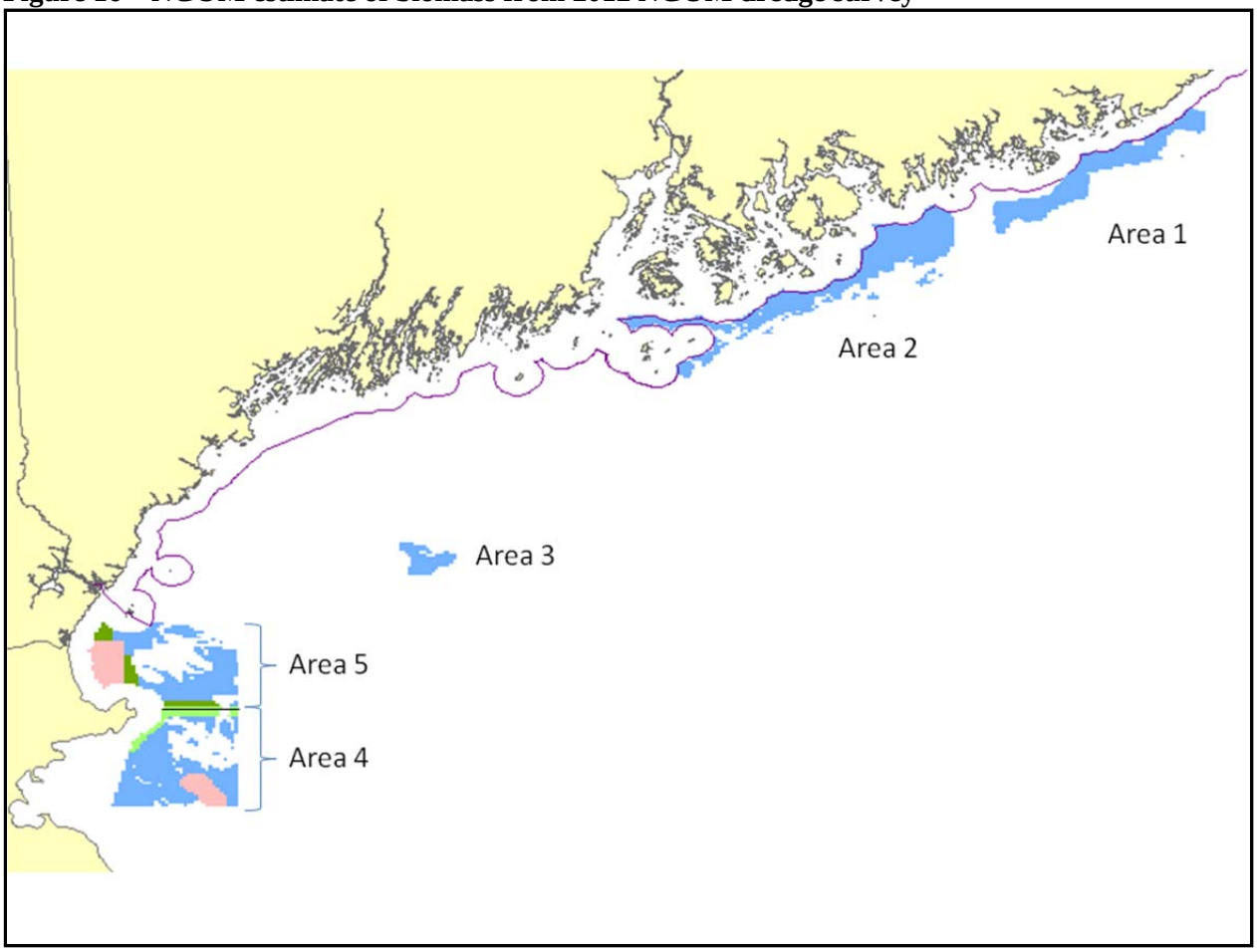


Figure 17 – Mean biomass per survey area within NGOM

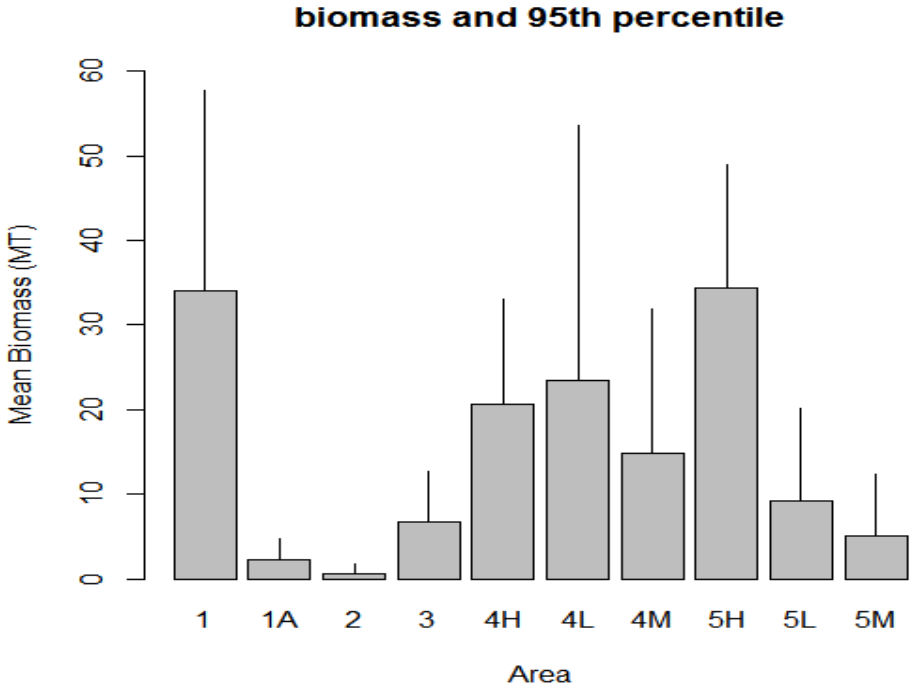
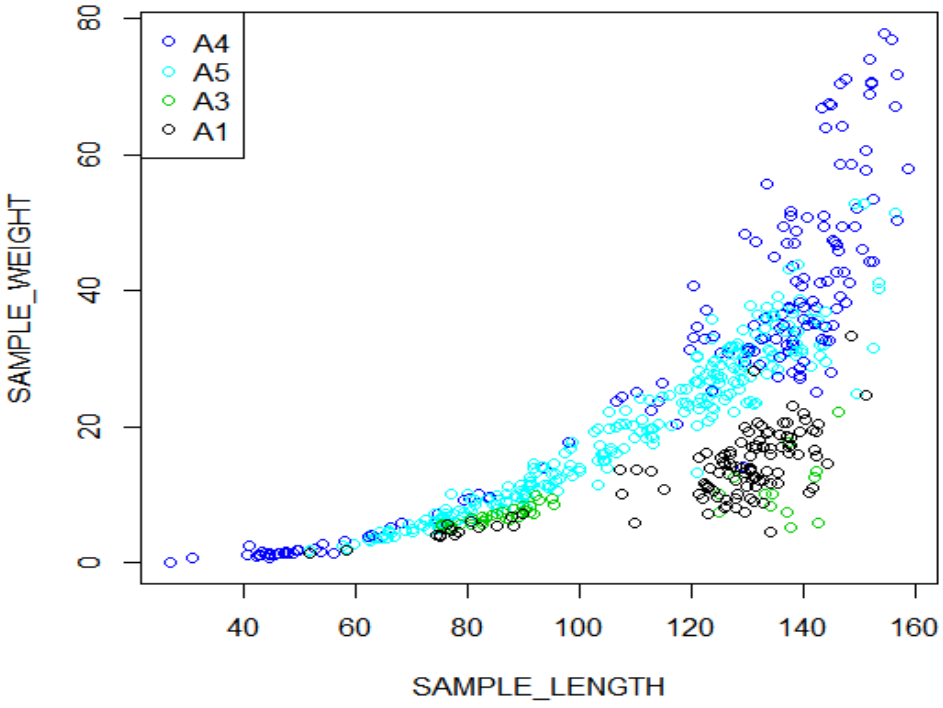


Figure 18 – Individual shell height meat weight relationships by survey area (1, 3, 4, and 5)



4.1.2 Recruitment

Recruitment was strong on GB for several years (2008-2010) but has been declining with very little signs of recruitment in 2012 (Figure 19). The SMAST video survey did see more signs of recruitment on GB, especially north of the CA1 access area (Figure 21). Recruitment in the MA was unusually high during 1998-2008. MA recruitment then declined for several years, but there are strong signs of improved recruitment in 2011 and 2012. According to all 2012 survey results, recruitment is very widespread in the MA and dense in all MA access areas, especially ETA (Figure 20, Figure 21, and Figure 22). MA recruitment may not be the highest in the time series (2001), but it may be the second highest.

Figure 19 – Recruitment on GB from 2012 NEFSC and VIMS dredge surveys combined

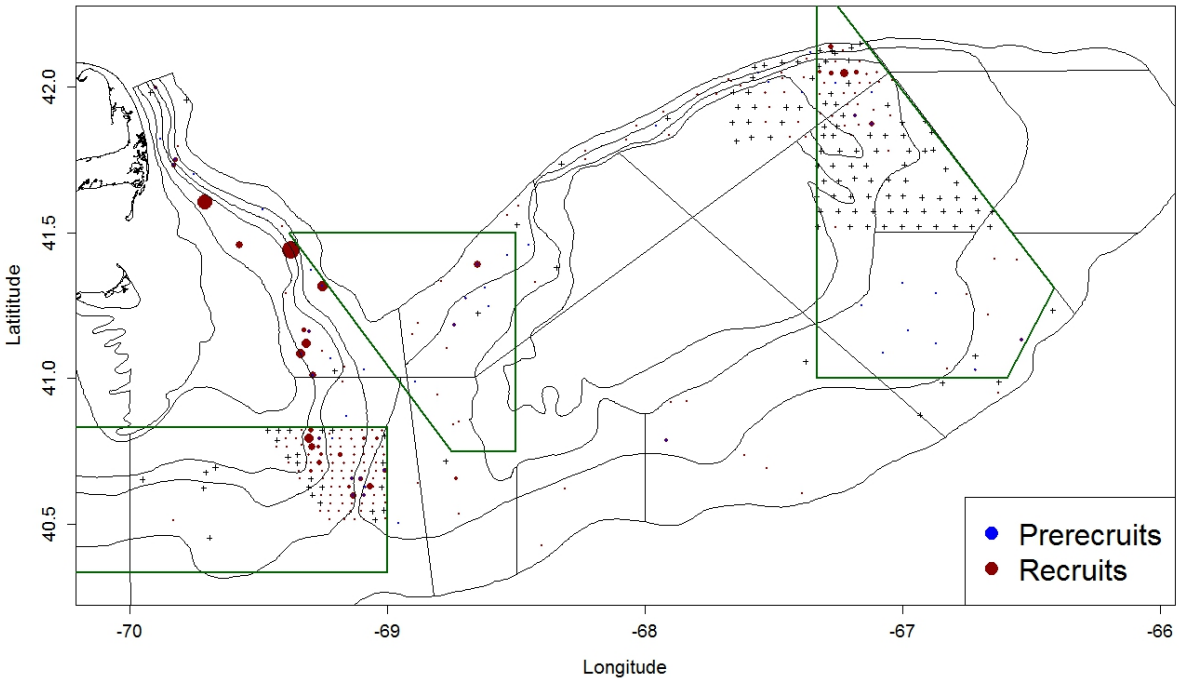


Figure 20 Recruitment in MA from 2012 NEFS and VIMS dredge surveys combined

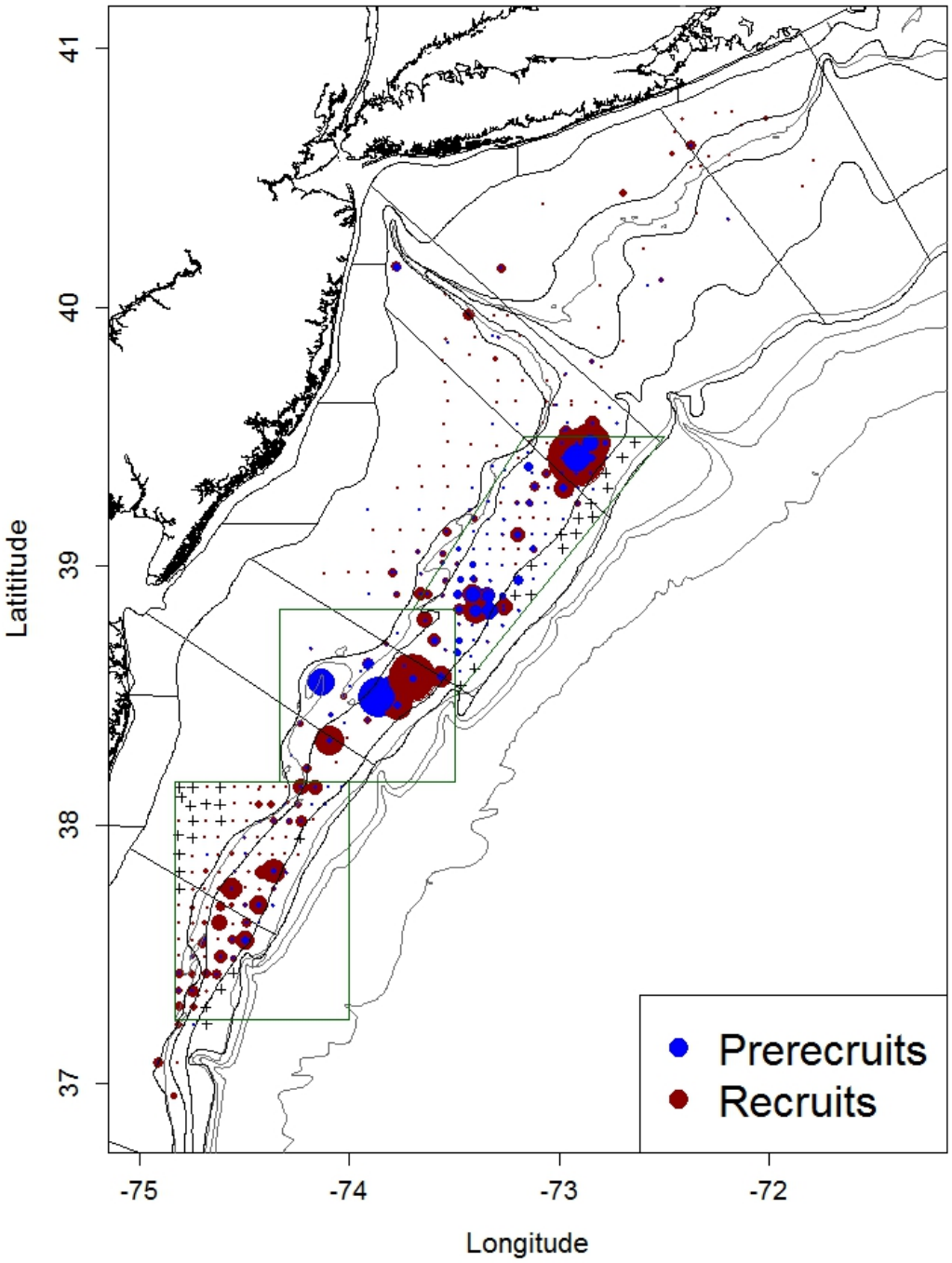


Figure 21 – Recruitment on GB and MA from 2012 SMAST video survey

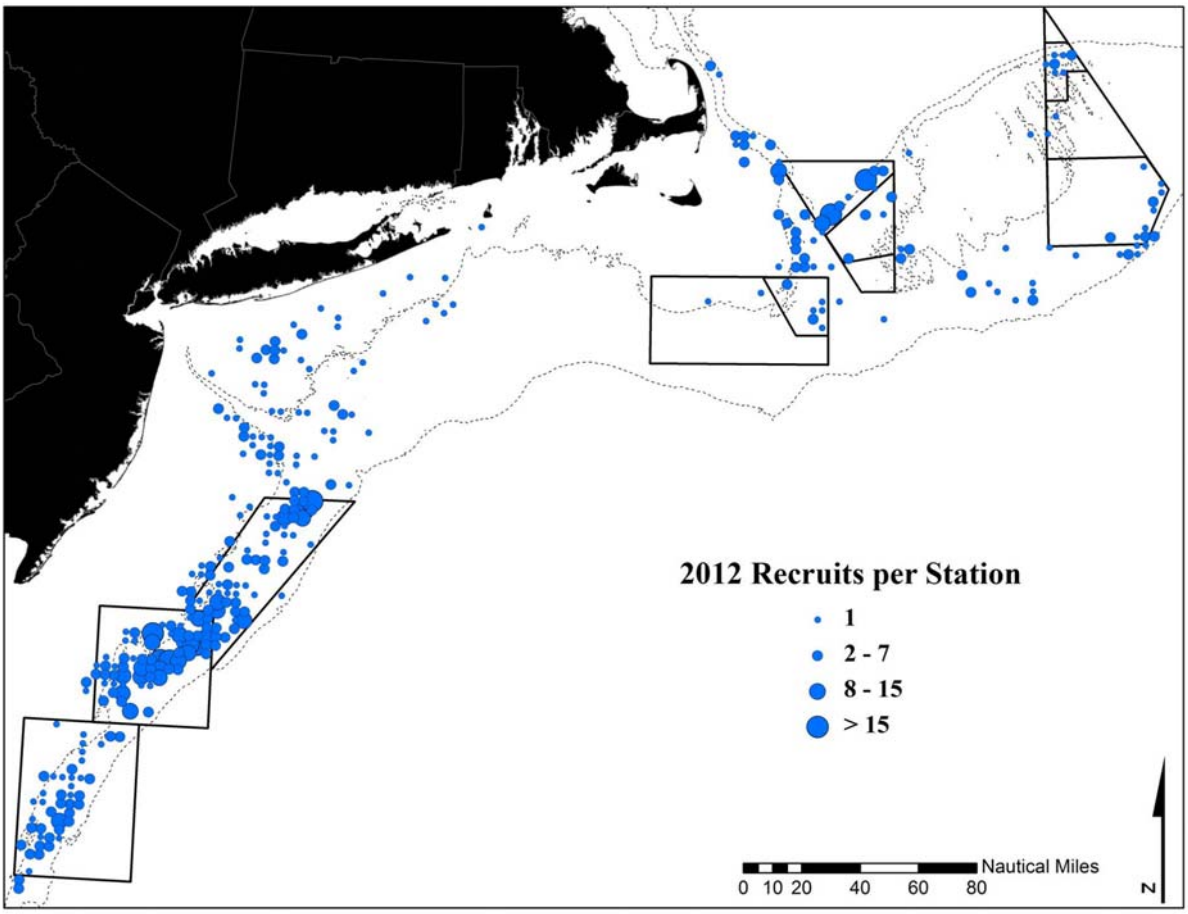
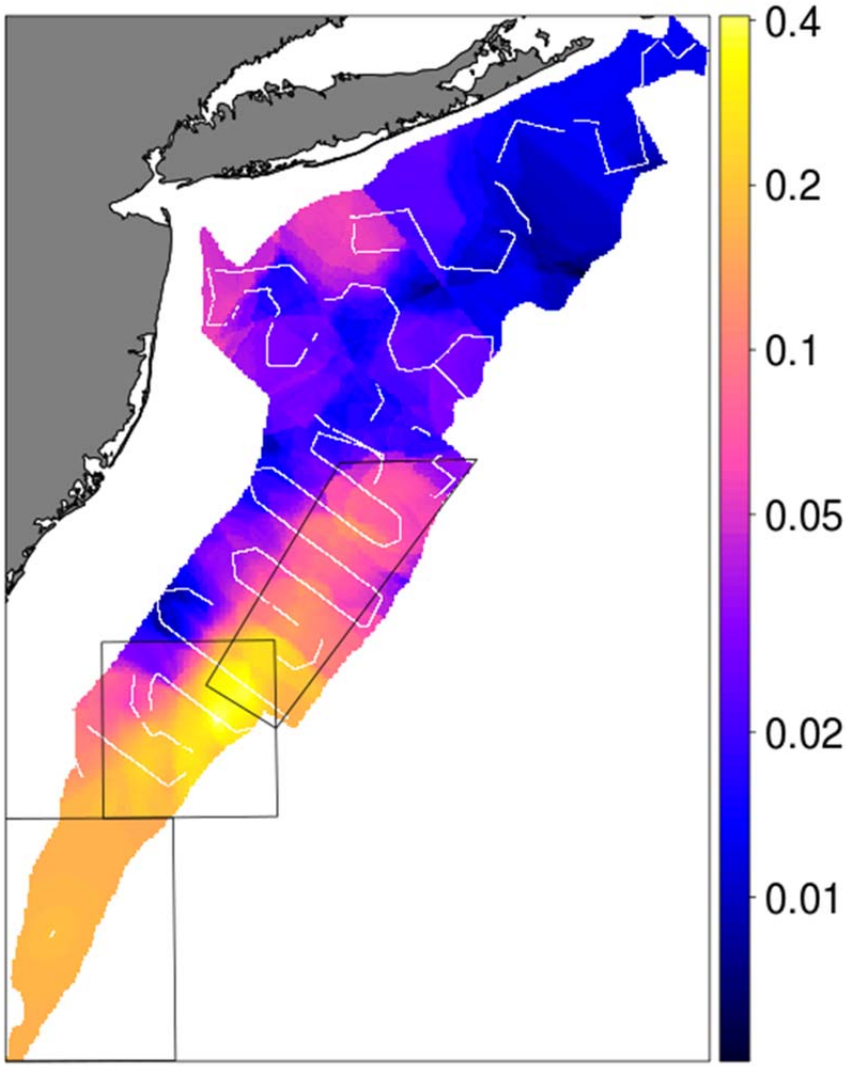


Figure 22 – Recruitment in MA from NEFSC optical survey (Seahorse) (units = recruits per square meter)



4.1.3 Fishing mortality

Four types of mortality are accounted for in the assessment of the sea scallop resource: natural, discard, incidental, and fishing mortality. The updated stock assessment established new values for natural mortality on both stocks. The new estimates are M = 0.12 for Georges Bank, and M = 0.15 for the Mid-Atlantic (NEFSC, 2010), compared to 0.10 used for the resource overall in previous assessments since natural mortality increases with larger shell heights. Discard mortality occurs when scallops are discarded on directed scallop trips because they are too small to be economically profitable to shuck or due to high-grading during access area trips to previously-closed areas. Total discard mortality is estimated at 20% (NEFSC, 2007). Incidental mortality is non-landed mortality associated with scallop dredges that likely kill and injure some scallops that are contacted but not caught by crushing their shells. The recent assessment in

2010 used 0.20 on Georges Bank and 0.10 in the Mid-Atlantic (NEFSC, 2010), compared to earlier values of 0.15 on Georges Bank and 0.04 for Mid-Atlantic. The increase in assumed values for both natural and incidental mortality is expected to reduce the productivity potential of the stock, which is likely to cause the model to produce less (over) optimistic projections moving forward.

Finally, fishing mortality, the mortality associated with scallop landings on directed scallop trips, was calculated separately for Georges Bank and the Mid-Atlantic because of differences in growth rates. Fishing mortality peaked for both stocks in the early 1990s, but has decreased substantially since then as tighter regulations were put into place including area closures, and biomass levels recovered. In general, *F* has remained stable on Georges Bank since 1995, and the Mid-Atlantic has shown larger fluctuations and an overall higher *F* (Figure 23). Figure 24 shows F and biomass estimates for the combined stock overall.

The formal stock status update was prepared through FY2009 as part of SARC 50 (NEFSC, 2010), and the F_{max} reference point was changed to F_{msy}. F_{msy} for the whole stock was estimated from the Stochastic Yield Model (SYM) to be 0.38. SARC 50 estimated that overall fishing mortality in 2009 was 0.38, consistent with recent years. Since the fishing mortality in 2009 was equal to F_{msy}, overfishing did not occur (*F* must be above the threshold).

Figure 23 - Fishing mortality (red line) and biomass estimates (y^{-1}, gray bars) from the CASA model for scallops on Georges Bank (right) and in the Mid-Atlantic (left), through 2009

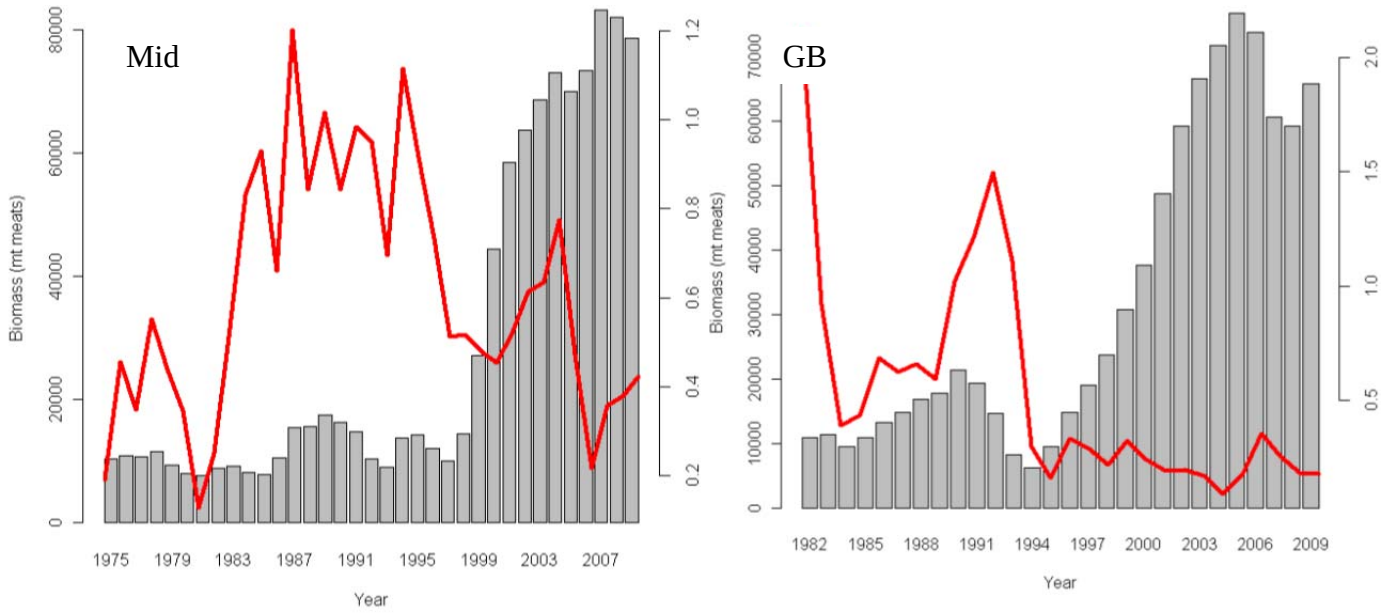
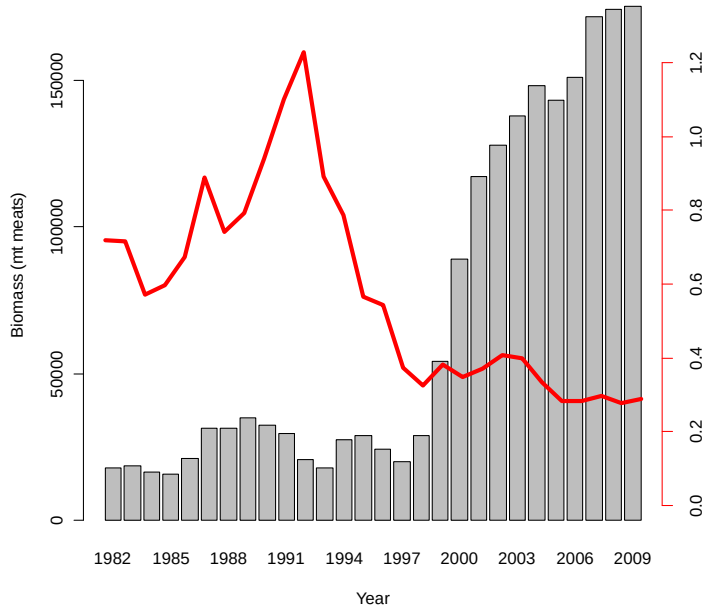


Figure 24 - Fishing mortality (red line) and biomass estimates (y^{-1}, gray bars) from the CASA model for sea scallop resource overall (Georges Bank and Mid-Atlantic combined) through 2009



The Scallop PDT met in July 2012 to review updated biomass and fishing mortality estimates developed for Framework 24. The results are not an official stock status update, but were completed for the purposes of setting fishery allocations in Framework 24. A catch at size model (CASA model) is used by the PDT to estimate realized scallop biomass and fishing mortality. It was updated through 2012 using 2012 dredge (NEFSC and VIMS) and video (SMAST, NEFSC Seahorse, and Habcam) surveys. The 2012 fishing year is not over, so the model assumed that total 2012 scallop catch will be similar to 2011, but more of the total will be from the GB area (about 2,000 mt.) due to higher biomass and catch rates on GB compared to the Mid-Atlantic.

Based on the overfishing definition in the Scallop FMP, overfishing occurs when F exceeds Fmsy (0.38). The scallop stock is overfished when biomass is below ½ Bmsy. The last scallop stock assessment estimated Bmsy at 125,358, so ½ Bmsy = 62,679 mt. The updated 2012 CASA model suggests declining biomass and increasing fishing mortality in the Mid-Atlantic. Total biomass is estimated to be 119,000 mt and overall F is estimated at 0.34 (Figure 25 and Figure 26). The CASA modeled estimate of biomass is slightly higher than the biomass estimate from the 2012 surveys (107,000 mt). This is probably because the model pulls a range of recruitment randomly from the time series, but actual recruitment on GB is very low. The updated fishing mortality rate is above the target of 0.32 (ACT) but below the threshold of 0.38 (OFL). **Therefore, overfishing is not occurring and this resource is not overfished (**Table 32**).** The high fishing mortality in the Mid-Atlantic is a concern, but there are signs of strong recruitment in a widespread area within the Mid-Atlantic.

The PDT also reviewed a CASA run for 2011 earlier this year (PDT meeting in May 2012). In 2011 total biomass was estimated to be 138,700 mt and overall F was 0.28 (0.53 in the MA and 0.14 on GB).

Figure 25 – CASA estaimte of biomass through 2012

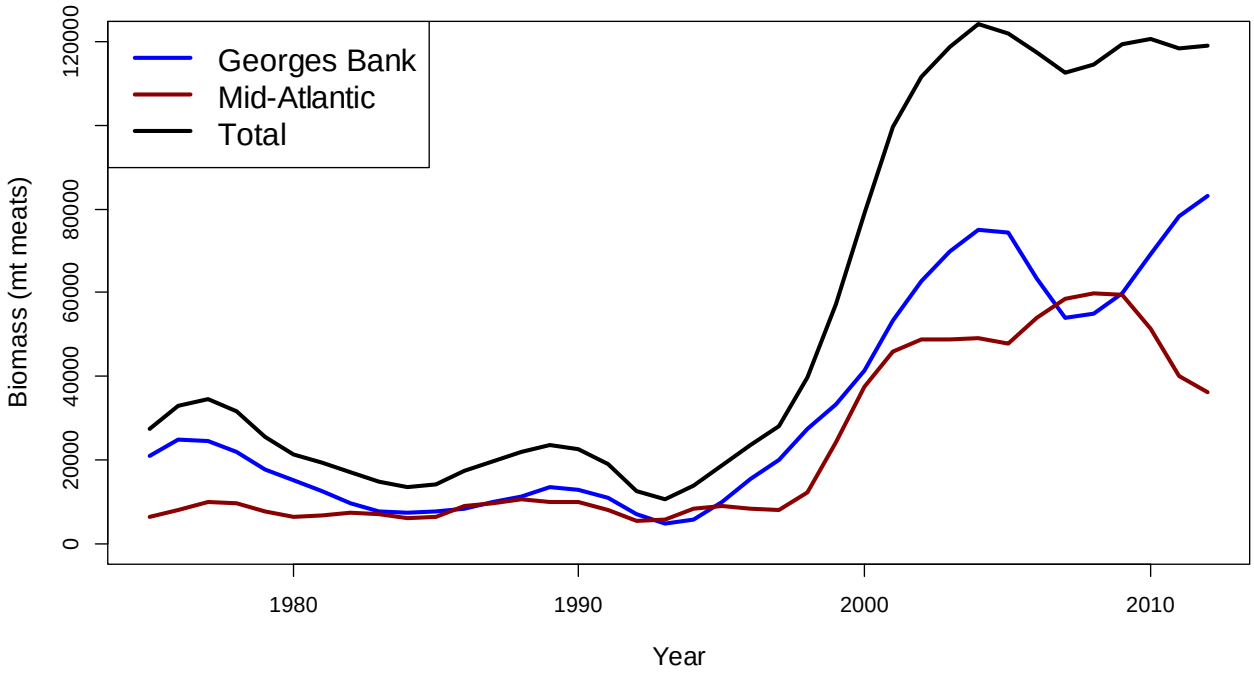


Figure 26 – CASA estimte of fishing mortaltiy through 2012

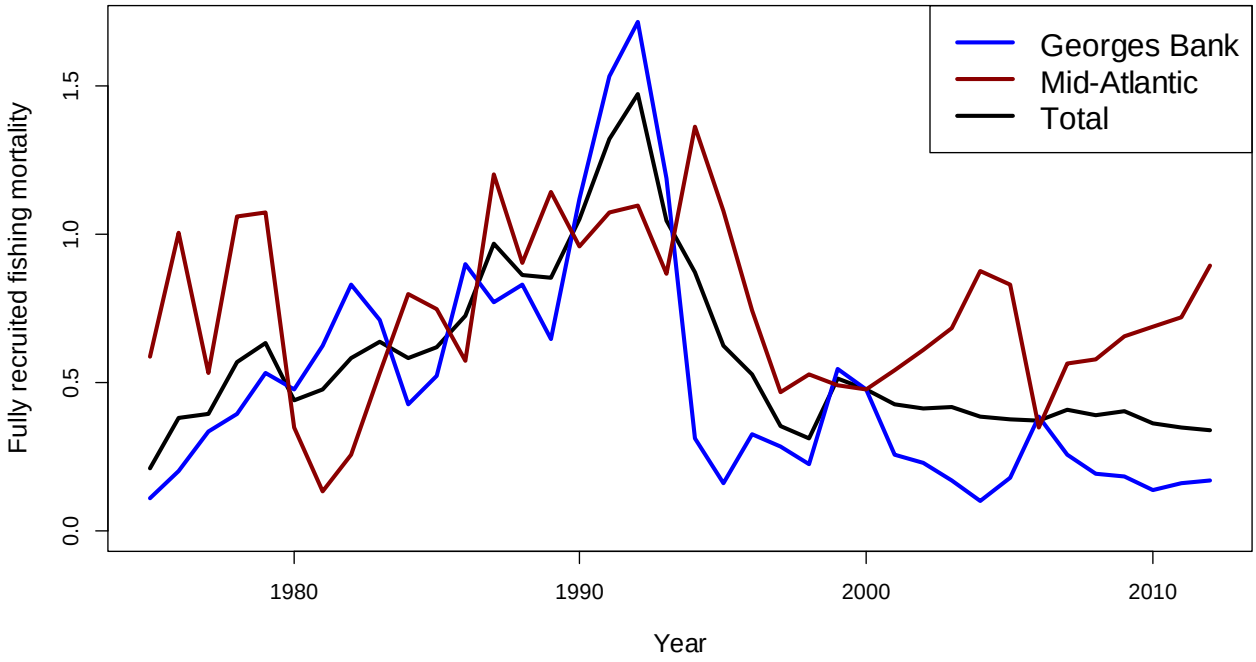


Table 32 – 2012 sea scallop stock status – overfishing is not occurring and the resource is not overfished

	MA 2012 Estimate	GB 2012 Estimate	Total 2012 Estimate	Stock Status Reference Points
Biomass (in 1000 mt)	36	83	119	½ Bmsy = 62,679
F	0.89	0.18	0.34	OFL = 0.38

4.1.4 Overall performance in terms of exceeding ACL

ACLs were implemented under Amendment 15 to the Scallop FMP. Fishing year 2011 was the first year the fishery was managed under ACLs. For the first year under ACL management, the scallop fishery caught about 98% of the ABC (Table 33). Fishing year 2012 is not over yet, but it does not appear that the ABC will be exceeded. To date the combined catch of LA and LAGC vessels is about 21,430 mt for March-October, and the ABC after discards are removed is just under 29,000 mt.

Table 33 – Summary of OFL, ABC and catch values under FW22 and proposed for FW24

	OFL (including discards)	ABC (including discards)	Discards (at ABC)	ABC available to fishery (after discards removed)	Landings	Catch (landings plus assumed discards)	% of ABC caught
2011	37,148	31,279	4,009	27,270	26,513	30,522	97.6%
2012	39,449	33,234	4,266	28,968	26,513*	30,779	92.6%

** 2012 Landings is a projection since FY not over. Assumed to equal 2011 Landings (26,513 mt).*

4.2 PHYSICAL ENVIRONMENT AND ESSENTIAL FISH HABITAT

The Northeast U.S. Shelf Ecosystem includes the area from the Gulf of Maine south to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream to a depth of 2,000 m (Figure 27**,** Sherman et al. 1996). Four distinct sub-regions are identified: the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope. The physical oceanography and biota of these regions were described in the Scallop Amendment 11. Much of this information was extracted from Stevenson et al. (2004), and the reader is referred to this document and sources referenced therein for additional information. Primarily relevant to the scallop fishery are Georges Bank and the Mid-Atlantic Bight, although some fishing also occurs in the Gulf of Maine. The link with more information about the EFH description for Atlantic sea scallop can be found at: http://www.nero.noaa.gov/hcd/scallops.pdf.

The Atlantic sea scallop fishery is prosecuted in concentrated areas in and around Georges Bank and off the Mid-Atlantic coast, in waters extending from the near-coast out to the edge of the continental shelf. Atlantic sea scallops occur primarily in depths less than 110 meters on sand,

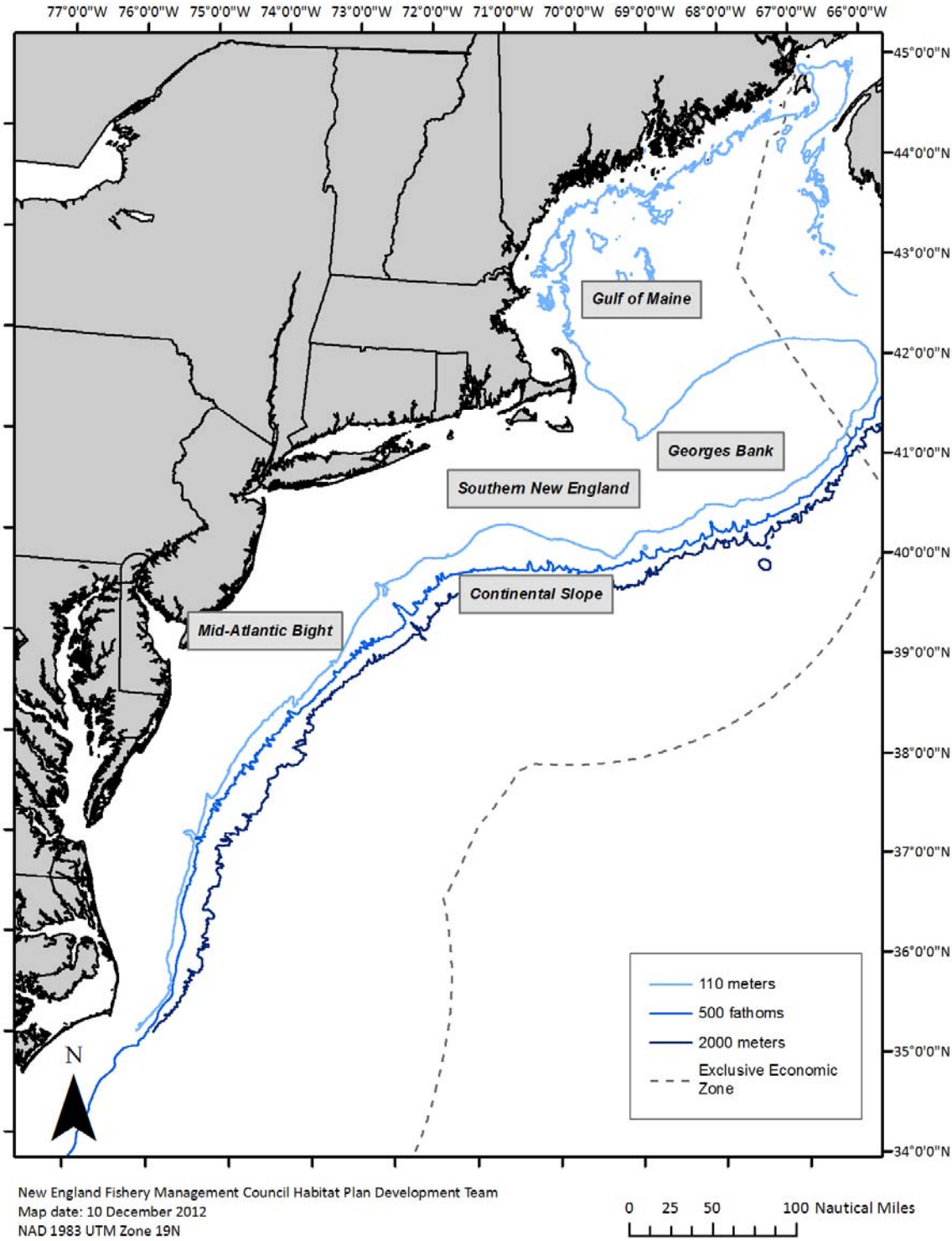
gravel, shells, and cobble substrates (Hart et al. 2004). This area, which could potentially be affected by the preferred alternative, has been identified as EFH for various species. These species include American plaice, Atlantic cod, Atlantic halibut, Atlantic herring, Atlantic sea scallop, Atlantic surfclam, Atlantic wolfish, barndoor skate, black sea bass, clearnose skate, haddock, little skate, longfin squid, monkfish, ocean pout, ocean quahog, pollock, red hake, redfish, rosette skate, scup, silver hake, smooth skate, summer flounder, thorny skate, tilefish, white hake, windowpane flounder, winter flounder, witch flounder and yellowtail flounder. For more information on the geographic area, depth, and EFH description for each applicable life stage of these species, the reader is referred to Table 45 of the scallop Amendment 15 EIS.

Most of the current EFH designations were developed in NEFMC Essential Fish Habitat Omnibus Amendment 1 (1998). Most recently, Amendment 16 to the Northeast Multispecies FMP adds Atlantic wolffish to the management unit and includes an EFH designation for the species. For additional information, the reader is referred to the Omnibus Amendment and the other FMP documents listed in Table 28 of the scallop Amendment 15 EIS. In addition, summaries of EFH descriptions and maps for Northeast region species can be accessed at http://www.nero.noaa.gov/hcd/list.htm. l.

Designations for all species are being reviewed and updated in NEFMC Omnibus Essential Fish Habitat Amendment 2 (OA2). Another purpose of OA2 is to evaluate existing habitat management areas and develop new habitat management areas. To assist with this effort, the Habitat PDT developed an analytical approach to characterize and map habitats and to assess the extent to which different habitat types are vulnerable to different types of fishing activities. This body of work, termed the Swept Area Seabed Impact approach, includes a quantitative, spatially-referenced model that overlays fishing activities on habitat through time to estimate both potential and realized adverse effects to EFH. The approach is detailed in this document, available on the Council webpage:
http://www.nefmc.org/habitat/sasi_info/110121_SASI_Document.pdf.

During 2013, the Council plans to finalize OA2, including development of updated management areas to address habitat and groundfish related objectives. Assuming current timelines are met and final Council approval occurs in September 2013, the action should be implemented by spring 2014.

Figure 27 – Northeast U.S Shelf Ecosystem and geographic extent of the US sea scallop fishery



4.3 PROTECTED RESOURCES

The following protected species are found in the environment in which the sea scallop fishery is prosecuted. A number of them are listed under the Endangered Species Act of 1973 (ESA) as endangered or threatened, while others are identified as protected under the Marine Mammal Protection Act of 1972 (MMPA). An update and summary is provided here to facilitate consideration of the species most likely to interact with the scallop fishery relative to the preferred alternative.

A more complete description of protected resources inhabiting the action area is provided in Amendment 15 to the Sea Scallop FMP (See Amendment 15 to the Atlantic Sea Scallop Fishery Management Plan, Section 4.3, Protected Species, for a complete list. An electronic version of the document is available at http://www.nefmc.org/scallops/index.html.).

Cetaceans	***Status***
North Atlantic right whale (*Eubalaena glacialis*)	Endangered
Humpback whale (*Megaptera novaeangliae*)	Endangered
Fin whale (*Balaenoptera physalus*)	Endangered
Blue whale (*Balaenoptera musculus*)	Endangered
Sei whale (*Balaenoptera borealis*)	Endangered
Sperm whale (*Physeter macrocephalus*)	Endangered
Minke whale (*Balaenoptera acutorostrata*)	Protected
Beaked whale (*Ziphius* and *Mesoplodon spp.*)	Protected
Pilot whale (*Globicephala* spp.)	Protected
Spotted and striped dolphin (*Stenella spp.*)	Protected
Risso's dolphin (*Grampus griseus*)	Protected
White-sided dolphin (*Lagenorhynchus acutus*)	Protected
Common dolphin (*Delphinus delphis*)	Protected
Bottlenose dolphin: coastal stocks (*Tursiops truncatus*)	Protected
Harbor porpoise (*Phocoena phocoena*)	Protected
Pinnipeds	
Harbor seal (*Phoca vitulina*)	Protected
Gray seal (*Halichoerus grypus*)	Protected
Harp seal (*Phoca groenlandica*)	Protected
Hooded seal (*Crystophora cristata*)	Protected
Sea Turtles	
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered
Kemp's ridley sea turtle (*Lepidochelys kempii*)	Endangered
Green sea turtle (*Chelonia mydas*)	Endangered[1]

[1] *Green sea turtles in U.S. waters are listed as threatened except for the Florida breeding population, which is listed as endangered. Due to the inability to distinguish between these populations away from the nesting beach, green sea turtles are considered endangered wherever they occur in U.S. waters.*

Loggerhead sea turtle – NWA DPS(*Caretta caretta*)	Threatened[2]
Fish	
Shortnose sturgeon (*Acipenser brevirostrum*)	Endangered
Atlantic salmon (*Salmo salar*)	Endangered
Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*)	
Gulf of Maine DPS	Threatened
New York Bight DPS, Chesapeake Bay DPS, Carolina DPS & South Atlantic DPS	Endangered
Cusk (*Brosme brosme*)	Candidate
Alewife (*Alosa pseudo harengus*)	Candidate
Blueback herring (*Alosa aestivalis*)	Candidate

Candidate species are those petitioned species that NMFS is actively considering for listing as endangered or threatened under the ESA. Candidate species also include those species for which NMFS has initiated an ESA status review through an announcement in the Federal Register.

Candidate species receive no substantive or procedural protection under the ESA; however, NMFS recommends that project proponents consider implementing conservation actions to limit the potential for adverse effects on candidate species from any proposed project. NMFS has initiated review of recent stock assessments, bycatch information, and other information for these candidate and proposed species. The results of those efforts are needed to accurately characterize recent interactions between fisheries and the candidate/proposed species in the context of stock sizes. Any conservation measures deemed appropriate for these species will follow the information reviews. Please note that once a species is proposed for listing the conference provisions of the ESA apply (see 50 CFR 402.10).

Threatened and Endangered Species <u>Not</u> Likely to be Affected by the Alternatives under Consideration

According to the most recent Biological Opinion (Opinion) issued by NMFS on July 12, 2012, the agency has determined that species not likely to be affected by the Atlantic Sea Scallop FMP or by the operation of the fishery include the shortnose sturgeon, the Gulf of Maine distinct population segment (DPS) of Atlantic salmon, hawksbill sea turtles, and the following whales: North Atlantic right, humpback, fin, sei, blue, and sperm whales, all of which are listed as endangered species under the ESA. NMFS also concluded that the continued authorization of the sea scallop fishery would not have any adverse impacts on cetacean prey, and that it would not affect the oceanographic conditions that are conducive for calving and nursing of large cetaceans. The reader is referred to Section 4.3.1.1 of the scallop Amendment 15 EIS for a complete description regarding species not likely to be affected by the alternatives under consideration. These species descriptions include the cetaceans and pinnipeds listed above. In

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[2] *NWA DPS = Northwest Atlantic distinct population segment which encompasses loggerheads found north of the equator, south of 60° N latitude, and west of 40° W longitude.*

addition, it is noted that according to the 2012 List of Fisheries (76 FR 73912), there have been no documented marine mammal species interactions with either the sea scallop dredge fishery or the Atlantic shellfish bottom trawl fishery; therefore, the scallop fishery is considered a Category III fishery under the MMPA (i.e., a remote likelihood or no known incidental mortality and serious injuries of marine mammals).

Threatened and Endangered Species Potentially Affected Adversely by the Alternatives under Consideration

Section 7 of the Endangered Species Act (ESA) of 1973 requires each Federal agency to insure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species or critical habitat of such species. Since the Scallop FMP is approved and implemented by NMFS Northeast Region (NERO), NERO requested intra-service section 7 consultation on February 28, 2012.

NMFS requested reinitiating consultation because of the recent listing of five distinct population segments (DPS) of Atlantic sturgeon under ESA as well as new information on sea turtle interactions with the sea scallop fishery. New information includes: 1) new sources of information on the effects of the scallop fishery on sea turtles based on new estimates of average annual sea turtle bycatch (Murray (2011) and Warden (2011a)); 2) new information about levels of serious injury/mortality to sea turtles in the fishery (Upite 2011); 3) updated assessments of the likelihood of serious injury/mortality from new gear requirements (Milliken et al (2007), Smolowitz et al (2010) and Scallop PDT analyses in Framework 23); and 4) new management measures required in FW22 and FW23 that reduce impacts on sea turtles. Finally, the recent opinion explained the change in ESA listing of loggerhead from a single species to a separate DPS.

The 2012 consultation concludes that the continued operation of the scallop fishery may adversely affect, but is not likely to jeopardize the continued existence of loggerhead, leatherback, Kepm's ridley, or green sea turtles, or any other ESA-listed species under NMFS jurisdiction. NMFS anticipates the incidental take of ESA-listed species as follows:

- **for the NWA DPS of loggerhead sea turtles, we anticipate (a) the annual average take of up to 161 individuals in dredge gear, of which up to 129 per year may be lethal in 20l2 and up to 46 per year may be lethal in2013 and beyond,[3] and (b) the annual average take of up to 140 individuals in trawl gear, of which up to 66 per year may be lethal;**
- **for leatherback sea turtles, we anticipate the annual lethal take of up to two individuals in dredge and trawl gear combined;**

[3] The estimated mortality numbers presented in the Biological Opinion for scallop dredges with chain mats in 2012 are conservative in that they are overestimates of actual mortalities. Mortality rates used for 2012 are based on those estimated for observed turtle takes (e.g., turtles captured in the dredge and brought on deck), yet a percentage of the estimated takes are not observed (e.g., interactions where turtles were excluded by the chain mat) and these takes are considered to have a lower mortality rate.

- **for Kemp's ridley sea turtles, we anticipate the annual take of up to three individuals in dredge and trawl gear combined (for 2012, up to three takes are anticipated to be lethal, while for 2013 and beyond, up to two takes are anticipated to be lethal);**
- **for green sea turtles, we anticipate the annual lethal take of up to two individuals in dredge and trawl gear combined;**
- **for Atlantic sturgeon, we anticipate the annual take of up to one individual from either the GOM, NYB, CB, Carolina, or SA DPS in trawl gear; once every 20 years this take is expected to result in mortality.**

NMFS is still required to minimize these takes so several Reasonable and Prudent (RPMs) have been identified. Terms and conditions are included to specify how the RPMs should be implemented. Both RPMs and terms and conditions are non-discretionary and must be implemented by NMFS.

Reasonable and Prudent Measures

1. NMFS must annually monitor and assess the distribution of fishing effort in the Mid-Atlantic scallop dredge fishery during the period of known sea turtle overlap (May through November) to ensure that there are no increases in the likelihood of interactions with sea turtles that may result from increased effort.
2. NMFS must continue to investigate and implement, within a reasonable time frame following sound research, modifications to gears used in these fisheries to reduce incidental takes of sea turtles and Atlantic sturgeon and the severity of the interactions that occur.
3. NMFS must continue to review available data to determine whether there are areas or conditions within the action area where sea turtle and Atlantic sturgeon interactions with fishing gear used in the scallop fishery are more likely to occur.
4. NMFS must continue to quantify the extent to which chain mats and TDDs reduce the number of serious injuries/deaths of sea turtles that interact with scallop dredge gear.
5. NMFS must continue to research the extent to which sea turtle interactions with scallop dredge gear occur on the bottom versus within the water column.
6. NMFS must ensure that any sea turtles incidentally taken in scallop dredge or trawl gear and any Atlantic sturgeon incidentally taken in scallop trawl gear are handled in a way as to inimize stress to the animal and increase its survival rate.
7. 7 . NMFS must seek to ensure that monitoring and reporting of any sea turtles and Atlantic sturgeon encountered in scallop fishing gear: (1) detects any adverse effects such as injury or mortality; (2) detects whether the anticipated level of take has occurred or been exceeded; and 3) collects data from individual encounters.
8. NMFS must continue to engage in outreach efforts with commercial fishermen regarding the proper installation and use of chain mats on their scallop dredges.

Terms and Conditions

1. To comply with RPM #1 above, NMFS must continue to monitor dredge hours in the Mid-Atlantic scallop dredge fishery during the months of May through November when sea turtle interactions are most likely to occur. NMFS must collect and review effort data as stipulated under the monitoring plan below (i.e.,two-year running averages) to

determine if dredge effort in the Mid-Atlantic is on the rise, and, if needed, re-evaluate the monitoring plan methodology annually in the event more refined methods become available through discussions within the agency or with the NEFMC or scallop industry. The calculation and comparison of two-year running averages should also be performed on an annual basis, wtth 2007-2008 serving as the baseline efforl levels post-chain mats.

2. To comply with RPM #2 above, NMFS must continue to investigate modifications to scallop dredge and trawl gear to further minimize adverse effects on sea turtles due to collisions with and/or entrainment in the gear. Through continued experimental gear trials from or by any source (e.g., through the Scallop RSA program), NMFS and its partners must review alI data collected from those trials, determine the next appropriate course of action (e.g., expanded gear testing, further gear modification, rulemaking to require the gear modification), and initiate management action based on the determination. These trials may include further refinements of and improvements to the TDD as well as continued testing and evaluation of modified trawls (e.g. trawls with TEDs, topless trawls).
3. To comply with RPM #3 above, NMFS must continue to review all available data on the incidental take of sea turtles in the scallop fishery (observable plus unobservable, quantifiable) and other suitable information (e.g., data on observed sea turtle interactions with other trawl fisheries, sea turtle distribution information, or fishery surveys in the area where the scallop fishery operates) to assess whether correlations with environmental conditions (e.g., depth, SST, salinity) or other drivers of incidental take (e.g., gear configuration) can be made for some or all portions of the action area. If additional analysis is deemed appropriate, within a reasonable amount of time after completing the review, NMFS must take action, if appropriate, to reduce sea turtle interactions and/or their impacts.
4. To comply with RPM #4 above, NMFS must continue to use available and appropriate technologies to quantify the extent to which chain mats and TDDs reduce the number of serious injuries/deaths of sea turtles that interact with scallop dredge gear. This information is necessary to better determine the extent to which these two gear modifications reduce injuries leading to death for sea turtles and may result in further modifications of the fishery to ensure sea turtle interactions, including those causing serious injuries and mortalities are minimized.
5. To comply with RPM#5 above, NMFS must continue to use available and appropriate technologies to better determine where (on the bottom or in the water column) and how sea turtle interactions with scallop dredge gear are occurring. Such information is necessary to assess whether further gear modifications in the scallop dredge fishery will actually provide a benefit to sea turtles by either reducing the number of interactions or the number of interactions causing serious injury and mortality.
6. To comply with RPM #6 above, NMFS must ensure that all Federal permit holders in the scallop fishery possess handling and resuscitation guidelines for sea turtles and Atlantic sturgeon. For sea turtles, all Federally-permitted fishing vessels should have the handling and resuscitation requirements listed in 50 CFR 223.206(d)(1) and as reproduced in Appendix C. For Atlantic sturgeon, NMFS must instruct fishermen and observers to resuscitate any individuals that may appear to be dead by providing a running source of water over the gills.

7. To also comply with RPM #6 above, NMFS must continue to develop and distribute training materials for commercial fishermen regarding the use of recommended sea turtle and Atlantic sturgeon release equipment and protocols. Such training materials would be able to be brought onboard fishing vessels and accessed upon incidental capture (e.g., CD that could be used in on-board computer, placard, etc.).
8. To comply with RPM #7 above, NMFS must continue to place observers onboard scallop dredge and trawl vessels to document and estimate incidental bycatch of sea turtles and Atlantic sturgeon, Monthly summaries and an annual report of observed sea turtle takes in gears primarily landing scallops must be provided to the NERO Protected Resources Division. A similar data reporting plan must be developed for Atlantic sturgeon.
9. To also comply with RPM #7 above, NMFS must continue to instruct observers to tag and take tissue samples from incidentally captured sea turtles as stipulated under their ESA section 10 permit. The current NEFOP protocols are to tag any sea turtles caught that are larger than26 centimeters in notch-to-tip carapace length and to collect tissue samples for genetic analysis from any sea turtles caught that are larger than centimeters in notch-to-tip carapace length. NMFS must continue to instruct observers to send any genetic samples of sea turtles taken to the NEFSC. NMFS must further instruct observers to take fin clips from all incidentally captured Atlantic sturgeon and send them to NMFS for genetic analysis. Fin clips must be taken according to the procedures outlined in Appendix D and prior to preservation of other fish parts or whole bodies.
10. To also comply with RPM #7 above, NMFS must continue to reconvene the Sea Turtle Injury Working Group in order to better assess and evaluate injuries sustained by sea turtles in scallop dredge and trawl gear, and their potential impact on sea turtle populations. New data should be reviewed on an annual basis.
11. To comply with RPM #8 above, NMFS must distribute information to scallop permit holders specifying the chain mat and TDD regulations and be prepared to provide them assistance to resolve issues that may cause chain mats or any components of the TDD to be rigged improperly or malfunction.

4.4 ECONOMIC AND SOCIAL TRENDS IN THE SEA SCALLOP FISHERY

This section provides background information in terms of landings, revenues, permits, vessels and various ports and coastal communities in the Northeast Sea Scallop Fishery. For more detailed information about the Economic and Social Trends in the Sea Scallop Fishery please see Appendix I to Framework 24 document (Appx. I, FRW 24).

4.4.1 Trends in Landings, prices and revenues

In the fishing years 2003-2011, the landings from the northeast sea scallop fishery stayed above 50 million pounds, surpassing the levels observed historically (Figure 28). The recovery of the scallop resource and consequent increase in landings and revenues was striking given that average scallop landings per year were below 16 million pounds during the 1994-1998 fishing years, less than one-third of the present level of landings. The increase in the abundance of scallops coupled with higher scallop prices increased the profitability of fishing for scallops by the general category vessels. As a result, general category landings increased from less than 0.4 million pounds during the 1994-1998 fishing years to more than 4 million pounds during the fishing years 2005-2009, peaking at 7 million pounds in 2005 or 13.5% of the total scallop landings. The landings by the general category vessels declined after 2009 as a result of the Amendment 11 implementation that restricts TAC for the limited access general category fishery to 5.5% of the total ACL. However, the landings by limited access general category IFQ fishery increased in 2011 from its levels in 2010 due to a higher projected catch and a higher ACT for all permit categories.

Figure 28. Scallop landings by permit category and fishing year (in lb., dealer data)

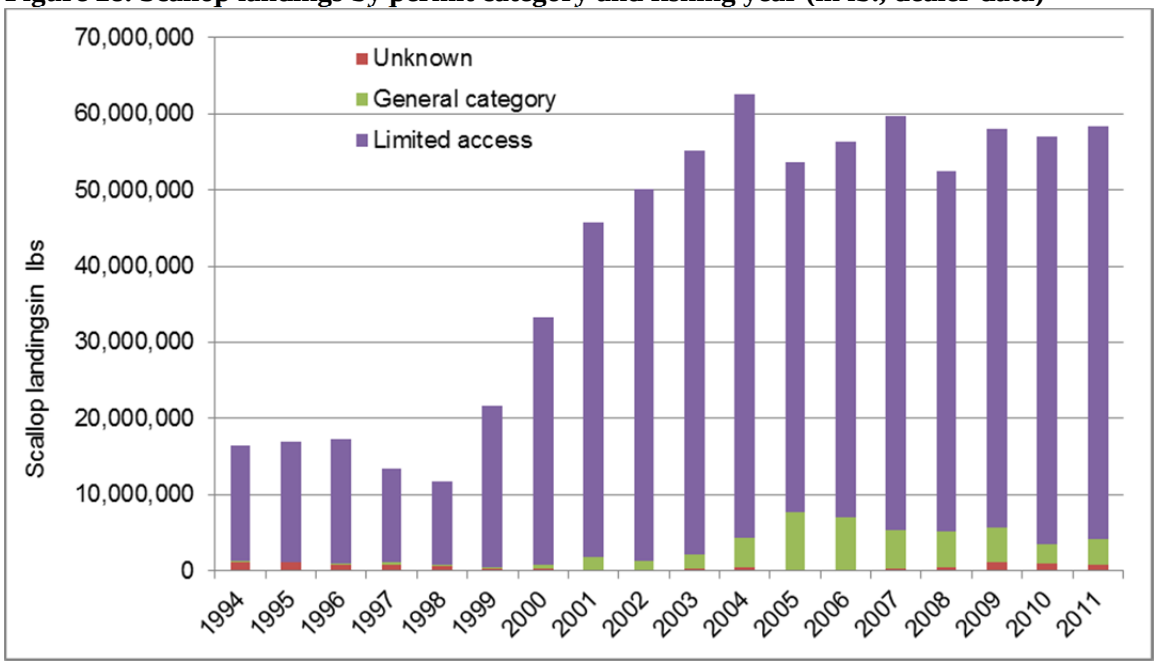
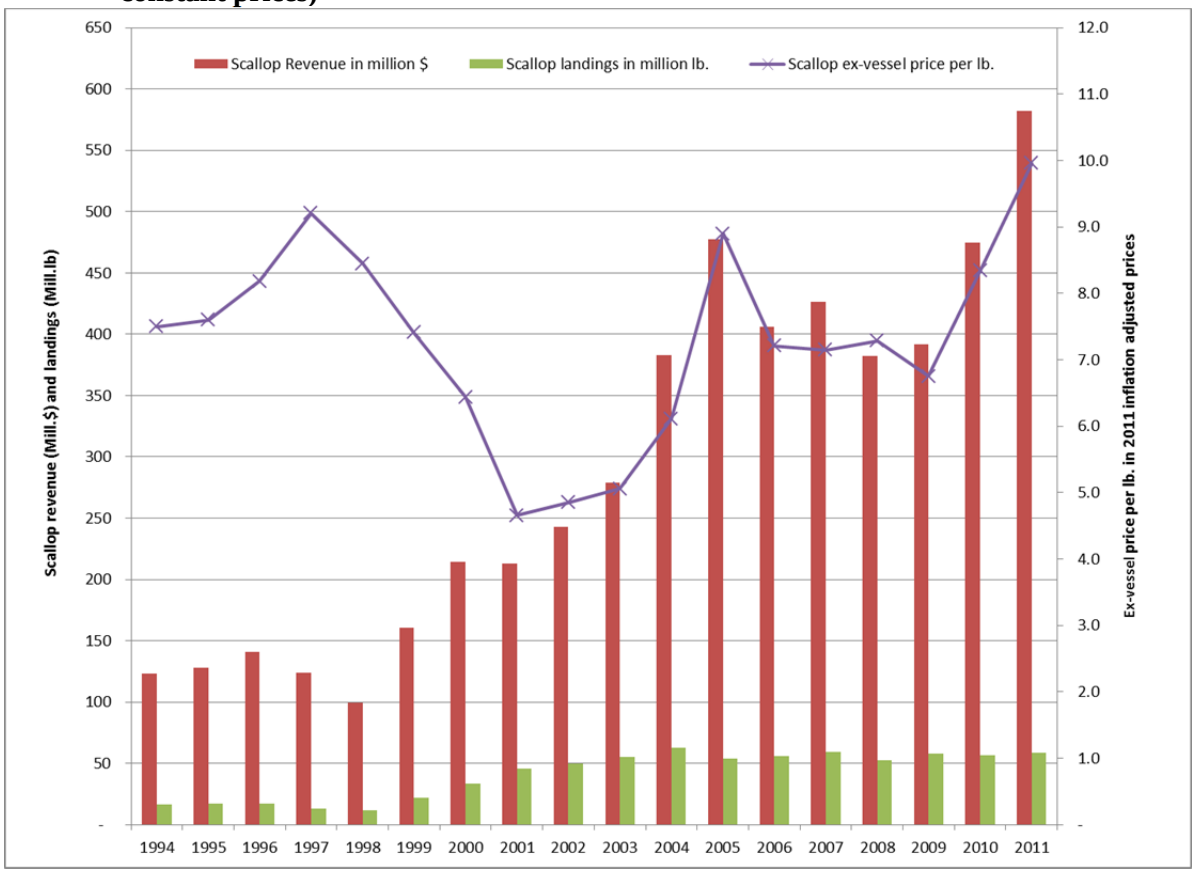


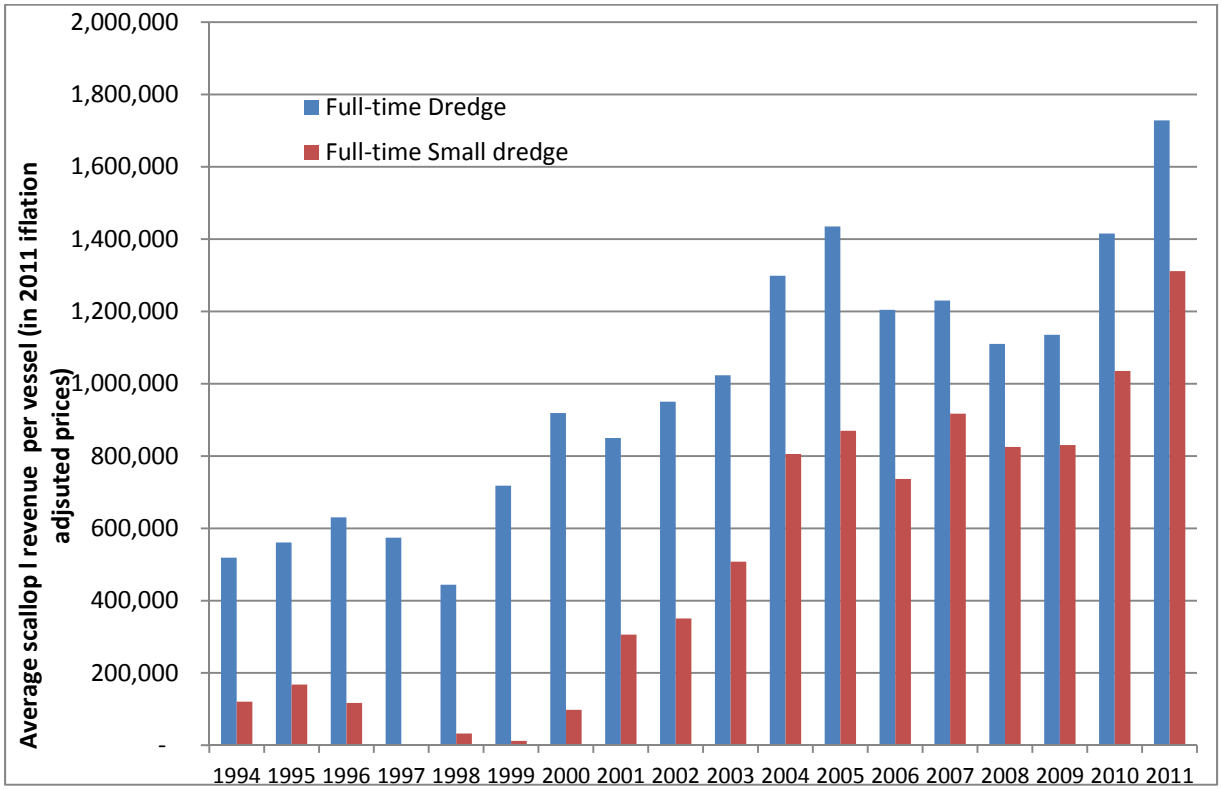
Figure 29 shows that total fleet revenues more than quadrupled in 2011 ($582 million) fishing year from its level in 1994 ($123 million, in inflation adjusted 2011 dollars). Scallop ex-vessel prices increased after 2001 as the composition of landings changed to larger scallops that in general command a higher price than smaller scallops. However, the rise in prices was not the only factor that led to the increase in revenue in the recent years compared to 1994-1998. In fact, inflation adjusted ex-vessel prices in 2008-2009 were lower than prices in 1994 (Figure 29). The increase in total fleet revenue was mainly due to the increase in scallop landings and the increase in the number of active limited access vessels during the same period. The ex-vessel prices increased substancially to about $10 per pound of scallops in 2011 fishing year, however, as the decline in dollar attracted more imports of large scallops from the European countries resulting in record revenues from scallops reaching to $582 million for the first time in scallop fishing industry history (Figure 29).

Figure 29. Trends in total scallop landings, revenue and ex-vessel price by fishing year (including limited access and general category fisheries, revenues and prices are expressed in 2011 constant prices)



The trends in revenue per full-time vessel were similar to the trends for the fleet as a whole. The average scallop revenue per limited access full-time dredge vessel almost quadrupled from about $518,000 in 1994 to over $1,728,000 in 2011 as a result of higher landings combined with an increase in ex-vessel price to about $10.00 per pound of scallops (Figure 30).

Figure 30. Trends in average scallop revenue per full-time vessel by category (Dealer data)



Although general category landings declined after 2009, the revenue per active limited access general category vessel increased in 2011 as the quota is consolidated on or fished by using fewer vessels. It should be noted that these are estimated numbers from dealer data based on some assumptions in separating the LAGC landings from LA landings. It was assumed that if an LA vessel also had an LAGC permit, those trip landings which are less than 600 lb. in 2011 and less than 400 lb. in 2010 and 2009 were LAGC landings and any among above these were LA landings.

Table 34. Estimated Average annual revenue per limited access general category vessel (Dealer Data)

Data	Fishyear	IFQ	INCI	NGOM	Total
Number of vessels	2009	231	74	12	317
	2010	179	68	12	259
	2011	169	76	14	259
Average scallop lb. per vessel	2009	18,650	2,650	2,038	14,286
	2010	13,319	2,238	595	9,820
	2011	19,717	796	789	13,142
Average scallop revenue per vessel	2009	121,884	16,768	13,551	93,245
	2010	120,782	18,583	4,883	88,580
	2011	203,814	7,735	7,164	135,647

4.4.2 Trends in effort and LPUE

There has been a steady decline in the total DAS used by the limited access scallop vessels from 1994 to 2011 fishing years as a result of the effort-reduction measures since Amendment 4 (1994). The numbers in Figure 31 are obtained from the VTR database and include the steam time showing the days spent at sea starting with the sail date and ending with the landing date. In addition, those numbers include both open and access areas. Figure 31 shows that total DAS-used declined further in 2008 as the open area DAS allocations are reduced by 30% from 51 days to 35 days per full-time vessel, but increased in 2009 as the limited access vessels received access area trips (5 trips per vessel). Open area DAS allocations were slightly higher in 2010 (38 DAS versus 37 DAS in 2009), resulting in slightly higher total DAS-used by the limited access vessels despite lower number of access area trips (4 trips per vessel). Total DAS-used decreased further in 2011, despite the increase in the open area DAS allocations as LPUE (the landings per DAS-used including the steam time from VTR data) surged to about 2300 lb. per DAS as an average for all the limited access vessels (Figure 31).

The LPUE is much higher if it was calculated as based on the time a vessel crossed the VMS demarcation line going out on a trip, and the time it crossed again coming back from a trip, so it wouldn't include the time from (to) the port to (from) the demarcation line at the start (end) of the trip. Table 35 shows that the share of open area catch increased to 61% in 2010 and to almost 58% in 2011 as LPUE reached over 2,600 lb. per DAS in 2010 and over 3000 lb. per DAS (for the first time in 2011) in the open areas.

Figure 31. Total DAS-used (Date landed – Date sailed from VTR data) by all limited access vessels and LPUE

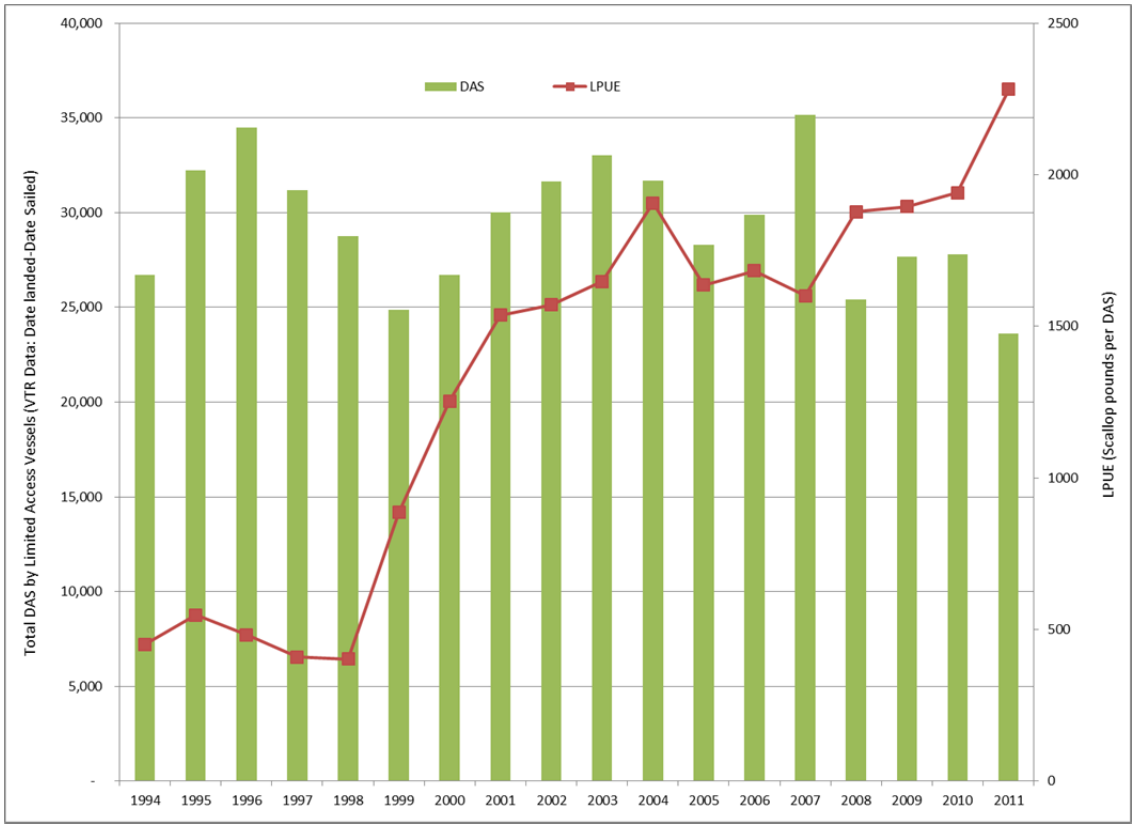


Table 35 – LPUE by area and fish year (Limited access vessels, dealer and DAS data)

Access Area	2010	2011
Closed Area 1		2,511
Closed Area 2		2,102
Delmarva	2,038	1,733
Elephant Trunk	1,362	779
Hudson Canyon	1,897	2,415
Nantucket Lightship	2,406	
OPEN	2,632	3,112

4.4.3 Trends in the meat count and size composition of scallops

Average scallop meat count has declined continuously since 1999 as a result of effort-reduction measures, area closures, and an increase in ring sizes implemented by the Sea Scallop FMP. The share of larger scallops increased with the share of U10 scallops rising to over 20% during 2006-2008, and to 15% in 2009 on compared to less than 10% in 2000-2004. The share of 11-20

count scallops increased from 12% in 1999 to 77% in 2011. On the other hand, the share of 30 or more count scallops declined from 30% in 1999 to 1% or less since 2008 (Table 8). Larger scallops priced higher than the smaller scallops contributed to the increase in average scallop prices in recent years despite larger landings (Table 37). The price of smaller scallops, especially the 21 to 30 count scallops, increased however in 2011 fishing year as their supply declined to 6% of total scallop landings. The scarcity of smaller scallops reduced the differences in price of large and small scallops especially in 2011 fishing year.

Table 36. Size composition of scallops

FISHYEAR	U10	11 to 20	21 to 30	>30	UNK	Grand Total
1999	16%	12%	27%	33%	12%	100%
2000	7%	20%	42%	21%	10%	100%
2001	3%	23%	52%	10%	12%	100%
2002	5%	14%	66%	4%	11%	100%
2003	6%	21%	56%	3%	13%	100%
2004	8%	45%	39%	1%	8%	100%
2005	13%	57%	21%	2%	7%	100%
2006	23%	50%	19%	1%	6%	100%
2007	24%	52%	12%	4%	7%	100%
2008	23%	52%	19%	1%	4%	100%
2009	15%	62%	21%	0%	3%	100%
2010	15%	63%	19%	0%	2%	100%
2011	15%	77%	6%	1%	2%	100%
2012	11%	83%	5%	0%	1%	100%

*2012 is for months 3 to 5

Table 37. Price of scallop by market category (in 2011 inflation adjusted prices)

FISHYEAR	U10	11 to 20	21 to 30	>30	UNK	All counts
1999	8.04	8.18	7.54	6.62	7.65	7.41
2000	8.94	6.73	6.02	6.08	6.54	6.43
2001	7.47	4.75	4.45	4.54	4.65	4.65
2002	6.84	4.97	4.66	5.43	4.82	4.86
2003	5.95	4.98	4.99	5.55	4.94	5.06
2004	7.14	6.20	5.79	6.03	5.68	6.08
2005	9.09	8.94	8.80	8.69	8.64	8.90
2006	6.63	7.33	7.69	7.59	6.77	7.20
2007	7.44	7.14	6.88	6.34	6.78	7.13
2008	7.48	7.20	7.06	6.86	6.72	7.21
2009	8.39	6.48	6.38	6.05	6.10	6.72
2010	10.83	7.71	8.44	8.74	7.65	8.33
2011	10.18	9.87	10.31	9.77	9.89	9.94
2012	10.47	9.33	9.36	9.74	9.72	9.46

4.4.4 The trends in participation by permit, vessel characteristics and gear type

The limited access scallop fishery consists of 347 vessels. It is primarily full-time, with 250 full-time (FT) dredge, 52 FT small dredge vessels and 11 FT net boats. There have been no occasional permits left in the fishery since 2009 because they were converted to part-time small dredge (32 vessels in 2011). Similarly, there are only two part-time permits because most were converted into full-time dredge vessels after 2000 (Table 38).

Since 2001, there has been considerable growth in fishing effort and landings by vessels with general category permits, primarily as a result of resource recovery and higher scallop prices. Amendment 11 implemented a limited entry program for the general category fishery reducing the number of general category permits after 2007. In 2011, there were 288 LAGC IFQ permits, 103 NGOM and 279 incidental catch permits in the fishery totaling 670 permits. Although not all vessels with general category permits were active in the years preceding 2008, there is no question that the number of vessels (and owners) that hold a limited access general category permit under the Amendment 11 regulations are less than the number of general category vessels that were active prior to 2008 (Table 39).

Table 38. Scallop Permits by unique right-id and category by application year

Permit category	2009-2011
Full-time	250
Full-time small dredge	52
Full-time net boat	11
Total full-time	**313**
Part-time	2
Part-time small dredge	32
Part-time trawl	0
Total part-time	**34**
Occasional	0
Total Limited access	347

Table 39. Active vessels by fishyear and permit category (Vessels that landed any amount of scallops--may include duplicate records for replaced vessels with different permit numbers)

Fishyear	General category	Limited Access General Category	Limited Access
1994	186		260
1995	188		244
1996	222		246
1997	244		225
1998	209		229
1999	194		244
2000	208		258
2001	280		281
2002	299		292
2003	337		303
2004	446		315
2005	618		327
2006	639		340
2007	485		353
2008	151	288	348
2009		317	353
2010		267	351
2011		259	348

4.4.5 Landings by gear type

Most limited access category effort is from vessels using scallop dredges, including small dredges. The number of vessels using scallop trawl gear has decreased continuously and has been at 11 full-time trawl vessels since 2006. In comparison, there has been an increase in the numbers of full-time and part-time small dredge vessels after 2002. About 80% of the scallop pounds are landed by full-time dredge and about 13% landed by full-time small dredge vessels since the 2007 fishing year (Section 1.1.6 of Appx. I, FRW 24).

Most general category effort is, and has been, from vessels using scallop dredge and other trawl gear. The percentages of scallop landings show that landings made with a scallop dredge in 2012 continue to be the highest compared to other general category gear types (Table 18 and Table 22, Appx. I, FRW 24).

4.4.6 Trends in ownership patterns in the scallop fishery

Sea Scallop Limited access fishery has a highly concentrated ownership structure. According to the ownership data for 2011, only 63 out of 344 vessels belonged to single boat owners (Table 30, Appx.I, FW 24). The rest were owned by several individuals and/or different corporations with ownership interest in more than one vessel. This in contrast to the LAGC IFQ Fishery

which is dominated mostly with single boat owners --118 out of 259 active vessels belonged to the single boat owners (Table 32, ibid.).

4.4.7 Trip Costs for the Limited Access Full-time vessels

Data for variable costs, i.e., trip expenses include food, fuel, oil, ice, water and supplies and obtained from observer cost data for 1994-2011. Because of the increase in fuel prices in 2011, the share of fuel costs increased to 80% of the total trip cost and average trip cost per DAS for the full-time dredge vessels amounted to over $1950 per day-at-sea (Table 34, Appx.I, FW24). Average trip costs for full-time small dredge vessels was about $1250 per day-at-sea in 2011 (Table 36, ibid.).

4.4.8 Trends in Foreign Trade

One of most substantial changes in the trend for foreign trade for scallops after 1999 was the striking increase in scallop exports. The increase in landings especially of larger scallops led to a tripling of U.S. exports of scallops from about 5 million pounds in 1999 to a record amount of 32 million pounds in 2011 (Figure 11, Appx.I, FW24). In contrast, imports of scallops declined to 42 million lb. in 2011 from over 60 million lb. in the preceding five years, that is by almost 30%. Because of the increase in the value of scallop exports to over $214 million in 2011, the difference in the value of exported and imported scallops, that is scallop trade deficit reached to its lowest level, $42 million, since 1994 (Figure 33, ibid.). Therefore, rebuilding of scallops as a result of the management of the scallop fishery benefited the nation by reducing the scallop trade deficit in addition to increasing the revenue for the scallop fishery as a whole.

4.4.9 Dependence on the Scallop Fishery

Both full-time and part-time limited access vessels had a high dependence on scallops as a source of their income. Full-time limited access vessels had a high dependence on scallops as a source of their income and the majority of the full-time vessels (94%) derived more than 90% of their revenue from the scallop fishery in 2011 (Table 37, Appx. I, FRW 24). Comparatively, part-time limited access vessels were less dependent on the scallop fishery in 2011, with only 37% of part-time vessels earning more than 90% of their revenue from scallops (Table 37, ibid).

Table 38 shows that general category permit holders (IFQ and NGOM) are less dependent on scallops compared to vessels with limited access permits. In 2011, less than half (43%) of IFQ permitted vessels earned greater than 50% of their revenue from scallops. Among active NGOM permitted vessels (that did not also have a limited access permit), 88% had no landings with scallops in 2011. Scallops still comprise the largest proportion of the revenue for IFQ general category vessels, accounting for 38.6% of these vessels revenue. Scallops still comprise the largest proportion of the revenue for IFQ general category vessels, accounting for 38.6% of these vessels revenue (Table 39 Appx I, FRW 24,). For NGOM vessels (that did not also have a limited access permit) scallop landings accounted for less than 1% of revenue in 2011. The composition of revenue for both the IFQ and NGOM general category vessels are shown in Table 39 (ibid).

4.4.10 Trends in Employment in the Scallop Fishery

The number of crew positions, measured by summing the average crew size of all active limited access vessels on all trips that included scallops, has increased slightly from 2,172 positions in 2007 to 2,262 positions in 2011 (a 4% increase) (Table 47, Appx. I, FRW 24). Broken out by home port state, the number of crew positions has stayed relatively constant during the past five years. Limited access vessels with a home port in Massachusetts and New Jersey experienced the largest percentage increase (5%: 969 to 1015 crew positions in MA and 15%: 490 to 564 crew positions in NJ). However, total crew effort in the limited access fishery, measured by crew days, declined from 207,088 to 160,355 (23%, Table 50, Appx I, FRW 24) from 2007 to 2011. The number of crew days on general category vessels followed a similar pattern as the general category crew positions and trips, with large declines in 2008 and 2010, but then an increase in days in 2011(Table 52, ibid.).

4.4.11 Trends in the Number of Seafood Dealers

Dealer data shows that the actual landings of scallops are highly concentrated in the states of Massachusetts (58%), New Jersey (24%) and Virginia (13%), but that dealers from all over New England and the Mid Atlantic are buying these scallops. Table 53 (Appx.I, FW24) shows that Massachusetts is still the state with the most dealers purchasing scallops at 48, but states like New York, New Jersey and Maine also have large numbers of dealers and seafood processors buying scallops. In recent years the total number of dealers purchasing scallops has declined, from a high of 303 dealers in 2005, to 161 dealers in 2011. Without more information about these seafood related businesses it is difficult to draw any conclusions about the recent decline in the number of dealers, but it is interesting to note that the largest declines in dealers accepting scallops has been in Massachusetts, which had 107 dealers in 2005, but had only 48 in 2011.

4.4.12 Trends in scallop landings by port

The landed value of scallops by port landing fluctuated from 1994 through 2011 for many ports. In 2011 New Bedford accounted for 53% of all scallop landings and it continues to be the number one port for scallop landings. Included in the top five scallop ports are: Cape May, NJ; Newport News, VA; Barnegat Light/Long Beach NJ; and Seaford, VA. It is also fair to describe the fishing activities in these ports as highly reliant on the ex-vessel revenue generated from scallop landings as scallop landings represent greater than 75% of all ex-vessel revenue for each of the ports (Table 59, Appx. I, FRW 24). There are also a number of ports with a comparatively small amount of ex-vessel revenue from scallops but where that scallop revenue represents a vast majority of the revenue from landings of all species (Table 60, ibid.). In 2011, in the ports of Newport News, VA and Seaford, VA; revenue from scallop landings accounted for 89.0% and 99.9% of all ex-vessel revenue respectively (Table 60, ibid.). A more detailed description of port profiles can be found at http://www.nefsc.noaa.gov/read/socialsci/communityProfiles.html.

In terms of homestate, the vessels from MA landed over 45% of scallops in 2010 and 2011 fishing years, followed by NJ with about 24.5% of all scallops landed by vessels homeported in this state (Appx. I, FRW 24). Scallops also comprise a significant proportion of revenue (and landings) from all species with over 90% of total revenue in VA, over 75% of total revenue in NC, over 60% of total revenue in MA and over 68% of total revenue in NJ (ibid.).

As in previous years, the largest numbers of permitted limited access scallop vessels have home ports of New Bedford, MA and Cape May, NJ, which represent 39% and 21% of all limited access vessels, respectively (Table 62, Appx. I, FRW 24). New Bedford also has the greatest number of general category scallop vessels, but while limited access vessels are mostly concentrated in the ports of New Bedford and Cape May, general category vessels are more evenly distributed throughout coastal New England. In addition to New Bedford, Point Judith, RI, Gloucester, MA, Boston, MA, Cape May, NJ and Barnegat Light, NJ, are all the homeport of at least 20 vessels with general category scallop permits (Table 63, ibid).

4.5 NON-TARGET SPECIES AND OTHER FISHERIES

Non-target species (sometimes referred to as incidental catch or bycatch) include species caught by scallop gear that are both landed and not landed, including small scallops. The impacts of the scallop fishery on bycatch have been minimized to the extent practicable through management measures involving ring size, larger twine top, limits on effort, etc. In general, rotational area management is designed to improve and maintain high scallop yield, while minimizing impacts on groundfish mortality and other finfish catches. Access programs may even reduce fishing mortality for some finfish species, because the total amount of fishing time in access areas is low compared with fishing time in open areas due to differences in LPUE. Incidental catch is sometimes higher in access areas compared to open areas, but in general total scallop landings is also usually higher in access areas.

Potential non-target species caught incidentally in the scallop fishery were identified in Amendment 15 and Framework 22 based on discard information from the 2009 SBRM report (NEFSC 2009) and various assessments such as GARM III and the Skates Data-poor Workshop. Based on a report presented by NEFSC (2009), the Scallop Plan Development Team identified the following species as having more than 5% of total estimated catch from discards in the scallop fishery: monkfish, skate (overall), and windowpane flounder. The status of these species is listed in Table 40.

Assessment data show that the scallop fishery caught more than 5% of the bycatch (compared to overall catch) for some multispecies stocks by region. Georges Bank (GB) and Southern New England (SNE) yellowtail flounder were caught in amounts greater than 5%, but Cape Cod yellowtail only has occasional spikes over 5%. Although there is greater than 5% caught in both the GB/GOM and SNE/MA regions for windowpane flounder, the catch is generally greater in SNE/MA. The Skate Data-poor Working Group identified the greatest bycatch for the scallop fishery as little and winter skates. See Table 40 for the current status of these species, which has been updated based on assessment results from 2012 and TRAC 2012.

Table 40: Status of non-target species known to be caught in scallop fishing gear, updated with assessment results from June 2011 and TRAC 2011.

Species	***Stock***	***Overfished?***	***Overfishing?***
Summer flounder (fluke)	Mid-Atlantic Coast	No	No
Monkfish	GOM/Northern GB	No	No
Monkfish	Southern GB/MA	No	No
Northeast Skate Complex	Barndoor skate	No	No
Northeast Skate Complex	Clearnose skate	No	No
Northeast Skate Complex	Little skate	No	No
Northeast Skate Complex	Rosette skate	No	No
Northeast Skate Complex	Smooth skate	No	No
Northeast Skate Complex	Thorny skate	No	No
Multispecies	Windowpane - GOM/GB	Yes	Yes
Multispecies	Windowpane - SNE/MA	No	No
Multispecies	Winter flounder - GB	No	No
Multispecies	Winter flounder - GOM	Unknown	No
Multispecies	Winter flounder - SNE/MA	Yes	No
Multispecies	Yellowtail flounder - CC/GOM	Yes	Yes
Multispecies	Yellowtail flounder - GB	Yes	No
Multispecies	Yellowtail flounder - SNE/MA	No	No
Atlantic Surfclam	Mid-Atlantic Coast	No	No
Ocean Quahog	Atlantic Coast	No	No

Updates available through NMFS's Status of U.S. Fisheries Quarterly Reports
http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm

Fishing year 2010 was the first year that the Multispecies Plan was under ACL management. The tables below describe a summary of multispecies catch from the scallop fishery in fishing year 2010 under the Multispecies plan (Table 41). GB and SNE/MA Yellowtail flounder are the only two stocks that currently allocate a sub-ACL to the scallop fishery, but the Multispecies FMP is considering a sub-ACL for SNE/MA windowpane in Framework 48, so it has been added to the table below. Therefore these species have been added to the tables below. A complete summary of all catch in the multispecies fishery for 2010 can be found at: http://www.nero.noaa.gov/ro/fso/reports/Sector_Monitoring/Mults_YE10_Summary.pdf.

Table 42 compares the GF catch in the scallop fishery to the sub-ACL for YT species, as well as the total ACL for all three species. In 2010, the YT catch in the scallop fishery was below the allocated sub-ACLs for both YT stocks, 12.1% for GB and 83.7% for SNE/MA. Compared to the total YT ACL, the scallop fishery caught about 1.5% for GB and about 24% for SNE/MA YT. The scallop fishery does not have a sub-ACL for SNE/MA windowpane flounder, but the Council is considering one in FW48. The scallop fishery was estimated to catch 178.3 mt of SNE/MA windowpane flounder, about 79% of the total ACL for that stock (225 mt.). This catch level of windowpane is higher than recent years.

Table 41 – Summary of 2010 year end accounting of NE Multispecies catch (mt)

Stock	Total GF Catch	Scallop Catch	Total GF Landings	Scallop Landings	Total GF Discards	Scallop Discards
GB YT	781.6	17.6	681.6	0.2	100.1	17.4
SNE/MA YT	318.8	113.0	174.3	2.7	144.5	110.3
SNE/MA Windowpane	N/A	178.3	N/A	N/A	N/A	177.8

N/A - To date, the GF catch values indicated with N/A are being recalculated and are not available.

Table 42 – Summary of 2010 ACLs, catch, and percent of ACLs caught by the scallop fishery

Stock	Total ACL	Sub-ACL to Scallop fishery	Catch of GF by scallop fishery	Percent of sub-ACL used	Percent of total ACL used by scallop fishery
GB YT	1170	146	17.6	12.1%	1.5%
SNE/MA YT	470	135	113.0	83.7%	24.0%
SNE/MA Windowpane	225	No sub-ACL	178.3	No sub-ACL	79.2%

For FY 2011, Table 43 provides a comparison of groundfish and scallop fishery landings and discards for GB and SNE/MA yellowtail flounder and Southern windowpane flounder. Table 44 compares the groundfish catch in the scallop fishery to the sub-ACL for GB and SNE yellowtail flounder and SNE/MA windowpane species, as well as the total ACL for all three species. In 2011, the yellowtail flounder catch in the scallop fishery was below the allocated sub-ACLs for GB yellowtail flounder at 41.8% but the SNE yellowtail flounder sub-ACL was exceeded (135.2%). Compared to the total yellowtail flounder ACL, the scallop fishery caught about 5.9% for GB and about 17.3% for SNE/MA. While below the sub-ACL the 2011 scallop catch on GB yellowtail flounder shows an increase on 2010. For SNE yellowtail flounder, no large differences between 2010 and 2011 were observed despite the sub-ACL being exceeded in 2011. The scallop fishery does not have a sub-ACL for SNE/MA windowpane flounder, but the Council is considering one in FW48 that would be based on the 90th percentile of the scallop fishery catches for the years 2001 - 2010.

Table 43 Summary of 2011 year end accounting of NE Multispecies catch (mt)

Stock	Total GF Catch	Scallop Catch	Total GF Landings	Scallop Landings	Total GF Discards	Scallop Discards
GB YT	1,150.9	83.9	951.0	10.2	154.9	73.7
SNE/MA YT	503.6	110.9	365.6	1	138	109.9
SNE/MA Windowpane	528.6	N/A	N/A	N/A	N/A	N/A

Table 44 Summary of 2011 ACLs, catch, and percent of ACLs caught by the scallop fishery

Stock	Total ACL	Sub-ACL to Scallop fishery	Catch of GF by scallop fishery	Percent of sub-ACL used	Percent of total ACL used by scallop fishery
GB YT	1,416	200.8	83.9	41.8%	5.9%
SNE/MA YT	641	82	110.9	135.2%	17.3%
SNE/MA Windowpane	225	No sub-ACL		No sub-ACL	%

4.5.1 Groundfish fisheries

This section has been included in this action because this is a joint framework to the Scallop FMP (Framework 24) as well as the Multispecies FMP (Framework 49). This became a joint framework because Section 2.2.1 is considering modifications to the current seasonal restrictions on scallop fishing in portions of the groundfish closed areas. Since these restrictions were originally implemented by a joint framework (FW11/FW29) and the restrictions are also in the groundfish regulations, this action is a joint framework as well. This section will briefly summarize the affected environment including the groundfish fishery, since modifying these seasonal closures could have impacts on that fishery.

New England's fishery has been identified with groundfishing both economically and culturally for over 400 years. Broadly described, the Northeast multispecies fishery includes the landing, processing, and distribution of commercially important fish that live on the sea bottom. In the early years, the Northeast multispecies fishery related primarily to cod and haddock. Today, the Northeast Multispecies FMP (large-mesh and small-mesh) includes a total of 13 species of groundfish (Atlantic cod, haddock, pollock, yellowtail flounder, witch flounder, winter flounder, windowpane flounder, American plaice, Atlantic halibut, redfish, ocean pout, white hake, and wolffish) harvested from three geographic areas (Gulf of Maine, Georges Bank, and southern New England/Mid-Atlantic Bight) representing 19 distinct stocks.

Prior to the industrial revolution, the groundfish fishery focused primarily on cod. The salt cod industry, which preserved fish by salting while still at sea, supported a hook and line fishery that included hundreds of sailing vessels and shore-side industries including salt mining, ice harvesting, and boat building. Late in the 19th century, the fleet also began to focus on Atlantic halibut with landings peaking in 1896 at around 4,900 tons (4,445 mt).

From 1900 to 1930, the fleet transitioned to steam powered trawlers and increasingly targeted haddock for delivery to the fresh and frozen fillet markets. With the transition to steam powered trawling, it became possible to exploit the groundfish stocks with increasing efficiency. This increased exploitation resulted in a series of boom and bust fisheries from 1930 to 1960 as the North American fleet targeted previously unexploited stocks, depleted the resource, and then transitioned to new stocks.

In the early 1960's, fishing pressure increased with the discovery of haddock, hake, and herring off of Georges Bank and the introduction of foreign factory trawlers. Early in this time period,

landings of the principal groundfish (cod, haddock, pollock, hake, and redfish) peaked at about 650,000 tons (589,670 mt). However, by the 1970's, landings decreased sharply to between 200,000 and 300,000 tons (181,437 and 272,155 mt) as the previously virgin GB stocks were exploited (NOAA 2007).

The exclusion of the foreign fishermen by the Fisheries Conservation and Management Act in 1976, coupled with technological advances, government loan programs, and some strong classes of cod and haddock, caused a rapid increase in the number and efficiency of U.S. vessels participating in the Northeast groundfish fishery in the late 1970's. This shift resulted in a temporary increase in domestic groundfish landings; however, overall landings (domestic plus foreign) continued to trend downward from about 200,000 tons (181,437 mt) to about 100,000 tons (90,718 mt) through the mid 1980's (NOAA 2007).

In 1986, the NEFMC implemented the Northeast Multispecies FMP with the goal of rebuilding stocks. Since Amendment 5 in 1994, the multispecies fishery has been administered as a limited access fishery managed through a variety of effort control measures including DAS, area closures, trip limits, minimum size limits, and gear restrictions. Partially in response to those regulations, landings decreased throughout the latter part of the 1980's until reaching a more or less constant level of around 40,000 tons (36,287 mt) annually since the mid 1990's.

In 2004, the final rule implementing Amendment 13 to the Northeast Multispecies FMP allowed for self-selecting groups of limited access groundfish permit holders to form sectors. These sectors developed a legally binding operations plan and operated under an allocation of GB cod. While approved sectors were subject to general requirements specified in Amendment 13, sector members were exempt from DAS and some of the other effort control measures that tended to limit the flexibility of fishermen. The 2004 rule also authorized implementation of the first sector, the GB Cod Hook Sector. A second sector, the GB Cod Fixed Gear Sector, was authorized in 2006.

Through Amendment 16, the NEFMC sought to rewrite groundfish sector policies with a scheduled implementation date of May 1, 2009. When that implementation date was delayed until FY 2010, the NMFS Regional Administrator announced that, in addition to a previously stated 18 percent reduction in DAS, interim rules would be implemented to reduce fishing mortality during FY 2009. These interim measures generally reduced opportunity among groundfish vessels through:

- differential DAS counting, elimination of the SNE/MA winter flounder SAP
- elimination of the state waters winter flounder exemption
- revisions to incidental catch allocations, and
- a reduction in some groundfish allocations (NOAA 2009).

In 2007, the Northeast multispecies fishery included 2,515 permits. Of these permits about 1,400 were limited access, and 658 vessels actively fished. Those vessels include a range of gear types including hook, bottom longline, gillnet, and trawlers (NEFMC 2009a). In FY 2009, between 40 and 50 of these vessels were members of the GB Cod Sectors. The passage of Amendment 16 prior to FY 2010 issued in a new era of sector management in the New England groundfish fishery. Over 50 percent of eligible northeast groundfish multispecies permits and over 95

percent of landings history were associated with sectors in FY 2010. Approximately 56 percent of the eligible northeast groundfish multispecies permits constituting between approximately 99.4 percent and 77.5 percent of the various species ACLs were included in sectors for FY 2011. The remaining vessels were common pool groundfishing vessels.

Amendment 16 to the Northeast Multispecies Fishery Management Plan (FMP) was finally implemented for the New England groundfish fishery starting on May 1st 2010, the start of the 2010 fishing year. The new management program contained two substantial changes meant to adhere to the catch limit requirements and stock rebuilding deadlines of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSA). The first change developed "hard quota" annual catch limits (ACLs) for all 20 stocks in the groundfish complex. The second change expanded the use of Sectors, which are allocated subdivisions of ACLs called Annual Catch Entitlements (ACE) based on each sector's collective catch history. Sectors received ACE for nine of 13 groundfish species (14 stocks + quotas for Eastern U.S./ Canada cod and haddock; 16 ACEs) in the FMP and became exempt from many of the effort controls previously used to manage the fishery.

During the first year of sector management seventeen sectors operated, each establishing its own rules for using its allocations. Vessels with limited access permits that joined sectors were allocated 98% of the total commercial groundfish sub-ACL, based on their collective level of historical activity in the groundfish fishery. Approximately half (46%) of the limited access groundfish permits opted to remain in the common pool, but only a small part of the available catch was allocated to this group. Common pool vessels act independently of one another, with each vessel constrained by the number of DAS it can fish, by trip limits, and by all of the time and area closures. These restrictions help ensure that the groundfish catch of common pool vessels does not exceed the common pool's portion of the commercial groundfish sub- ACL for all stocks (about 2% for 2010) before the end of the fishing year.

Table 45 Overall Trips and Catch for Sector Vessels by Vessel Length

Length (ft)		Groundfish Trips		DOF Trips	
	Fishing Year	**Trips**	**Catch (lbs)**	**Trips**	**Catch (lbs)**
<30	2009	108	98,331	78	73,383
	2010	2	4,260	76	66,720
	2011	15	5,440	1	116
	Fishing Year	**Trips**	**Catch (lbs)**	**Trips**	**Catch (lbs)**
30 to 49	2009	14,972	36,406,880	3,379	4,978,088
	2010	7,455	21,948,672	4,865	6,972,084
	2011	9,803	26,375,886	4,307	4,941,345
	Fishing Year	**Trips**	**Catch (lbs)**	**Trips**	**Catch (lbs)**
50 to 74	2009	3,905	28,055,155	2,934	23,023,463
	2010	2,386	23,134,612	3,339	25,107,544
	2011	3,114	28,054,072	2,953	24,794,465
	Fishing Year	**Trips**	**Catch (lbs)**	**Trips**	**Catch (lbs)**
>=75	2009	1,181	28,392,492	973	25,357,642
	2010	1,157	31,482,425	862	24,927,408
	2011	1,165	35,499,237	744	34,734,953

In looking at the length classes of groundfish vessels, the data show that catch and trips for groundfish trips taken by the smaller vessels fell more substantially than larger vessels (**Table 45**). There are very few active fishing vessels less than 30 feet; most permitted vessels less than 30 feet are skiffs, and the fish associated with those permits is leased to other vessels. Correspondingly, data show that catch rose for the largest vessel size analyzed. However, DOF trips saw an increase in trips amongst the mid-sized vessels between 30 and 49 feet, and a decrease with the larger fleet.

4.5.1.1 Fishing Communities

There are over 100 communities that are homeport to one or more Northeast groundfishing vessels. These ports occur throughout the coastal northeast and mid-Atlantic. At the state level, Massachusetts has the highest number of active vessels with a limited access groundfish permit. From 2007 to 2011 the total number of active vessels with revenue from any species on all trips declined 26% (1,082 to 805). All states have shown a decline in the number of active vessels since 2007, but the largest percentage decline has occurred in Connecticut where the number of active vessels dropped 39% by 2011 (**Table 46**). Just over half of the active vessels belonging to a sector have a homeport in Massachusetts (262 vessels), while New Jersey and Connecticut are the two states in the North East with the fewest vessels belonging to a sector. At the level of home port, there is even greater variation between the ports with regard to the numbers of active vessels.

Table 46 Number of Active Vessels with Revenue from any Species (all trips) by Home Port and State.

		Year								
					2010			2011		
Home Port State/City		2007	2008	2009	Total	Sector Vessels	Common Pool	Total	Sector Vessels	Common Pool
CT		18	13	13	12	4	8	11	4	7
MA		544	502	482	444	264	183	396	262	134
	BOSTON	80	69	67	57	41	16	53	41	12
	CHATHAM	46	41	42	43	31	12	39	28	11
	GLOUCESTER	124	116	115	109	70	39	95	68	27
	NEW BEDFORD	93	91	87	69	48	22	70	53	17
ME		128	116	114	103	63	40	88	70	20
	PORTLAND	22	18	17	17	15	2	16	15	1
NH		70	65	62	57	37	22	52	34	20
NJ		67	71	63	58	2	56	52	6	46
NY		98	100	97	95	15	80	92	16	76
RI		110	104	95	87	43	45	84	44	41
	POINT JUDITH	58	54	50	46	33	14	45	34	12
All Other States		47	41	35	39	13	26	37	14	23
Grand Total		1,082	1,012	957	890	440	456	805	446	366

Massachusetts is also the state with the highest number of active vessels with revenue from at least one groundfish trip. From 2007 to 2011 the total number of active vessels with revenue from at least one groundfish trip declined 36% (658 to 420). While all states showed a decline in the number of vessels making groundfish trips the largest percentage decline (59%: 41 to 17 vessels) occurred in New Jersey (**Table 47**). Of the sector vessels making groundfish trips in 2011 almost two thirds of them have a homeport in Massachusetts (186 vessels). Again, New Jersey and Connecticut are the two states with the fewest sector vessels making groundfish trips.

Table 47 Number of Vessels with Revenue from at Least One Groundfish Trip by Home Port and State

Home Port State/City	Year								
				2010			2011		
	2007	2008	2009	Total	Sector Vessels	Common Pool	Total	Sector Vessels	Common Pool
CT	9	8	8	7	3	4	5	2	3
MA	341	321	312	238	189	49	224	186	38
BOSTON	54	49	46	35	33	2	34	34	0
CHATHAM	26	27	28	26	23	3	26	23	3
GLOUCESTER	95	88	98	74	59	15	70	55	15
NEW BEDFORD	60	62	52	33	29	4	37	32	5
ME	78	69	65	43	38	5	47	43	4
PORTLAND	20	16	15	15	14	1	15	15	0
NH	44	42	42	32	26	6	29	23	6
NJ	41	34	26	21	1	20	17	1	16
NY	52	56	47	40	8	32	43	9	34
RI	78	70	60	55	34	21	49	32	17
POINT JUDITH	43	36	32	31	28	3	28	27	1
All Other States	15	11	12	10	5	5	8	5	3
Grand Total	658	611	570	445	303	142	420	301	121

4.5.1.2 Employment

Throughout the Northeast, many communities benefit indirectly from the multispecies fishery but these benefits are often difficult to attribute. The direct benefit from employment in the fishery can be estimated by the number of crew positions. However, crew positions do not equate to the number of jobs in the fishery and do not make the distinction between full and part-time positions. Crew positions are measured by summing the average crew size of all active vessels on all trips. In 2011 vessels with limited access groundfish permits provided 2,129 crew positions with about half coming from vessels with home ports in Massachusetts. Since 2007, the total number of crew positions provided by limited access groundfish vessels has declined by 21% (2,687 positions to 2129). Declines in crew positions vary across home port states with some states adding crew positions in 2011 (**Table 48**). Vessels with a home port in Connecticut and New Hampshire have experienced the largest percentage decline (20%: 52 to 41 crew positions in CT and 28%: 139 to 100 crew positions in NH), while vessels home ported in New York have shown an increase in crew positions (3%: 204 to 211 crew positions). All other home port states had crew position reductions ranging from 10 to 18% between 2007 and 2011 (**Table 48**).

Table 48 Number of Crew Positions and Crew-Days on Active Vessels by Home Port and State

Home Port State		Year				
		2007	2008	2009	2010	2011
CT						
	Total CREW POSITIONS	52	39	38	39	41
	Total CREW-DAYS	4,261	3,779	3,317	3,614	3,067
MA						
	Total CREW POSITIONS	1,402	1,311	1,152	1,104	1,063
	Total CREW-DAYS	98,094	93,182	86,234	77,422	82,238
ME						
	Total CREW POSITIONS	276	250	216	220	204
	Total CREW-DAYS	17,872	15,882	14,414	14,427	14,148
NH						
	Total CREW POSITIONS	139	123	114	109	100
	Total CREW-DAYS	6,443	6,135	5,925	3,813	4,663
NJ						
	Total CREW POSITIONS	167	185	159	140	143
	Total CREW-DAYS	12,035	12,987	10,708	9,801	9,364
NY						
	Total CREW POSITIONS	204	214	205	201	211
	Total CREW-DAYS	16,656	15,975	15,479	15,020	15,439
RI						
	Total CREW POSITIONS	304	281	253	243	238
	Total CREW-DAYS	32,072	29,690	24,167	25,454	24,938
OTHER NORTHEAST						
	Total CREW POSITIONS	145	144	123	133	128
	Total CREW-DAYS	12,158	14,794	12,166	11,626	11,767
Total						
	Total CREW POSITIONS	2,687	2,545	2,260	2,190	2,129
	Total CREW-DAYS	199,593	192,423	172,410	161,178	165,624

A crew day is another measure of employment opportunity that incorporates information about the time spent at sea earning a share of the revenue; it is calculated by multiplying a vessel's crew size by the days absent from port. In 2011 vessels with limited access groundfish permits used 165,624 crew days with close to half coming from vessels with home ports in Massachusetts. Since 2007 the total number of crew days used by limited access groundfish vessels has declined by 17% (199,593 to 165,624 crew days). Declines in crew days occurred across all home port states, but since 2010 some states have experienced some small increases in the number of crew days (**Table 48**). Vessels with a home port in New Hampshire experienced the largest percentage decline in crew days (28%: 6,443 to 4,663 crew days), while vessels home ported in states other than CT, MA, ME, NH, NJ, NY, and RI had the lowest percentage decline

(3%: 12,158 to 11,767 crew days). All other home port states had crew position reductions ranging from 10% to 17% between 2007 and 2011 (**Table 48**).

4.5.2 Observer set-aside program

The scallop fishery is the only fishery in the Northeast that already has a resource or industry-funded observer program in place. Since 1999, the majority of observer coverage in the scallop fishery has been funded through the scallop observer set-aside program. A percentage of the total allowable catch (TAC) in access areas has been deducted before allocations are made to generate funding for vessels required to carry an observer. Amendment 10 extended that requirement to open areas as well, so a percent of potential allocated effort in DAS from open areas is set-aside to help fund the program. Observer coverage is necessary in the scallop fishery to monitor bycatch of finfish and to monitor interactions with endangered and threatened species. Vessels required to carry an observer are authorized to land more than the possession limit from trips in access areas, and in open areas vessels are charged a reduced amount to help compensate for the cost of an observer. This action is considering an expansion of this program for LACG vessels in open areas, so a summary of this program for the last few years has been included in this section.

In 2009 over 460 LA and LAGC scallop trips were observed under the observer set-aside program, for a total of over 3,200 days at sea. In both 2010 and 2011 that fell to 2,300 days and 2,700 days, respectively (Table 49). About 100 additional days were observed outside of the industry funded program on LAGC trips in open areas in both 2010 and 2011.

In terms of observer coverage percentage rates by number of trips, the program seems to provide decent coverage for various areas and fisheries. In 2011 for example, about 10% of all LA open area trips were observed (Table 50). Similarly, there was about 10% coverage for LA vessels in access areas and 4-8% for LAGC vessels in access areas in 2011.

Table 49 – Summary of observed trips in the scallop fishery from observer set-aside program and federally funded LAGC open area trips at the bottom

Area	2009		2010		2011	
Elephant Trunk	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**3**		**2**		**Reverted to OA**	
Limited Access Dredge	113	1007	54	535	10	96
LAGC Dredge	114	263	0	0	0	0
Limited Access Trawl	0	0	1	5	0	0
LAGC Trawl	2	5	0	0	0	0
Delmarva	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**1**		**1**		**1**	
Limited Access Dredge	37	299	38	323	38	323
LAGC Dredge	32	71	9	13	1	3
Limited Access Trawl	0	0	0	0	0	0
LAGC Trawl	5	11	11	24	1	3
Hudson Canyon	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**Closed**		**Closed**		**1**	
Limited Access Dredge	0	0	0	0	41	305
LAGC Dredge	0	0	0	0	24	34
Limited Access Trawl	0	0	0	0	0	0
LAGC Trawl	0	0	0	0	4	10
Closed Area II	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**1**		**Closed**		**0.5**	
Limited Access Dredge	23	199	0	0	22	190
Closed Area I	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**Closed**		**Closed**		**1.5**	
Limited Access Dredge	0	0	0	0	56	416
LAGC Dredge	0	0	0	0	2	4
Nantucket Lightship	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
# trips allocated to LA fishery	**Closed**		**1**		**Closed**	
Limited Access Dredge	0	0	33	242	0	0
LAGC Dredge	0	0	25	49	0	0
Open Area	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
Limited Access Dredge	137	1381	114	1149	136	1342
Limited Access Trawl	0	0	0	0	0	0
Totals (Industry Funded)	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
Limited Access Dredge	310	2886	239	2249	303	2672
LAGC Dredge	146	334	34	62	27	41
Limited Access Trawl	0	0	1	5	0	0
LAGC Trawl	7	16	11	24	5	13
Totals (Combined)	**463**	**3236**	**285**	**2340**	**335**	**2726**
LAGC Open Area (Federall Funded trips)	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**	**# Trips**	**# Observer Days**
LAGC Dredge	38	43	60	67	81	91
LAGC Trawl	1	1	23	35	4	6

Table 50 – Summary of 2011 observer coverage rates (Source for # of trips from AMS database)

		# of observed trips	Estimate of Total # of trips	**% Coverage**
Open Areas		130	1369	**9.50%**
CAI	LA	50	557	**8.98%**
	GC	2	49	**4.08%**
CA2	LA	22	188	**11.70%**
NL		NA	NA	**NA**
HC	LA	41	419	**9.79%**
	GC	28	584	**4.79%**
ETA	LA	10	161	**6.21%**
	GC	0	0	**NA**
DEL	LA	36	474	**7.59%**
	GC	2	27	**7.41%**

4.5.3 State water scallop catch

Many states do not have sea scallops in state waters; therefore, there are no specific permits or management programs in place. However, some states do have some basic measures in place and a handful have many that are similar to federal regulations.

The only states in the North Atlantic that seem to have sea scallops consistently in state waters are Massachusetts (MA) and Maine (ME). No person can possess scallops in MA in excess of recreational limits (1 bushel) unless licensed as a commercial fisherman. An individual can harvest scallops commercially by hand if they have a commercial permit endorsed for sea scallop diving permit or with mobile gear if they have a limited access Coastal Access Permit (CAP).

Federal scallopers may be dually permitted (i.e., hold federal scallop permit and a state CAP permit) thereby enabling them to fish mobile gear for scallops in state and federal waters or they may be federal-only (i.e., hold a federal scallop permit but no CAP) thereby limiting their mobile gear fishing for scallops to federal waters. Federal-only scallopers landing in MA must hold some state landing permit (e.g., boat permit). LAGC vessels likely make up the majority of dual permit holders while LA vessels dominate the federal-only permit class as defined here.

The state amended state waters sea scallop dredge measures in the fall of 2011 to constrain daily catches of sea scallops within the state waters fishery and require gear modifications to reduce bycatch. All vessels fishing in state waters under the authority of a CAP are subject to the following permit conditions:

1. Trip Limit.
    a. CAP holders may not retain or possess more than 200 lbs. of sea scallop meats or 2,000 lbs. of whole (shell-on) sea scallops per 24-hour day or per trip, whichever is longer;
    b. In those instances when a vessel has both shucked meats and whole scallops, the weight of the whole scallops will be multiplied by 0.10 to determine its equivalency in meats;
    c. Exceptions: i) Federally permitted scallop vessels that hold a CAP, may fish in state waters but must adhere to the state trip limit while fishing in state waters. ii) Federally permitted scallop vessels are allowed to transit state waters and land larger amounts of scallops in state ports provided they comply with the federal plan and their gear is stowed.

2. Gear Modifications to reduce by catch.
    a. Effective January 1, 2012, it shall be unlawful to fish with or have aboard a sea scallop dredge with rings less than 4 inches in inside diameter;
    b. Also effective on January 1, 2012, it shall be unlawful to fish with or have aboard a sea scallop dredge with twine top that has mesh openings smaller than 10 inches; no additional material is allowed to cover the twine top to restrict the mesh openings to less than 10 inches in diameter.

It remains unlawful to catch scallops in MA with a shell less than 3.5-inches with a 10% tolerance for undersized scallops and no scallops can be landed in-shell unless the area fished is approved by the National Shellfish Sanitation Program.

The state of Maine has a very developed state water management program that has evolved over time and has changed dramatically in recent years following implementation of the federal NGOM program. Overall the current state plan is very consistent with the federal management program. The fishery became limited entry in 2008 and since that time there has been mandatory dealer and vessel reporting requirements. There is a 70 day fishing season between December and March with specific weekdays that are prohibited during those months and prohibition on fishing at night as well.

There are a handful of gear requirements including but not limited to: ring size restriction of 4-inches, twine top minimum of 5.5 inches, limits on number of rows in the dredge based on dredge width, and no chafing gear or cookies allowed. Areas such as Cobscook Bay and Gouldsboro Bay have maximum dredge widths (5.5 ft. and 4.5 ft., respectively). In-shell scallops must be 4-inches, there is a possession limit of 200 pounds per day per vessel (135 lbs. in Cobscook Bay), and non-commercial licenses may not possess more than 1 bushel of shellstock scallops. Finally, license holder must be on board when vessel is scallop fishing.

There are area specific limits and restrictions for Cobscook Bay and there are ten specific conservation closed areas where scallop fishing is currently prohibited (Figure 32). These areas are scheduled to reopen December 15, 2012, three years after they were closed in 2009. These areas encompass about 20% of state territorial waters. It appears from management-related

meetings held in Maine during March-June 2012 that the state will be divided into four (4) zones, allowing for management tools such as catch limits, rotational areas, limited access areas and in-season "trigger" mechanisms to be determined for each zone.

For more information about the specific shellfish regulations in Maine state waters see: http://www.maine.gov/dmr/lawsandregs.htm.

Figure 32 – Scallop conservation areas in Maine state waters

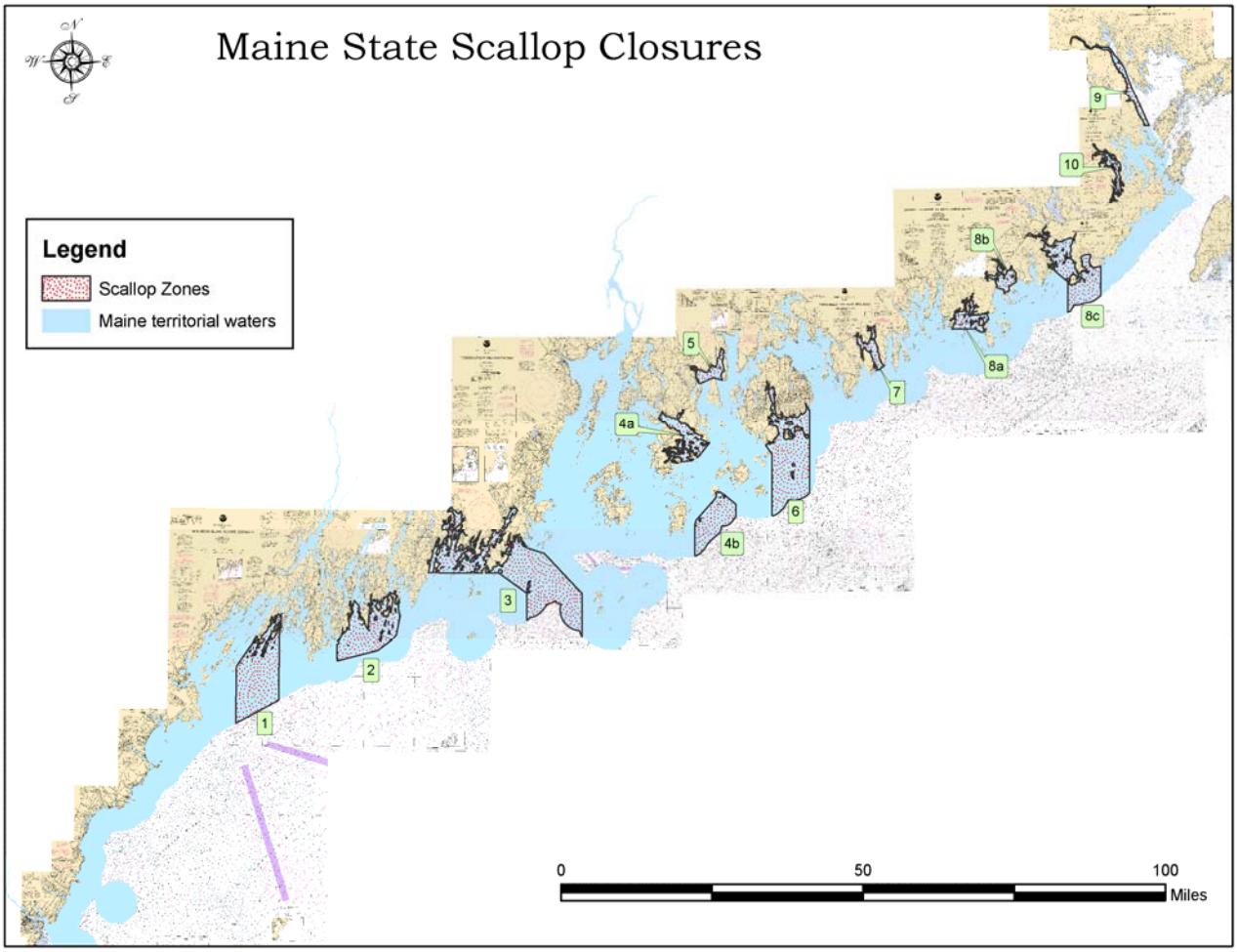


Table 51 is a summary of the number of known fishers that have state only permitted vessels that land scallops. All states have been combined, except Maine, the only state with a substantial number of state only permitted vessels. Table 52 is a summary of sea scallop catch from state permitted vessels from state waters in 2008-2011. Most states do not have any reported landings, and some information is confidential because it is from a small number of vessels and/or dealers.

Table 51 – Number of known fishers that contribute to state only scallop catch (calendar year 2008-2011) (Source: ACCSP) Note: there are a handful of other fishers each year from other states (not from ME or MA).

	2008	2009	2010	2011
ME Harvester Reports	173	228	238	265
MA	14	19	22	27

Table 52 - Calendar year scallop landings from state permitted vessel that do not have a federal permit (Source: ACCSP)

Year	2008	2009	2010	2011
Massachusetts	28,986	167,865	121,416	217,483
Maine (Harvester reports)*	87,808	132,769	244,603	212,331

*Maine Department of Marine Resources did not have mandatory harvester reporting until December 2008, no not all harvester landings for 2008 are complete for that calendar year.

5.0 ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

5.1 SCALLOP RESOURCE

5.1.1 Acceptable Biological Catch

5.1.1.1 No Action ABC

Acceptable Biological Catch (ABC) is defined as the maximum catch that is recommended for harvest, consistent with meeting the biological objectives of the management plan. The determination of ABC will consider scientific uncertainty, and the Council may not exceed the fishing level recommendations of its Science and Statistical Committee (SSC) in setting ACLs (Section 302(h)(6)). Under "No Action" for FY 2013-2014, the overall ABC with discards would be the default 2013 measures adopted under FW22 (32,935mt, 72.6 million pounds). This is higher than the updated estimates of ABC adopted under the preferred alternative (**Table 53**).

The updated values are set based on the best available science through 2012, and take into account all sources of scientific uncertainty; therefore keeping harvest below these levels will help prevent overfishing and have positive impacts on the resource. Since the No Action ABC is above these levels, setting management measures based on an ABC of 32,935 mt could lead to overfishing, having negative impacts on the scallop resource.

5.1.1.2 ABC for 2013 and 2014 (default) (Preferred Alternative)

Recruitment has been declining on Georges Bank since 2010 with very little signs of recruitment in 2012. Recruitment was low in the Mid-Atlantic in 2008-2010, but there were strong signs of improved recruitment in 2011 and 2012. Therefore, total biomass has been declining since 2010, but is expected to increase again if the recruitment event in the Mid-Atlantic is as productive as predicted. Compared to the No Action ABC, these values are more beneficial for the scallop resource because they are based on more updated information and reduce the risk of overfishing. This action is only setting ABC for 2013 and 2014, but the 2014 ABC will be reevaluated in a future framework action.

Table 53 – Summary of OFL and ABC (shaded) approved by the SSC and Council for FW24. ABC available to fishery after discards removed in BOLD compared to No Action ABC

	OFL (including discards)	ABC (including discards)	Discards (at ABC)	**ABC available to fishery (after discards removed)**
2013	31,555	27,370	6,366	**21,004**
2014	35,110	30,353	6,656	**23,697**
No Action ABC for 2013/2014	*34,082*	*32,935*	*4,235*	***28,700***

5.1.2 Summary of biological projections for overall specification alternatives considered in this action

The biological impacts for the allocation alternatives considered in this action are based on results from an updated version of the SAMS (Scallop Area Management Simulator) model. This model has been used to project abundances and landings to aid management decisions since 1999. SAMS is a size-structured model that forecasts scallop populations in a number of areas. In this version of the model, Georges Bank was divided into the three access portions of the groundfish closures, the three no access portions of these areas, a proposed closure area in the South Channel, the remainder of the South Channel, the Northern Edge and Peak, and the Southeast Part of Georges Bank (**Figure 33**). The Mid-Atlantic was subdivided into six areas: Virginia Beach, Delmarva, the Elephant Trunk Access Area, the proposed new version of the Hudson Canyon South Access Area, New York Bight South, and Long Island. For this framework these areas were then merged into the three YT stock boundaries because the Council needs to know the projected scallop catch by YT stock area for allocation decision related to YT bycatch TACs under the GF FMP.

It is important to note that this model is based on fishing mortality by area and the inputs are not fishery-based in terms of DAS, etc. The simulation does not model individual vessels or trips; it models the fleet as a whole. The output of the model is then used to eventually compute individual DAS allocations after set-asides, general category landings, etc. are removed.

Several small adjustments have been made to these projections compared to the ones used for 2011 and 2012 (FW22). First, SAMS areas were expanded to include inshore areas in the Mid-Atlantic. Second, the model included a “captain effect” to account for fishing behavior preferences for larger scallops. Third, the LPUE function was updated to reflect increases in LPUE in open areas. Finally, adjustments were made to survey results to account for changes in biomass based on when surveys were conducted (before or after 2012 fishing).

The SAMS model provides projected exploitable biomass estimates, scallop landings, average LPUE, DAS used and bottom area swept by area. All of these projections are described in the following tables and figures. Projections are run out 14 years to provide long-term impacts as required by law. After year two, the model uses the same assumptions for allocations in 2015 and beyond. Therefore, the only difference between the overall performances of alternatives is during the first 2 years. For this analysis F_{target} has been set at $F = 0.28$ in 2015 and beyond.

Figure 33- SAMS model areas, with statistical areas and stratum boundaries on Georges Bank and the Mid-Atlantic

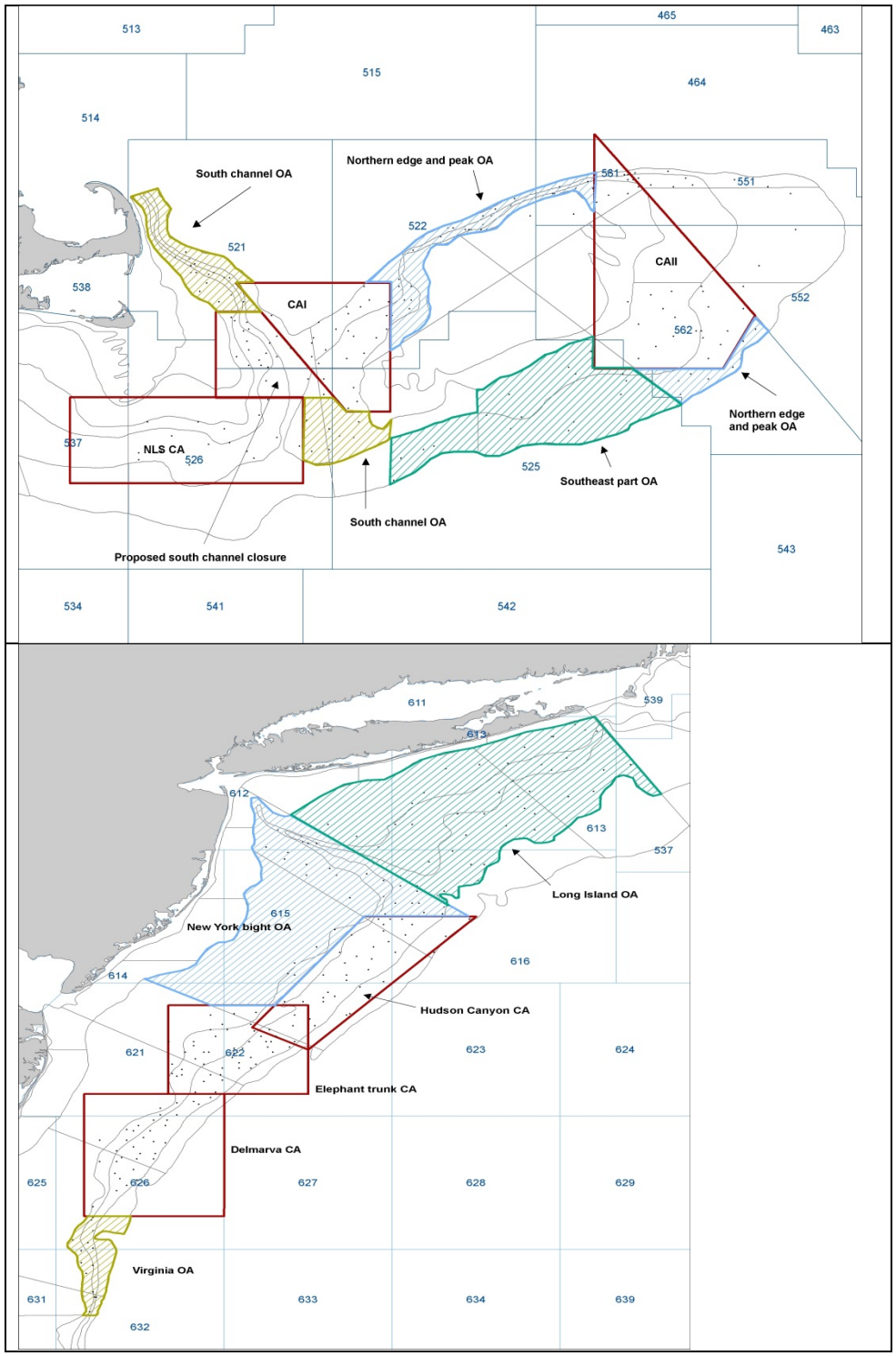


Table 10 is a summary of the options considered for 2013 and 2014. All four alternatives have the same level of open area effort and LAGC IFQ allocations. The only difference is the level of access in access areas and the areas that are open each year. Two alternatives have three access areas open in 2013 (Alt 1 and 3), and two alternatives have 4 areas open (Alt 2 and 4).

Table 54 – Summary of LA access area allocation alternatives under consideration in FW24 (number of trips and associated possession limits)

		HC	Del	CA1	CA2	NL	Total # LA trips	Total # FT AA trips	FT Poss Limit	AA Allocation per FT vessel	Total AA allocation (mil lbs.)
No Action	2013	469	157	0	313	313	1252	4	18,000	72,000	23.3
	2014	469	157	0	313	313	1252	4	18,000	72,000	23.3
Alt 1	2013	245	0	119	262	0	626	2	13,000	26,000	7.8
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 2 (Preferred)	2013	210	0	118	182	116	626	2	13,000	26,000	7.8
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 3	2013	177	0	0	136	0	313	1	18,000	18,000	6.0
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 4	2013	130	0	57	50	76	313	1	18,000	18,000	6.0
	2014 Default	0	0	0	0	0	0	0	0	0	0

Note: Default 2014 allocations do not include access area trip allocations, thus are "0" in the table above. FW24 only sets default DAS allocations for FY2014. A subsequent action will set the access area allocations and final DAS allocations for FY2014.

Table 55 – Summary of LA open area DAS allocation alternatives under consideration in FW24

	2013			2014		
	FT DAS	PT DAS	Occ DAS	FT DAS	PT DAS	Occ DAS
No Action	26	10	2	26	10	2
Alt 1	33	13	3	23	9	2
Alt 2 (Preferred)	33	13	3	23	9	2
Alt 3	33	13	3	23	9	2
Alt 4	33	13	3	23	9	2

5.1.2.1 Projected biomass by area

- Total biomass is similar for all alternatives considered (**Figure 34**).
- Biomass is expected to increase modestly over the long term because of growth of smaller scallops in the Mid-Atlantic.
- Long-term projections are over 150,000 mt.
- Over the course of this action (2013) biomass is expected to increase moderately.
- **Figure 35** shows exploitable biomass, and again all alternatives have similar projections.
- Alternative 4 has slightly higher biomass than the other options due to reduced fishing in 2013 and 2014.

Figure 34 - Comparison of projected total scallop biomass for alternatives under consideration

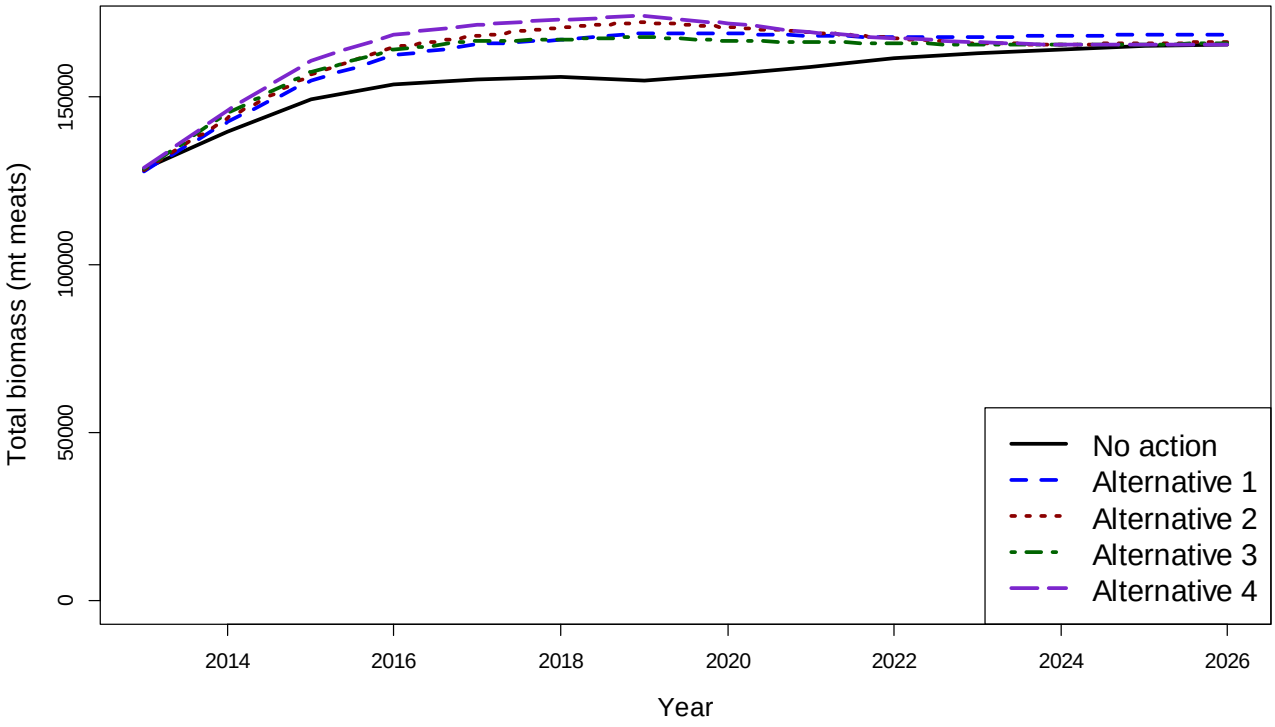
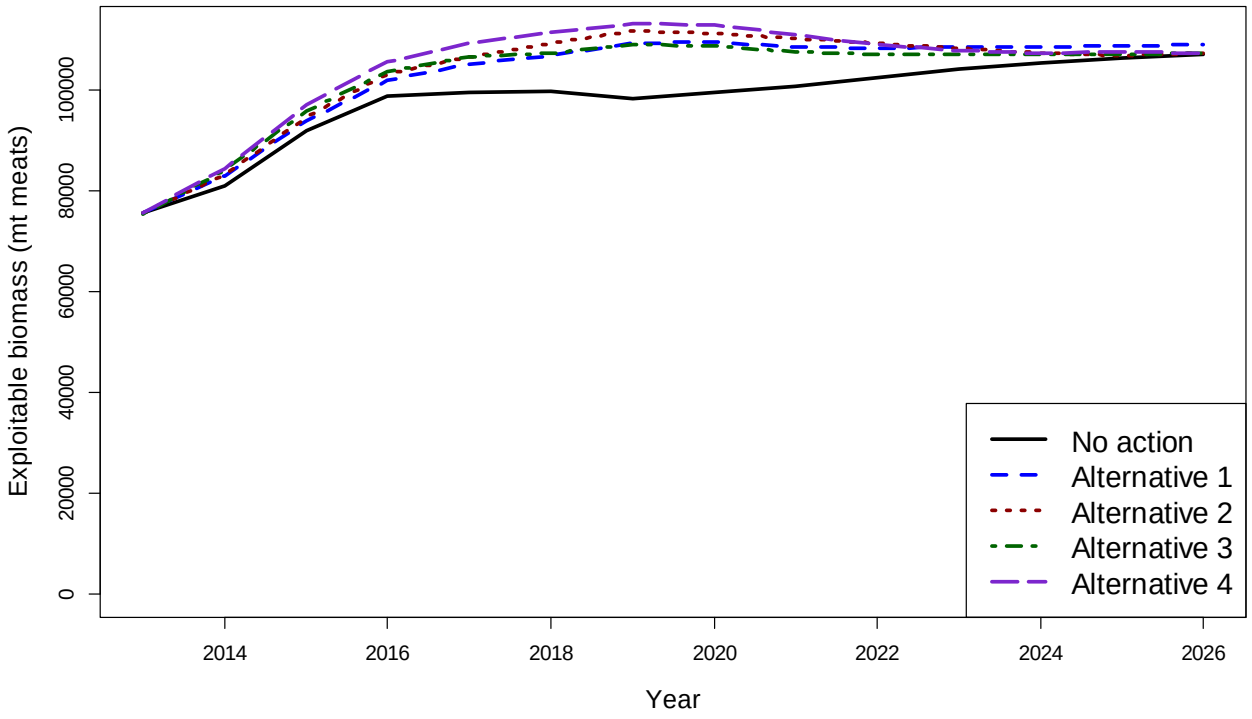


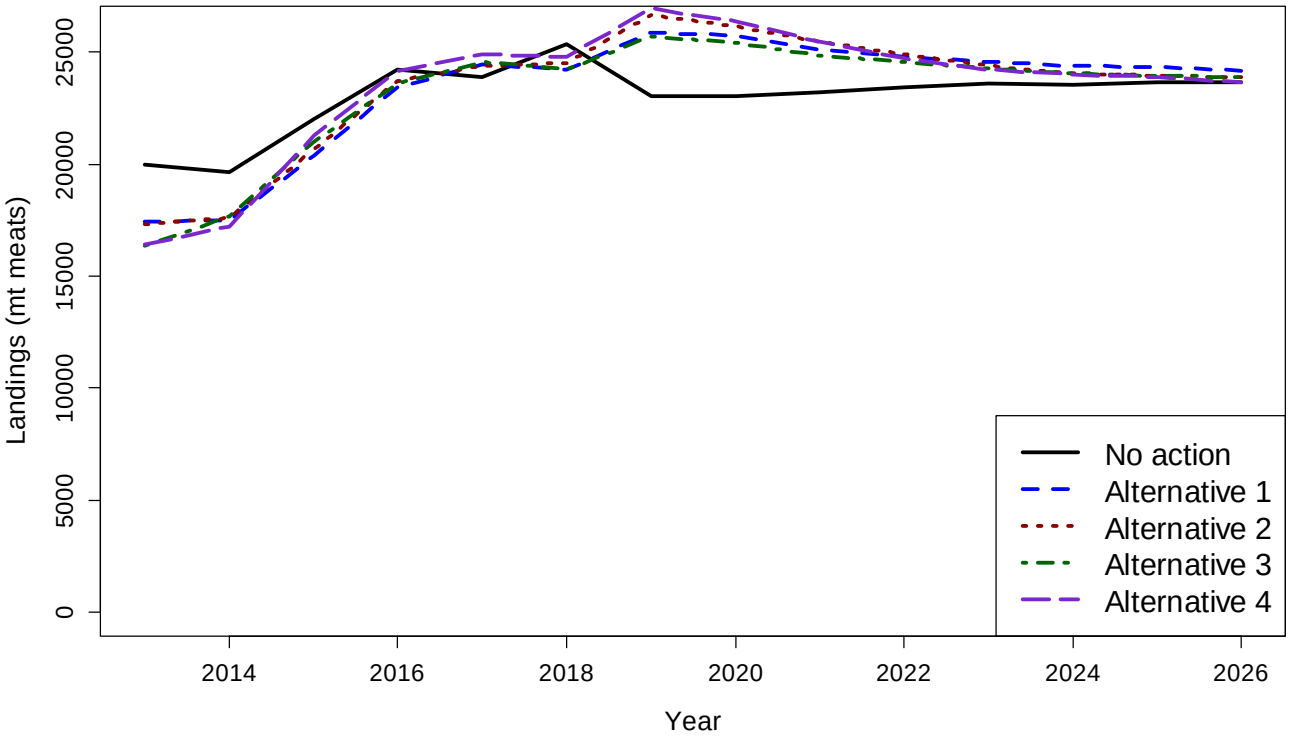
Figure 35 - Comparison of projected exploitable scallop biomass for alternatives under consideration



5.1.2.2 Projected scallop landings by area

- Landings are highest for No Action at first due to higher allocations, but lower in the long term (**Figure 36**).
- Alternatives 1 and 2 have slightly higher catch levels in the ST due to more effort allocated in access areas.
- Alternative 4 has slightly higher projected catch in the long term.
- Closing areas in the Mid-Atlantic in 2013 increases future catches starting in 2016 compared to No Action.

Figure 36 - Comparison of projected scallop landings for alternatives under consideration



5.1.2.3 Projected bottom area swept by area and Total DAS fished

- Area swept and DAS fished is much lower for alternatives under consideration compared to No Action (**Figure 37** and **Figure 38**).
- Alternative 4 has the lowest projection of area swept and DAS fished. The estimate for 2013 for area swept is under 4,000 sq. nautical miles – substantially lower than what the fishery has been in recent years (5,000).
- Therefore, in terms of impacts on incidental scallop mortality, bycatch and habitat, all alternatives have fewer impacts compared to No Action, particularly Alternative 4.

Figure 37 – Comparison of projected area swept for alternatives under consideration

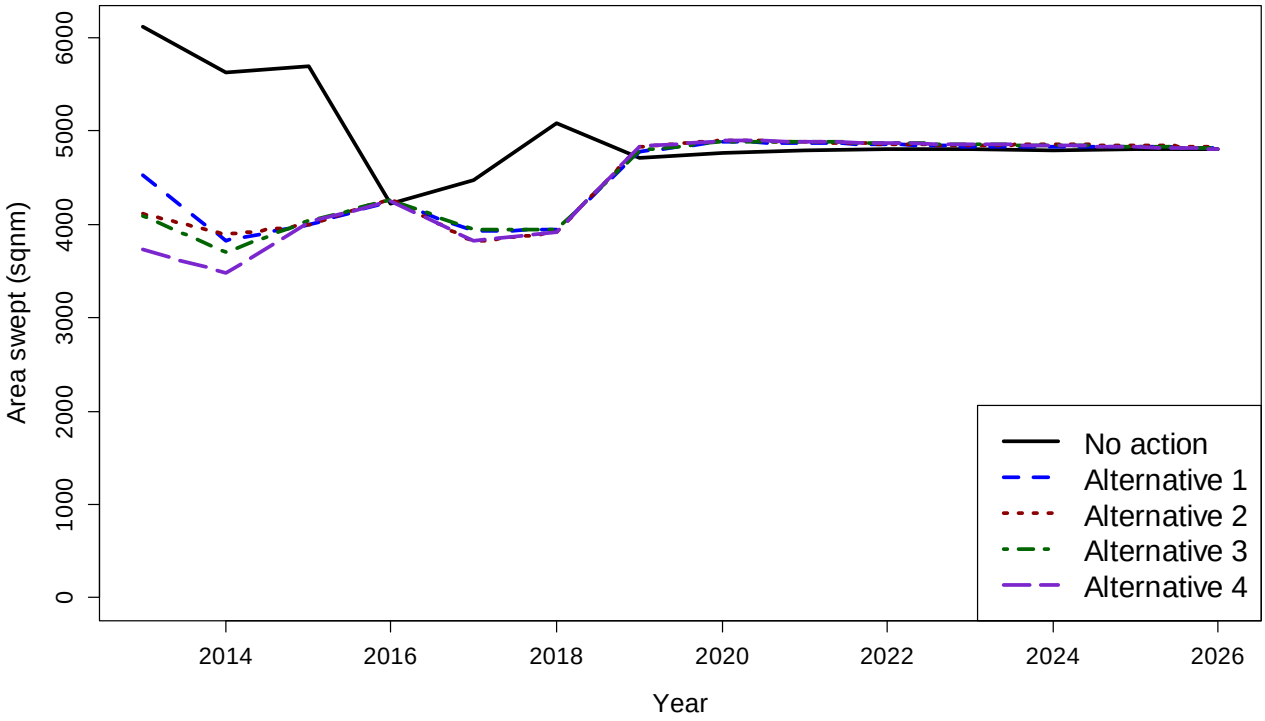
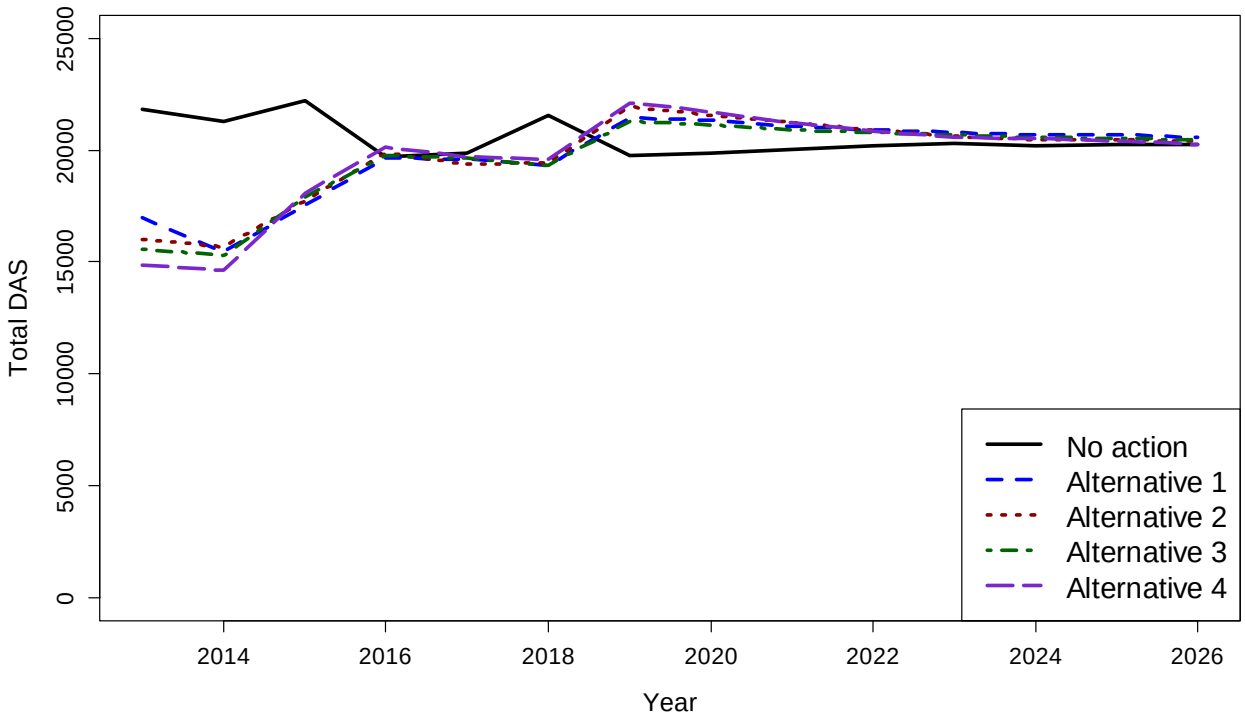


Figure 38 – Comparison of Total DAS fished for alternatives under consideration



5.1.3 Summary of biological impacts on limited access vessels from the specification alternatives under consideration

5.1.3.1 No Action specifications for limited access vessels

The No Action allocation alternative would have negative impacts on the scallop resource and other aspects of the environment because it allocates more access area effort than the resource can support in those areas. The fishing mortality would be very high in access areas under those allocation amounts, four 18,000 pound trips per vessel, causing increased area swept and DAS fished. When vessels need to fish longer to get an access area possession limit gear is on the bottom longer, having higher incidental mortality on smaller scallops in the area. This is a negative impact on the scallop resource overall, as well as other aspects of the environment. Therefore, the projected long term biomass for No Action is lower than all alternatives under consideration in FW24.

5.1.3.2 Specification alternatives for limited access vessels (Preferred Alternative)

Overall, the biological projections suggest that all four alternatives perform better than No Action in terms of projected biomass and projected landings (Figure 34 and Figure 36). Therefore, all action alternatives would have low positive impacts on the scallop resource compared to No Action. Additionally, bottom area swept under No Action is about 5,000 square

nautical miles, and all of alternatives under consideration are between 3,800 and 4,500 square nautical miles. Therefore, incidental scallop mortality would also be lower for all alternatives under consideration compared to No Action.

Alternative 4 has slightly higher long term biomass projections compared to the other alternatives and lower area swept and DAS fished estimates (Figure 37 and Figure 38). Therefore, Alternative 4 would be slightly more beneficial to the scallop resource in the long term. In the short term, all FW24 alternatives have similar biomass levels, and Alternative 1 and 2 have higher landings in the short term, particularly in 2013.

The possession limit of 13,000 pounds under Alternatives 1 and 2 is lower compared to the 18,000 pound limit in the other alternatives. A lower possession limit could help reduce trip length and incidental mortality, having potentially indirect benefits on the resource and quality of harvested catch.

Alternatives 2 and 4 include access from four access areas instead of three in Alternatives 1 and 3. In general, spreading effort out more will have beneficial impacts on the resource overall since access areas have lower than normal biomass levels. Reducing access in HC in the short terms seems to have slightly beneficial impacts on biomass in the long term, likely due reduced fishing levels on recruitment in that area (**Figure 35**).

This action also includes a lottery system for the allocation of split trips, and one vessel cannot receive more than one trip to the same area. The Scallop Committee and Council identified this as the preferred strategy so vessels were treated as equal as possible since some areas are more productive than others. This is not an alternative and it is not necessary to assess the potential impacts; however, it is not expected to have any direct impacts on the resource positive or negative either way. All trips are expected to be used since vessels will continue to have the flexibility to trade access area trips.

5.1.3.3 2013 RSA fishing in Nantucket Lightship

Alternative 2 and 4 contain options to restrict RSA catch in NL. Option 1 would place no restriction on RSA catch from NL in 2013. Option 2 would allow RSA compensation fishing in any area open to fishing in 2013 except NL. The total amount of fishing allocated to Nantucket Lightship in 2013 under Alternative 2 is 662 mt, or 1.46 million pounds. And for Alternative 4 it is 621 mt, or 1.37 million pounds. The current simulations that estimate catch and fishing mortality do not take RSA catch into account spatially, that catch is removed overall from all areas equally before ACLs for the fishery are defined.

5.1.3.3.1 No Action (Option 1) - No restriction on RSA catch from NL (Preferred Alternative)

The scallop industry advisors believe NL is quite resilient and do not agree with the PDT that a large percentage of RSA will be removed from NL in 2013. Some vessels involved in RSA from the south will not steam that far to make a compensation trip in NL, and some vessels use RSA fishing to “scout out” open area fishing earlier in the year to see where concentrations of scallops

are for DAS fishing. Therefore, the industry advisors support Option 1, no restriction on RSA compensation fishing in NL in 2013.

The impacts of Option 1 compared to Option 2 on the scallop resource depend on the total amount of RSA compensation fishing that occurs in NL, which is uncertain. Each vessel awarded RSA compensation fishing can decide where to fish that poundage from any area open to the fishery that year. Therefore, the impacts of the measures depend on the ultimate level of effort taken in NL compared to other areas. If there is not a disproportionate amount of RSA catch from NL, and the area is more resilient that predicted, there should not be negative impacts on the resource if RSA compensation is permitted to come from that area (Option 1). However, if there are high levels of RSA compensation fishing in NL (permitted under Option 1 but not Option 2), there may be negative impacts on the scallop resource in NL.

In summary, Option 1 under Alternatives 2 and 4 would have potentially negative impacts on the resource compared to Option 2 if a disproportionately high amount of catch is removed from NL. If it is not, then Option 1 is expected to have similar impacts on the scallop resource to Option 2 – minor overall since RSA compensation fishing is relatively small compared to the directed fishery. Either way, the NL area will likely be surveyed in 2013 and if the updated biomass projection is much lower than previously estimates, future allocations for FY2014 can be adjusted downward to reduce impacts on the scallop resource in that area.

5.1.3.3.2 Option 2 – Prohibit RSA catch from NL

Some RSA compensation fishing will still likely come from open areas, but if a substantial percentage of the total RSA catch (1.25 million pounds) comes from NL that could be a substantial increase in F for that relatively small area. Since NL may be the most important access area in 2014 in terms of providing access, the potential impacts of removing say 500,000 pounds from that area could have negative impacts on the resource in that area, and reduce future yields for the fishery. The PDT does have some reservation about setting a precedent for restricting where RSA compensation can take place, but in this case the PDT is supportive of a restriction in NL for 2013 (Option 2) because of the unintended consequences for the fleet overall from potential RSA compensations fishing and the poor conditions in the other access areas. Option 2 may have less risk of potentially negative impacts on the scallop resource in NL, but the actual impacts depend on the level of RSA compensation fishing in NL, which is uncertain.

5.1.4 Summary of biological impacts on limited access general category (LAGC IFQ) vessels from the specification alternatives under consideration

5.1.4.1 No Action LAGC IFQ

The LAGC IFQ allocation under the No Action is about 3.2 million pounds. The No Action would have potentially negative impacts on the scallop resource because updated biomass estimates are lower and there is less biomass in access areas than previously estimated. The overall TAC under No Action is based on a higher estimate of biomass, therefore, fishing at higher levels would have negative impacts in the longer term.

5.1.4.2 Specification alternatives for LAGC IFQ vessels (Preferred Alternative)

The LAGC IFQ allocation under all specification alternatives (Alternatives 1-4) is the same - 1010 mt for LAGC vessels and 101 mt for LA vessels with a LAGC permit. Compared to No Action the overall IFQ allocation is lower. Therefore, the biological impacts on the scallop resource from the FW24 alternatives are positive compared to No Action as less scallops would be harvested. Overall effort needs to reduce in 2013 compared to default 2013 levels because updated biomass surveys indicate that overall biomass is lower, especially in access areas.

5.1.4.3 Allocation of fleetwide access area trips to the LAGC IFQ fishery

5.1.4.3.1 No Action (Option 1) – Allocate 5.5% of each access area TAC to the LAGC fishery

This action is considering two different options for the allocation of fleetwide max trip allocations for LAGC vessels by area. No Action, Option 1, (5.5% of each access area) would have neutral impacts on the resource because these trips are still accounted for in the projections. If trips are not taken in these areas, LAGC catch is assumed to be taken in open areas instead. In some cases, catch rates are higher in access areas so it may take longer for a LAGC vessel to fish for IFQ in open areas; however, in other cases catch rates can be higher in some open areas compared to access areas. Overall, LAGC catch in access areas is a small percentage of the overall catch and vessels tend to fish where catch rates are higher, so if they are higher in access areas most trips should be fished there, and if they are not more LAGC catch could come from open areas.

5.1.4.3.2 Option 2 – Allocate 5.5% of each access area TAC to LAGC fishery and prorate CA2 trips (Preferred Alternative)

Option 2 would take the CA2 trips and prorate them to other access areas open that year. Option 2 would also have negligible impacts on the scallop resource overall because these trips are still accounted for in the projections. However, this could increase fishing in some areas above targeted levels under No Action (Option 1). For example, under Option 2, the 217 LAGC trips from CA2 under Option 1 would be shifted to HC, CA1 and NL. Overall there is potentially added fishing pressure for the remaining areas, about 70 trips at 600 pounds (42,000 pounds per area). This is not a considerable amount of catch; thus Option 2 would have negligible impacts on the resource overall or in specific access areas compared to Option 1.

5.1.5 Northern Gulf of Maine Hard-TAC

5.1.5.1 No Action (Option 1) – NGOM TAC of 70,000 pounds (Preferred Alternative)

The No Action NGOM alternative of 70,000 pounds marginally increases the risk of excess fishing and therefore could potentially have low negative impacts on the scallop resource. FW23 allowed vessels with a federal NGOM permit to declare on a trip basis if it is fishing in federal or state waters. If that vessel is fishing in state waters that catch no longer applies to the NGOM TAC. Therefore, there is now less need to inflate the NGOM federal TAC to account for catches on vessels with NGOM permits fishing in state waters. Vessels with LAGC IFQ vessels in that area will still have catch applied to the NGOM TAC, but that does not seem to be happening much at all. The NGOM TAC has been well below the 70,000 pound limit in recent years (just under 8,000 pounds in 2011 and just over 4,000 pounds in 2012 to date).

The preferred alternative, No Action of 70,000 pounds, was selected because there does not seem to be much fishing activity in this area. Updated survey information is useful, but there are limitations of the survey, and 70,000 pounds is within the range of catch levels recommended using different assumptions for dredge efficiency. For example, if the assumption of dredge efficiency is assumed to decrease to 0.4, compared to 0.5 used in the current estimate of 58,000 pounds, the TAC would be 73,000 pounds (Table 16). Furthermore, if a different percentile was used a higher or lower TAC could be supported using the results, depending on the level of uncertainty applied. Overall, the No Action and the NGOM TAC alternatives are expected to have negligible impacts on the scallop resource overall since fishing levels are currently very low, much lower than both TAC alternatives.

5.1.5.2 Option 2 – NGOM TAC of 58,000 pounds

The NGOM TAC alternative of 58,000 pounds is expected to reduce the chance of excess fishing in federal waters in the NGOM based on results of the recent scallop survey of that area (Table 16). Therefore, compared to the No Action (70,000 pound TAC) this option could have a low positive impact on the scallop resource by reducing the chance for excess fishing in NGOM.

5.1.6 Measures to address delayed implementation of Framework 24

Because of a change in the timing of when FW24 will be implemented, vessels will be permitted to fish under 2013 default allocations from FW22 until FW24 is implemented to replace them, scheduled for in May 2013. For LA vessels the default 2013 allocations include 26 open area DAS and 4 access area trips while the default 2013 LAGC allocation is about 3.4 million pounds. The default allocation of access area trips are substantially greater than those proposed as alternative specifications in FW24. It is possible that because of the change in implementation date, LA vessels would be able to take more access area trips than what will eventually be allocated under FW24 and in areas that may be closed.

5.1.6.1 No Action (Option 1) – No specific payback measures

Under the No Action, vessels could fish their 2013 default allocations from FW 22 until FW 24 is implemented. Therefore, it would possible under the No Action for vessels to exceed there allocation, and exceed their FW24 sub-ACLs. This would result in negative impacts on the scallop resource because vessels could fish above FW24 allocation levels. Additional effort in Hudson Canyon could have negative impacts on the small scallops in that area. Under default 2013 allocations some FT LA vessels will be allocated two 18,000 pound trips, and some will be allocated one, about nine million pounds overall. Under most alternatives in this action only a portion of the fleet will be allocated a trip in Hudson Canyon, a total of 2.3 to 3.2 million pounds depending on the scenario. This is a dramatic difference, and has the potential to have negative, non-significant impacts on the resource, particularly because there is very strong recruitment in that area.

5.1.6.2 Option 2 – Payback measures for LA and LAGC vessels (Preferred Alternative)

This action considered specific payback measures for the LA fishery (Section 2.1.7.2), as well as the LAGC fishery (Section 2.1.7.3). In general the payback measures under consideration for both fisheries would have positive impacts on the resource compared to No Action. The

payback measures would reduce the incentive for LA and LAGC vessels to fish above FW24 allocation levels. This would have positive impacts on the scallop resource.

5.1.7 Measures to refine management of YT flounder bycatch in the scallop fishery

5.1.7.1 Modification of GB access area seasonal restrictions

Because Framework 24 includes this alternative to modify the GB access area seasonal restrictions, this action is also a joint framework with the NE Multispecies FMP (Framework 49). For a discussion of how the alternatives and options under consideration in this measure would affect the groundfish resource, see Section 5.6, Impacts to Other Fisheries and Bycatch.

Appendix III is a more detailed description of the analyses used to develop and assess the impacts of alternatives considered for modifying the GB access area seasonal restriction. Overall, any alternative that closes the areas during the fall and winter would have positive impacts on the scallop resource in that area because that is when scallop meat weights are poorest (**Figure 39**). In the most extreme case, there is a 20% difference in scallop meat weights per animal on GB (maximum in June and minimum in April). The months with the lowest meat weights are September – April (excluding December). In general, the overall impacts of seasonal closures are difficult to assess because vessels shift effort differently as a result of a seasonal closure. The season will dictate when fishing will occur in that area, but it could impact fishing patterns in other areas, i.e. open area fishing. Therefore, while a seasonal closure could benefit the scallop resource in that particular area, it could cause effort patterns in other areas to change by season, impacting overall scallop mortality differently.

5.1.7.1.1 No Action – GB access area seasonal closure from Feb1-June14

The No Action would continue to seasonally close GB access areas from February 1 through June 14. The No Action has potentially negative impacts on the scallop resource because it closes the GB access areas during several months with higher scallop meat weights (primarily May 1 -June14). However, the areas are currently open during mid-June and July, relatively high meat weight months.

5.1.7.1.2 Modify GB access area seasonal restrictions (Options 1, 2 and 3 (Preferred Alternative))

Compared to No Action, as well as all the other options under consideration, Option 1 (closure from Sept 1 – April 30 for all three areas) would have the greatest potential benefit for the scallop resource in the GB access areas because it would close the areas during the months with lower meat weights, and restrict fishing during the months with highest yields (May-August). Since there is a possession limit per vessel, if more trips are fished during higher meat weight months, fewer scallops will be harvested for the same poundage. This relatively long seasonal closure could cause changes in traditional open area fishing patterns. Vessels may fish more in open areas when these areas are closed, having impacts on the resource. However, under DAS vessels would be limited by time and not a set poundage like in access areas, so overall positive impacts are expected from this option.

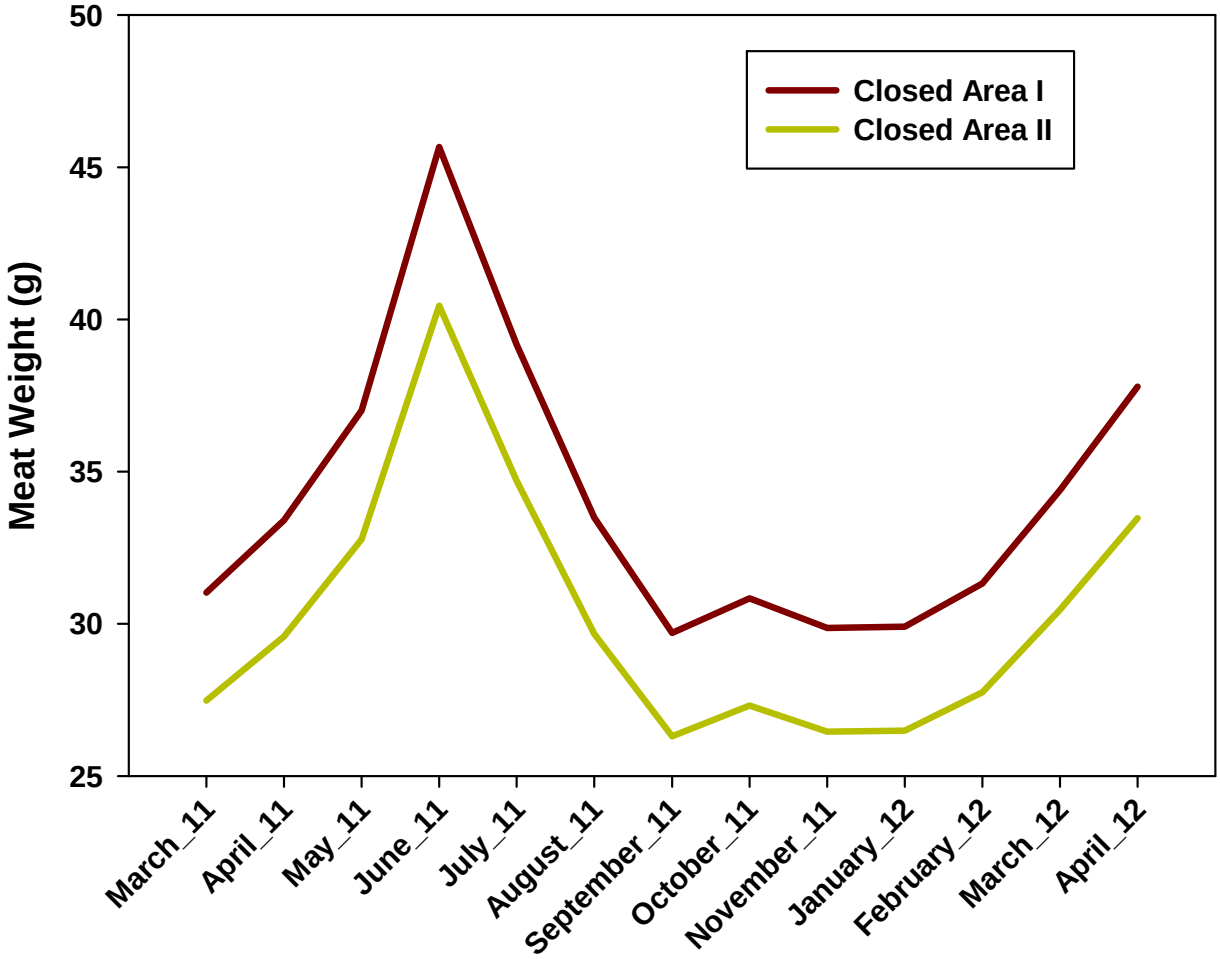
A 2011 Scallop RSA project measured scallops from Closed Area I and II from both a survey dredge as well as a commercial dredge to evaluate meat weight variations by season (Smolowitz

et al, 2012). Over 4,300 scallops were measured in this study and the scallop shell heights ranged from 82mm to 176 mm and meat weights varied from 5-121 grams. Meat weights were always higher in Closed Area I relative to Closed Area II and overall meat weights peaked from May-July and decreased to their through from August – February (Figure 39).

Option 2 closes all three areas from September – November, a three-month closure. This will have some benefit on the scallop resource in those areas by closing them during some of the months with lower meat weights. However, it does leave more months with lower meat weights available than No Action (Feb-April). Traditionally, fishing effort is not very high in GB access areas during the winter, but this alternative would not prevent it, so Option 2 could have potentially negative impacts on the scallop resource in GB access areas compared to the No Action alternative.

Option 3 would only close CA2 from August 15-November 15; neither CA1 nor NL would have a seasonal restriction. Overall Option 3 is expected to have similar impacts on the scallop resource to Option 2. Arguably the benefits to the scallop resource could be slightly greater under Option 2 because Option 3 only includes a fall closure for CA2, while under Option 2 the closure applies to all three areas. Under Option 3 vessels could fish in CA1 and NL all year, including the fall when meat weights are below average. While the impacts on the scallop resource on GB may be negative by opening the areas longer compared to No Action, vessels would still expected to fish in the areas when the weather is better and meat weights are higher to reduce costs (spring and summer). Therefore, any negative impacts from fishing in the areas in the fall and winter will likely be minimal, and compared to No Action the areas are currently open for fishing in the fall and early winter when meat weights are lower (September – January).

Figure 39 – Temporal trends for the predicted meat weight of a 125mm shell height scallop from two areas



5.1.7.1.3 Eliminate the seasonal closure restrictions

Eliminating the seasonal closures for all three access areas was considered as well. Compared to the No Action and modification options (Options 1-3), this alternative would have the greatest potential negative impacts on the resource because it does not limit fishing by season at all. Again, most effort is still likely to occur in the spring and summer, but this alternative has the most risk to have negative impacts on the scallop resource in GB access areas.

5.1.8 Measures to address YT flounder bycatch in the LAGC fishery

In general AMs that impose seasonal closures or gear restrictions can have impacts on the scallop resource depending on how the fishery responds to an AM. Some effort shifts are expected with all of the YT AMs under consideration, and effort shifts can have negative consequences on the scallop resource if effort is shifted to less optimal areas and into seasons

with lower meat weights. In general, scallop trawl gear has higher incidental mortality on smaller scallops than scallop dredge gear. Overall any potential impacts from the LAGC AM alternatives would be minor on the resource in general since alternatives under consideration only impact the LAGC fishery. The LAGC fishery is a small fraction of the total fishery, so any potential impacts on the scallop resource are minimal and not likely to have adverse impacts on the resource overall.

5.1.8.1 No Action – No YT AMs for the LAGC fishery

The No Action alternatives (No YT AMs for LAGC vessels using trawl or dredge gear) would have no impact on the scallop resource positive or negative because no specific measures would be imposed that could impact fishing activity.

5.1.8.2 YT AMs for LAGC vessels using trawl gear (Options 1, 2 (Preferred Alternative), and 3)

This action considered three specific options for YT AMs for the LAGC trawl fishery. The differences between the measures in terms of potential impacts on the scallop resource are summarized below, but overall the LAGC fishery is a small fraction of the total fishery, so any potential impacts on the scallop resource are minimal and not likely to have adverse impacts on the resource.

Option 1 is an area based AM that would prohibit trawl gear in statistical areas 612 and 613 by LAGC vessels for a period of time designated by the level of the bycatch overage (Table 22). Option 1 could change behavior of LAGC trawl vessels by limiting the time they could fish in this area, cause an effort shift outside of 612 and 613, or cause these vessels to switch to dredge gear if fishing in 612 and 613 is more attractive. It is difficult to assess the actual impacts of this measure since it depends on how vessels will react to this potential restriction. If vessels switch to dredge gear there could be potentially beneficial impacts on the scallop resource based on research which showed that trawl gear tends to catch smaller scallops better than larger scallops (Rudders et al, 2000). Since trawl gear potentially harvests more animals for the same poundage of scallops compared to vessels using dredge gear, there would be potentially beneficial impacts on the resource if vessels converted to dredge gear since dredge gear is more selective for larger scallops.

However, if a vessel does not switch gears and decides to fish in a different area, or different season, impacts on the scallop resource could be higher if catch rates are lower compared to 612 and 613 during the AM closure. Therefore, impacts could be positive or negative depending on how vessels react to this AM. Overall any potential impacts, positive or negative, would be minor on the resource since the LAGC trawl fishery is a very small fraction of the total fishery.

Option 2 is the preferred alternative, and it is a gear restriction in 612 and 613. This AM could be triggered two different ways: 1) if estimated catch of SNE/MA YT by the LAGC trawl fishery is more than 10% of the total SNE/MA YT sub-ACL; or 2) if the overall SNE/MA YT AM is triggered. Option 2 provides a real incentive for LAGC trawl vessels to reduce bycatch and avoid the catch of YT flounder since 10% is substantially lower than estimates of their catch in 2010 and 2011. Behavioral changes to reduce bycatch are not expected to increase impacts on the scallop resource. Trawl vessel operators explained to the Council that they are already taking

steps to reduce finfish bycatch without reducing scallop catch. If this AM is imposed there could be some negative impacts on the scallop resource if vessels fish in areas and seasons with lower scallop catch rates. However, this measure does give vessels the option to switch to dredge gear, and if they do impacts on the scallop resource could actually be lower compared to fishing the same allocation with trawl gear. Therefore, similar to Option 1, impacts could be positive or negative depending on how vessels react to this AM. Overall any potential impacts, positive or negative, would be minor on the resource since the LAGC trawl fishery is a very small fraction of the total fishery.

Option 3 would be a gear restriction for the entire SNE/MA YT stock area for the entire fishing year. This measure could potentially have positive impacts on the scallop resource compared to No Action, as well as Option 1 and 2, if trawl vessels decide to convert to dredge gear long term to avoid potential impacts of a large gear restriction closure. In general, scallop trawl gear has higher incidental mortality on smaller scallops than scallop dredge gear. However, any potential impacts, positive or negative, would be minor on the resource since the LAGC trawl fishery is a very small fraction of the total fishery.

5.1.8.3 YT AM for LAGC vessels using dredge gear (Preferred Alternative is to implement an AM for SNE/MA and No Action for GB)

For LAGC vessels using dredge gear this action only considered No Action (no AM for LAGC fishery) or the same area based AMs the LA fishery is subject to in SNE/MA and GB. However, for the SNE/MA YT AM for the LAGC dredge fishery this action considered a different closure schedule than the LA fishery (Table 23), and the AM is only triggered for this segment of the fleet if estimated catch is more than 3% of the total sub-ACL. If this AM is implemented it is possible that vessels will have to modify fishing behavior to different areas or seasons. If catch rates are lower due to effort shifts, there could be increased scallop mortality, hence increased impacts on the scallop resource compared to No Action. However, this AM will only trigger if the LAGC dredge fishery catches more than 3% of the total sub-ACL, and to date that fishery has been under 2% of total catch. Furthermore, the LAGC dredge fishery is a small fraction of the total fishery, so any potential impacts on the scallop resource are minimal and not likely to have adverse impacts on the resource.

The GB YT AM option considered for the LAGC dredge fishery is not expected to have impacts on the scallop resource, positive or negative. The LAGC dredge fishery does not currently operate in that area, and is not expected to in the future either. Therefore, potential AM area closures would not impact fishing behavior of LAGC vessels on GB, thus no impacts on the scallop resource.

5.1.9 Timing of AMs for the scallop fishery YT flounder sub-ACL

The No Action would continue to have YT AMs trigger in Year 2, the year after an overage. This would have neutral impacts on the scallop resource because this measure only relates to the timing of the AM, not the AM itself. When the AM is implemented will not make a difference in terms of impacts on the scallop resource.

The preferred alternative, pushing the AM to Year 3 if reliable information is not available to implement AMs in Year 2, would be expected to have neutral impacts on the resource as well. If

there are any impacts from effort shifts from AMs, whether those impacts are in the subsequent year or the year after that, the overall potential impacts on the scallop resource would be the same.

5.1.10 Measures to improve the flexibility and efficient use of LAGC IFQ

The impact of the No Action on the scallop resource would be negligible because this is an administrative provision and would not affect fishing effort. The No Action alternative does not facilitate the efficient use of LAGC IFQ, making it more difficult for the fishery overall to utilize all the allocation under the available sub-ACL.

The preferred alternative would improve the flexibility and efficient use of LAGC IFQ by enabling vessels to sub-lease and transfer quota after a LAGC IFQ vessel landed a portion of its quota and would allow IFQ to be transferred more than once. These measures are administrative in nature and therefore, compared to the No Action are expected to have negligible impacts on the scallop resource. These measures are expected to increase flexibility and mobility of quota, thus could increase the total percentage of annual quota harvested compared to recent years, but the total harvest from the IFQ fishery is still limited by the overall sub-ACL, which is unchanged by this alternative.

5.1.11 Measure to expand the current observer set-aside program to include LAGC vessels in open areas

This action considered an alternative to potentially include LAGC trips in open areas under the observer set-aside program. Including LAGC trips in open areas under the set-aside will likely increase the amount of coverage available for that segment of the fishery since coverage rates will not have to compete with other fisheries funded from federal observer days. In the past, the level of observer coverage for this segment of the fishery has been lower than coverage rates under the scallop industry observer set-aside program. More coverage will hopefully provide more precise estimates of bycatch, which is important for monitoring sub-ACLs. Overall, compared to the No Action, indirect positive impacts on the resource are expected if this expansion can improve data collection and estimates of catch and fishing activity of the LAGC fishery in open areas.

The No Action would have no direct impacts on the scallop resource because it only relates to how observer coverage is placed on LAGC vessels in open areas. Under No Action, LAGC vessels would still be observed in open areas, just at a reduced level compared to the preferred alternative for this section that would expand the observer set-aside program to include LAGC vessels in open areas.

5.1.11.1 Modify the observer set-aside allocation

This action considered an alternative to potentially revise the 1% set-aside per area for the observer set-aside program to be an overall set-aside, rather than restricted to a specific area. Currently under the No Action the compensation for observer coverage is 1% of the TAC per area available to the fishery (access areas and open areas). The observer set-aside is monitored per area and when it expires, vessels are required to pay for observers if fishing in that area and required to carry an observer. This measure is administrative in nature, therefore has negligible impacts on the scallop resource.

The preferred alternative would enable that set-aside to be shifted around, and all observer set-aside would be under one overall TAC. This measure does not have any direct impacts on the scallop resource, but could improve the overall observer set-aside program compared to No Action by enabling set-aside to be more flexible by area.

5.2 PHYSICAL ENVIRONMENT AND ESSENTIAL FISH HABITAT

This section is a qualitative review of the possible impacts to Essential Fish Habitat that could result from adoption of alternatives included in this framework adjustment. These evaluations consider impacts to benthic habitat generally, across the EFH designations for various species (scallops, groundfish, etc.) in aggregate, rather than evaluating impacts at the level of individual EFH designations. This is consistent with the fact that there are considerable spatial overlaps between individual EFH designations in areas where the scallop fishery operates.

Implementing the various measures in this framework action may cause changes to both the magnitude and the direction of adverse effects to EFH. The magnitude of adverse effects is generally related to (1) the location of fishing effort, because habitat vulnerability is spatially heterogeneous, and (2) the amount of fishing effort, specifically the amount of seabed area swept or bottom time. To the extent that adoption of an alternative would shift fishing to more vulnerable habitats, and/or increase seabed area swept, adoption would be expected to cause an increase in habitat impacts as compared to no action. If adoption of an alternative is expected to reduce seabed area swept or cause fishing effort to shift away from more vulnerable into less vulnerable habitats, a decrease in habitat impacts would be expected. The magnitude of an increase or decrease in adverse effects relates to the proportion of total scallop fishing effort that is affected by a particular alternative.

Bearing in mind that both the direction and magnitude of changes are difficult to predict, because changes in fishing behavior in response to management actions can be difficult to predict, adverse effects could shift as follows:

- <u>ABC, ACLs, and annual specifications</u>: For LA fishery, action alternatives have potentially positive habitat impacts as compared to no action; some variation in potential impacts between alternatives is expected in potential impacts due to higher/lower access area allocations. For LAGC fishery, impacts would likely be positive impacts, but of small magnitude. For NGOM TAC and incidental TAC, no measurable change in impacts would be expected as compared to the No Action alternative. Delayed implementation of payback measures may have small positive impacts compared to the No Action alternative.
- <u>Measures to refine management of YT flounder bycatch</u>: Alternatives that close access areas during periods of low meat yields (fall and winter) are generally expected to have positive impacts; alternatives that reduce fishing effort during the times of year with poorer yields are expected to perform better in terms of scallop resource impacts, and thereby catch rates and EFH impacts. In terms of the LAGC AMs, redistribution of effort could result in increased habitat impacts, because effort will be concentrated in fewer

areas, which could reduce catch rates and increase area swept to catch quota, but the magnitude of such changes is small. Changing the timing of AMs for all vessels is not likely to change the magnitude of EFH impacts.

- Measures to improve the LAGC fishery: These measures are administrative and no changes in EFH impacts are expected to result.
- Measures to expand the observer set aside program: These measures are also administrative but could translate into better data and improved management in general over the longer term.

In summary, the overall impact of the proposed action on EFH is likely to be positive. This is because the greatest magnitude of change is likely to result from the specifications for the limited Access fishery, and the magnitude of effort in this fishery under the proposed specifications represents a fairly substantial reduction from No Action, as well as current fishing levels (FY2012), and thus a reduction in impacts to EFH. Other measures have small positive or negative impacts as noted above, but affect a smaller proportion of overall fishing effort.

5.2.1 Acceptable Biological Catch

The SSC recommended the use of the previously accepted control rule for sea scallops to set the FY 2013 and 2014 (default) OFL and ABC (both including discards) as follows, in metric tons of meats:

- 2013 – OFL: 31,555; ABC: 27,370
- 2014 (default) – OFL: 35,110; ABC: 30,353

Although it is the foundation upon which the ACL values are based, the specification of the ABC itself is largely administrative in nature, and any change in impacts to EFH are instead attributable to the ACL specifications, including how the ACLs are distributed among vessels and areas. Therefore, neither the No Action ABC or the preferred alternative ABC are expected to have impacts on habitat and EFH.

5.2.2 Specifications for limited access vessels

The following table and text summarize the no action and four alternative specification scenarios for 2013. FY2014 is not discussed because access trips are not allocated in this action. Default FY2014 DAS levels are generally lower than those for FY2013 as a precautionary measure. Thus, impacts are not expected to increase in 2014 under these defaults. A subsequent action will set final FY2014 measures, and associated impacts on EFH will be evaluated in that action.

Table 56 – Summary of LA access area allocation alternatives under consideration in FW24 for FY2013 (number of trips and associated possession limits).

2013	HC	Del	CA1	CA2	NL	FT Poss Limit	Total AA allocation	FT Open Area DAS	PT Open Area DAS	Occ Open Area DAS
No Action	469	157	0	313	313	18,000	23.3	26	10	2
Alt 1	245	0	119	262	0	13,000	7.8	33	13	3
Alt 2 (Preferred)	210	0	118	182	116	13,000	7.8	33	13	3
Alt 3	177	0	0	136	0	18,000	6.0	33	13	3
Alt 4	130	0	57	50	76	18,000	6.0	33	13	3

- *No Action*

Default specifications include four access area trips and 26 DAS for full-time vessels.

- *Alternative 1*

Alternative 1 allocates the maximum amount of effort possible in each access area in 2013 and 2014 and sets open area DAS at the maximum level under the current overfishing definition (F in open areas = 0.38). This alternative closes ET and DMVA and has three access areas open (HC, CA1, and CA2) with 13,000 lb trip limits.

- *Alternative 2 (Preferred Alternative)*

Alternative 2 has the same open area DAS as Alternative 1, but reduces allocations in HC and CA2 and opens NL as well. Under the RSA program, Option 1 would not restrict compensation fishing in NL, while Option 2 would prohibit compensation fishing in NL. As above, this alternative closes ET and DMVA and four access areas are open (HC, CA1, CA2, NL) with 13,000 lb trip limits. Option 1 for RSA fishing is preferred.

- *Alternative 3*

Alternative 2 has the same open area DAS as Alternative 1, but reduces the number of access area trips to maintain the current 18,000 lb possession limit. This alternative closes ET and DMVA, and does not allow access to CA1 or NL (only CA2 and HC open).

- *Alternative 4*

Open area F and DAS are the same as Alternative 1. In 2013, open access areas include HC, CA1, CA2, NL. As above, under the RSA program, Option 1 would not restrict compensation fishing in NL, while Option 2 would prohibit compensation fishing in NL.

5.2.2.1 Summary of impacts from LA specification alternatives under consideration

Using area swept estimates generated by the SAMS model as a proxy for the extent of impacts to benthic habitats and EFH, the No Action allocation alternative has negative impacts on the environment compared to the other alternatives because it has the highest bottom area swept and DAS fished estimates compared to the other alternatives. Thus fishing gear would be on the bottom longer under No Action compared to the other alternatives. As compared to current levels of fishing effort (FY 2012), the default 2013 (No Action) specifications would likely have a

similar level of impacts to EFH, although the spatial distribution is of those impacts is likely to be different. Specifically, the default 2013 specifications have lower days at sea as compared to 2012, but a greater number of access area trips allocated (four access area trips compared to one or two under the alternatives considered in this action).

All four action alternatives would have positive impacts on benthic habitat and EFH as the projected area swept is lower in all cases compared to the No Action. The greatest differences between area swept in the four alternative specifications are in the 2013 and 2014 fishing years; over the long run, alternatives all perform similarly. In 2013, Alternative 1 has the greatest area swept, followed by Alternatives 2 and 3 which have similar values, and then by Alternative 4, which has the lowest value. However, Alternative 2, the preferred alternative, has higher catch with similar area swept estimates as compared to Alternative 3, so on a catch per area swept basis, alternative 2 could be viewed as preferable.

Area swept does not translate directly into impacts to habitat/EFH, because of heterogeneous habitat vulnerability across different areas. While access area effort is relatively certain, where open area effort will occur is less well known. All four FW24 alternative include the same open area DAS allocation, so in that regard, the associated impacts on EFH in open areas are similar. In addition, total effort in open areas is similar to recent levels (32 DAS in 2011 and 34 DAS in 2012).

5.2.2.1.1 Prohibition on RSA compensation fishing in NL

For Alternatives 2 and 4, this action is considering a potential prohibition on 2013 RSA compensation fishing in NL. No Action, Option 1, would allow compensation fishing in NL, and Option 2, would prohibit it. Option 1 is preferred. Neither Option 1 not Option 2 are expected to have direct impacts on EFH, positive or negative. RSA fishing overall is a small percentage of total scallop fishing and it will take place somewhere, whether it occurs in NL, or one of the other areas open to the fishery, will not have measurable impacts on habitat and EFH.

5.2.3 Specifications for limited access general category IFQ vessels

5.2.3.1 No Action LAGC IFQ

The no-action specifications are 1,530 mt total, combining the IFQ-only LAGC vessels and the limited access LAGC vessels. These values are higher than the FW24 specification alternatives, thus they would likely result in more fishing effort for this segment of the fishery. More fishing effort translates into more time fishing gear is in contact with the bottom and more potential impacts on benthic habitat and EFH. However, the difference between No Action and FW24 allocations for the LAGC fishery is minor, about 500 mt higher under No Action, so overall the potential impacts on EFH are slightly positive but negligible. As compared to current levels of fishing (FY 2012) the default 2013 specifications (the No Action Alternative) have slightly positive but negligible potential impacts, because default 2013 specifications are slightly lower than those from 2012, specifically fewer DAS. The LAGC allocation under No Action (default 2013) is essentially the same as current levels of fishing (FY 2012); thus the potential impacts on physical environment and EFH from No Action are the same as current baseline levels.

5.2.3.2 Specification alternatives for LAGC IFQ vessels (preferred alternative)

For fishing year 2013, these specifications allocate 1,010 mt to the IFQ-only fishery and an additional 101 mt to the IFQ + limited access fishery (1,144 mt and 114 mt in 2014). These amounts are lower than the No Action allocations and therefore would potentially reduce impacts on habitat and EFH under the preferred specification alternatives. The reduced catch limits are consistent with the most recent biological analyses and survey data, and therefore are expected to have positive biological impacts on the scallop resource. To the extent that the alternative specifications lead to reduced area swept per catch as compared to No Action fishing levels, they would have positive impacts on habitat and EFH. The mechanism for reduced area swept per catch would be higher catch rates on average combined with lower fishing effort overall.

5.2.3.3 Allocation of fleetwide access area trips to the LAGC IFQ fishery

This action also considered two options for allocating LAGC trips in access areas. Option 1 would allocate 5.5% of each access area TAC to the LAGC fishery. Option 2, the preferred alternative, would prorate TAC allocation amongst all areas open that year, excluding CA2. Both Option 1 and Option 2 for AA trips for the LAGC fishery are expected to have negligible impacts on habitat and EFH because the LAGC access trips are a relatively minor component of the scallop fishery overall. That being said, between the two options, Option 2 would likely lead to greater utilization of the TAC allocation because the smaller LAGC vessel tend not to fish in CA2, and in past no LAGC trips were used in this area. Therefore, Option 2 will result in additional effort from this fishery in the access areas and a slight increase in the magnitude of impacts to habitat and EFH and compared to Option 1. However, overall effort from the LAGC fishery will be the same since pounds harvested in access areas will not be harvested in open areas; thus negligible impacts overall on habitat and EFH overall.

5.2.4 Northern Gulf of Maine Hard-TAC

5.2.4.1 No Action (preferred alternative)

The no-action specification is a hard TAC of 70,000 lb for all vessels. Recent catch levels have been well below this TAC for the last several years, thus the potential overall impacts on habitat and EFH from this fishery are minimal.

5.2.4.2 NGOM TAC of 58,000 lb

The alternative specification recommended by the PDT is a hard TAC of 58,000 lb. This alternative specification is more consistent with updated data on the status of the resource and achieves an exploitation rate of roughly 0.25. In theory, fishing under these specifications is expected to have biological benefits and thereby short and long run benefits to EFH as scallop populations grow and fishing becomes more efficient (i.e., higher catch rates). However, since the recent catch in the NGOM area has been much lower than the TAC (8,000 lbs in 2011, and 4,000 lb in 2012 to date), in reality, the impacts of this specification are unlikely to differ from no action.

5.2.5 Measure to address delayed implementation of Framework 24

5.2.5.1 No Action – No specific payback measures

The lower ACLs in the updated 2013 specifications in comparison with no action means that overages could theoretically occur if the framework is not implemented by March 1 (May 1 is expected). No payback of these overages would be required under no action. Therefore, excessive fishing could occur under the No Action alternative before the framework goes into effect, which could result in higher fishing mortality and lower catch rates, and thereby increase area swept and impacts to EFH.

5.2.5.2 Payback measures for limited access vessels in 2013 (preferred alternative)

Access area allocations are generally lower under the updated specifications, particularly in the Hudson Canyon. Some vessels will not be allocated a Hudson Canyon access trip in 2013, so excessive fishing before the framework goes into effect could result in higher fishing mortality and lower catch rates, and thereby increase area swept and impacts to EFH since some vessels have up to two HC trips under default 2013 measures. Creating a payback measure of a 12 DAS penalty is expected to create a disincentive to fish in this area, which will reduce biological and habitat impacts compared to No Action.

5.2.5.3 Payback measures for LAGC IFQ vessels in 2013 (preferred alternative)

LAGC vessels receive more quota under no action than under the revised specifications. This measure, which would be in addition to the no action measure, is designed to reduce the incentive to transfer more than a vessel will ultimately be allocated by requiring a pound for pound deduction in FY 2013 from the lessee. This payback measure is expected to create a disincentive to transfer too much quota, which will reduce biological and habitat impacts compared to the No Action. However, any changes in EFH impacts that result from implementing this measure would likely be minor.

5.2.6 Measures to refine management of YT flounder bycatch in the scallop fishery

The following three alternatives would adjust the measures used to help prevent and mitigate potential overages of the yellowtail flounder sub-ACL allocated to the scallop fishery. Note that there are access area closures that always occur to prevent bycatch, as well as reactive accountability measure closures that are triggered if the sub-ACL is exceeded. On GB, statistical area 562 closes as a reactive accountability measure, with the season of the closure dependent on the extent of the overage.

5.2.6.1 Modification of Georges Bank access area seasonal restrictions

Because Framework 24 includes an alternative to modify the GB access area seasonal restrictions (Section 2.2.1), this action is also a joint framework with the NE Multispecies FMP (Framework 49). However, this alternative is not expected to have economic impacts to the groundfish fishery. There may be some positive or negative impacts on some groundfish stocks as a result of these potential measures, but no direct impacts are expected on the groundfish fishery and overall landings of groundfish. See Section 5.6 for a more detailed assessment of the potential impacts on the groundfish resource from these measures.

The following alternatives consider changes to the months in which the three Georges Bank access areas (CA2, CA1, NL) are closed to reduce Georges Bank yellowtail flounder bycatch. These closures always occur regardless of whether reactive accountability measures are triggered.

No Action
The current schedule for all areas is a closure between March and June 14, with an additional closure period during the last month of the fishing year (February).

Modified seasonal closures (3 options)
Option 1 would close all areas during March and April, and again during September through the end of the fishing year. Thus, access area fishing would only be allowed in May-August.

Option 2 would close all areas during September through November.

Option 3 would not close CA1 and NL during any months, but would close CA2 from August 15 through November 15. This is the Preferred Alternative.

Eliminate seasonal closures
This alternative would eliminate all proactive seasonal closures in the GB access areas.

5.2.6.1.1 Summary of Impacts of GB access area seasonal restrictions

It is generally assumed that most vessels will choose to fish when meat weights are highest, so in areas that are managed via trip limits as the access areas are, greater CPUE results in lower habitat impacts because less area is swept to achieve the catch limit. The various options target these times of high scallop yield, but to varying extents. Option 1 puts the greatest constraints on fishing, focusing effort on high yield months only, and would likely have the most positive benefits for habitat and EFH. Option 2 puts moderate constraints on fishing, focusing effort on high yield months but also leaving some lower yield winter months open to the fishery. Effort during the winter months on Georges Bank has typically been low, so the actual difference in impacts between Options 1 and 2 could be minimal. Option 3 is the most flexible for fishing, and thus provides the greatest potential for fishing during lower yield months, and thus the greatest opportunity for increased impacts to habitat and EFH. It is important to note that any seasonal restrictions could lead to shifts in open area effort; if fall and winter effort is prohibited in the access areas, it could occur in open areas instead.

Eliminating the seasonal closures entirely provides the least certainty that vessels will elect to fish at times when yield is highest, so the potential for increased impacts to EFH is greatest under this alternative, compared to the others under consideration, including the No Action alternative. As noted above, it is generally assumed that most vessels will choose to fish when meat weights are highest, so in areas that are managed via trip limits as the access areas are, greater CPUE results in lower habitat impacts because less area is swept to achieve the catch limit.

5.2.6.2 Measures to address YT flounder bycatch in the LAGC fishery

These alternatives consider accountability measures specific to the LAGC fishery, or a subset of it. Catches of yellowtail in this fishery are mostly observed for dredge vessels fishing in the CC/GOM yellowtail stock area and for vessels fishing in the SNE/MA yellowtail stock area. Most of the SNE/MA yellowtail catch in the LAGC scallop fishery comes from scallop trawl vessels.

5.2.6.2.1 No Action

The No Action would have negligible impacts on EFH because LAGC vessels are currently exempt form seasonal reactive AM closures. Therefore, fishing effort or location would not change.

5.2.6.2.2 YT AMs for LAGC vessels using trawl gear

Under Option 1, if the overall SNE/MA yellowtail sub-ACL is exceeded, the use of LAGC trawl gear would be prohibited in statistical areas 612 and 613 for a specified season (the same season as LA vessels, with duration depending on the extent of the overage). However, the areas would not close to LAGC trawl fishing between July and November. Under this option, LAGC trawl vessels would not be allowed to convert to dredges and fish in the area.

Under Option 2, if more than 10% of the overall SNE/MA yellowtail sub-ACL is caught by the LAGC scallop trawl fishery, statistical areas 612 and 613 would close from March through June and again from December through February. If the overall scallop sub-ACL for SNE-MA yellowtail is exceeded, then the closure schedule reverts to option 1. LAGC trawl vessels would be able to convert to dredge gear if desired to fish in the AM area. If the 10% threshold is exceeded and the overall ACL is caught, the more restrictive 7 month closure period would apply.

Under Option 3, if the overall SNE-MA sub-ACL is exceeded, trawl vessels would be prohibited from the entire yellowtail stock area for the following fishing year, although the vessel could convert to a dredge vessel.

In all three cases, impacts on habitat and EFH could increase compared to No Action if the AM is triggered and vessels fish in more vulnerable habitat areas and/or achieve lower CPUE and thus have higher area swept to harvest their quota. However, it is not possible to estimate the directionality of the impacts (positive or negative). In addition, the magnitude of change is likely small, since the LAGC is a relatively small part of the fishery overall. Options 2 and 3 could incentivize vessels to convert to dredge gear temporarily or permanently. Although the Swept Area Seabed Impact vulnerability assessment assumes a similar per-unit-area impact between trawls and dredges, trawl gear has a much larger linear effective width than dredge gear when the ground cables, bridles, and sweep are combined, assuming typical angles of attack. Under this assumption, if a trawl vessel and a dredge vessel conduct a tow of the same length in the same area, the trawl vessel will sweep more area and have greater habitat impacts than the dredge vessel. This creates the potential for reduced seabed impacts if a scallop trawl vessel converts to dredging, but ignores any differences in catch rates relative to area swept between the two gears. Because there are not really data to indicate whether catch per area swept on a dredge vessel is

different from a trawl vessel, it is not possible to say in which direction (positive or negative) EFH impacts might shift if trawl vessels convert to dredges.

5.2.6.2.3 YT AMs for LAGC vessels using dredge gear

Under Option 1, if the overall SNE-MA sub-ACL is exceeded AND the LAGC dredge fishery catches more than 3% of the sub-ACL, LAGC vessels would be subject to the same closure areas as limited access vessels (statistical areas 513, 537, 539), but on an alternate schedule. This is the preferred alternative.

Under Option 2, if the overall GB sub-ACL is exceeded, LAGC vessels would be subject to the same closure area as limited access vessels (statistical area 562) during the same seasons (which vary depending on whether CA2 access area is open or closed).

In both cases, impacts on habitat and EFH could increase compared to No Action if the AM is triggered and vessels fish in more vulnerable habitat areas and/or achieve lower CPUE and thus have higher area swept to harvest their quota. However, it is not possible to estimate the directionality of the impacts (positive or negative) or whether Option 1 would have a greater or lesser change in impacts as compared to Option 2. In addition, the magnitude of change is likely small, since the LAGC is a relatively small part of the fishery overall.

5.2.6.3 Timing of AMs for the scallop fishery YT flounder sub-ACL

5.2.6.3.1 No Action

Currently, NMFS determines around January 15 whether AMs are likely to be exceeded for either of the yellowtail sub-ACLs, based on projections and past bycatch data. Once all landings and observer data are available, the estimates are reviewed and the decision to implement an AM could be reevaluated if a different conclusion is reached. The No Action would have negligible impacts on EFH because this is an administrative measure.

5.2.6.3.2 AMs trigger in Year 2 (if reliable data available mid-year) or Year 3 (after a full year of data available) (Preferred Alternative)

Under this alternative, AMs could trigger at the start of year 2 if the overage is reliably estimated by the middle of year 1, or at the start of year 3 if additional data are needed to produce a reliable estimate. If an AM is triggered, effort may shift from the AM area to locations outside the AM area or to a different season that is less optimal. This measure could influence the timing of these potential shifts in effort, but would probably not affect the total amount of effort or the locations that the effort shifts into, thus there would be no change in overall EFH impacts compared to No Action.

5.2.7 Measures to improve the flexibility and efficient use of LAGC IFQ by allowing transfer of quota mid-year

5.2.7.1 No Action

Currently, if a vessel with a LAGC IFQ permit has landed any scallops during a fishing year, it is prohibited from leasing out quota. In addition, IFQ can only be transferred once during a given fishing year, i.e., sub-leasing is not permitted. Applications for IFQ transfers must be submitted

30 days before the date on which the applicants desire to have the IFQ effective. These provisions do not apply to vessels that have both a LAGC IFQ and LA scallop permit, as these vessels are prohibited from leasing LAGC IFQ altogether. These measures are administrative and do not have direct impacts on habitat or EFH, positive or negative.

5.2.7.2 Allow transfer of LAGC IFQ during the year (preferred alternative)

This alternative would allow sub-leasing and transfer of quota after an LAGC IFQ vessel landed scallops (implementation with other framework measures) and would allow IFQ to be transferred more than once (implementation delayed until March 2014). IFQ ownership and vessel caps would still apply. This measure is administrative in nature and would not be expected to have any direct effects on habitat or EFH compared to the No Action.

5.2.8 Measure to expand the current observer set-aside program to include LAGC vessels in open areas

5.2.8.1 No Action

Currently, LAGC vessels are not covered under the observer set aside program when fishing in open areas, and coverage is paid for by NMFS. Under the observer set aside, the vessel pays for the coverage if selected to be observed, but they are given additional pounds of catch or DAS to offset the cost. The No Action alternative would have negligible impacts on EFH because this is an administrative measure.

5.2.8.2 Include open area trips by LAGC vessels under the current observer set aside program (preferred alternative)

This alternative would include LAGC vessels fishing in open areas in the observer set aside program. Vessels would receive additional quota on a per-trip basis that could not be transferred to another vessel, but could be used on a subsequent trip. This measure is expected to increase observer coverage for this segment of the fishery compared to current levels under the regular observer program funded by NMFS. While it does not have any direct effects on habitat or EFH, it could improve management overall if catch and bycatch rates in the LAGC open area fishery are better understood.

5.2.8.3 Modify the observer set-aside allocation

5.2.8.3.1 No Action

Currently 1% of the total ACL is set aside to defray the cost of observer coverage, and is divided up into area-specific TACs. This creates issues when the area TAC has been fully harvested but an observer is assigned to a vessel fishing in the area, because the vessel must then bear the entire cost. The No Action alternative would have negligible impacts on EFH because this is an administrative measure.

5.2.8.3.2 Same 1% allocation, but not area specific (preferred alternative)

This alternative would still specify area-based set aside TACs, but these would not be written into the regulations and would remain flexible in the event that one TAC is being used faster/more slowly than another. This flexibility combined with in-year compensation rate adjustments should help to minimize the chance that the set-aside is fully harvested prior to the

end of the fishing year. This measure is not expected to have any direct effects on habitat or EFH, but could improve management overall if it allows full and flexible use of the ACL set-aside.

5.3 IMPACTS ON PROTECTED RESOURCES

5.3.1 Background

The Framework Adjustment 24 alternatives are evaluated below for their impacts on protected resources with a focus on threatened and endangered sea turtles, as noted in the Affected Environment Section. As with the analyses provided in the last scallop management action, the species considered here are loggerhead, leatherback, Kemp's ridley and green sea turtles.

Both scallop dredge and scallop trawl gear will be addressed in this section, generally collectively, given they are the most commonly used gears by general category and limited access vessels in this fishery. To evaluate impacts it may be helpful to note that the majority of fishing effort is attributed to the dredge fishery. Most of the approximately 340 active limited access vessels use dredge gear. There are approximately 300 limited access general category vessels that are allowed to land 5.5% percent of the total projected scallop landings. However, only about 170 LAGC vessels were active in 2011, about 80% of LAGC catch from vessels with dredge gear and 20% from trawl gear.

To briefly summarize the sea scallop fishery management program, it employs a limited access permit system and controls DAS use in scallop open areas. Limited numbers of trips with trip limits also are allowed in designated rotational access areas. Major harvest areas include Georges Bank with less activity in the Gulf of Maine. Both are regions in which turtles are far less likely to be found relative to Mid-Atlantic waters, where effort and scallop catch levels have increased in recent years. In addition, directed general category scallop fishing effort has increased overall since 1994, including new effort in the Mid-Atlantic, but this trend was addressed by measures implemented in Amendment 11 to the Atlantic Sea Scallop Fishery Management Plan that implemented a limited access program for this fleet.

Although scallop fishing is a year-round activity, takes of sea turtles potentially may occur from May through November given the overlap of the sea turtle distribution (Shoop and Kenney 1992; Braun-McNeill and Epperly 2002) and fishery effort (NEFMC 2003, 2005).

Sea turtles are present seasonally in the Mid-Atlantic, moving up the coast from southern wintering areas as water temperatures warm in the spring and returning in the fall (NMFS 2008). Fisheries observers have recorded sea turtle interactions with scallop gear during June – October (Figure 1). While turtle interactions could occur in any month throughout the Mid-Atlantic during this time period, higher probabilities have generally been associated with warm sea water temperatures (>19C) and depths between 50 and 70 m (see Murray 2004a, 2004b, 2005, 2007 for more information on estimated bycatch rates and observer coverage levels).

With respect to sea turtle interactions with the fishery overall, it is noteworthy that there were very low levels of observer coverage throughout the fishery up to 2001 (though observer

coverage during 2001 and 2002 was concentrated mainly in the Hudson Canyon Access Area). Since that time, bycatch rates, with a focus on the Mid-Atlantic, have been analyzed in a number of publications that are discussed in the Affected Environment section.

In mid-2006, NMFS finalized a rule (71 FR 50361, August 23, 2006) that required scallop fishermen operating south of 41 9.0' N from May 1 through November 30 each year to equip dredges with chain mats. The intent of the dredge gear modification is to reduce the severity of some turtle interactions that might occur by preventing turtles from entering the dredge bag. Chain mats do not decrease the number of turtles in contact with the gear; rather they decrease the likelihood that turtles will suffer serious injuries. Because chain mats are designed to keep turtles out of the dredge bag, enumerating observed interactions in and around scallop dredge gear became difficult after 2006. The requirement is expected to reduce the severity of some turtle interactions with scallop dredge gear. For the years the Elephant Trunk access area was open to the fishery, 2007-2010, there has also been a seasonal closure from September 1-October 31 to reduce impacts on sea turtles. Under this action that area will revert back to a closed area to protect the small scallops found in that area. In addition, Delmarva will remain closed to scallop vessels to protect the small scallops in that area as well.

In addition, FW23 to the Scallop FMP requires that all LA and LAGC vessels fishing with a dredge greater than or equal to 10 feet six inches in the Mid-Atlantic from May 1- October 31 use a "turtle deflector dredge". This requirement will go into effect on May 1, 2013. The Council supported this modification to minimize impacts on sea turtles.

Discussions regarding sea turtle interactions with the fishery are largely qualitative and based on factors such as projected DAS use-by-area and projected bottom area swept (Section 5.1.2.3). It is important to recognize that neither factor directly relates to the frequency of turtle bycatch in the fishery, but provide some measure of how much effort is projected to occur and which areas might be subject to more or less activity based on catch rates. Although it is not repeated in each alternative, the general assumption is made that turtles interactions occur when and where scallop fishing effort overlaps with the presence of sea turtles. Risks may be greater during turtle high use periods, but interactions could still occur in the margins of that period given that both turtle distribution and fishing activities are highly variable.

5.3.2 Acceptable Biological Catch

This action sets Acceptable Biological Catch (ABC) values for 2013 and 2014(default).

- 2013 – OFL: 31,555; ABC: 27,370
- 2014 (default) – OFL: 35,110; ABC: 30,353

Although it is the foundation upon which the ACL values are based, the specification of the ABC itself is largely administrative in nature, and any change in impacts to protected resources are instead attributable to the ACL specifications, including how the ACLs are distributed among vessels and areas. Therefore, neither the No Action ABC, nor the preferred alternative ABC described above, are expected to have impacts on protected resources.

5.3.3 Summary of impacts from LA specification alternatives under consideration

All FW24 alternatives have lower total bottom contact time compared to No Action, as well as recent levels for 2011(5,000 square nautical miles)(**Figure 37**), thus lowering interactions with protected species. In 2013, Alternative 1 has the greatest area swept, followed by Alternatives 2 and 3 which have similar values, and then by Alternative 4, which has the lowest value. However, alternative 2, the preferred alternative, has higher catch with similar area swept estimates as compared to alternative 3, so on a catch per area swept basis, alternative 2 could be viewed as preferable.

It is uncertain how much of this effort will take place in areas that overlap with sea turtles. In some years more than half of open area DAS are fished in the Mid-Atlantic, but more effort is expected to shift to the Great South Channel in 2013, and less effort in MA open areas compared to recent years.

Impacts of No Action allocations in access areas on protected resources could be higher than alternatives under consideration because No Action allocations include access area trips in Delmarva and Hudson Canyon. Alternatively, all FW24 allocation scenarios close Delmarva and Elephant Trunk in 2013, and reduce HC fishing substantially compared to No Action. Therefore, all four FW24 alternatives have much less access area effort in the Mid-Atlantic compared to No Action, thus lower potential impacts on protected resources.

It should be noted that this action does not need to consider specific measures to limit effort in the Mid-Atlantic to reduce further minimize impacts on sea turtles. From 2010-2012 the Council developed specific measures to limit scallop fishing effort to comply with the 2008 biological opinion of this fishery and its impacts on sea turtles. A subsequent opinion was released during development of FW24, and specific measures to limit fishing are no longer required (Section 4.3).

5.3.3.1 Prohibition on RSA compensation fishing in NL

The RSA limitation in NL for Alternative 2 and 4 is expected to have negligible impacts on protected resources. If vessels are prohibited from fishing RSA compensation in NL they will have to fish it from other areas open to the fishery (CA1, CA2, HC, or open areas). Arguably, prohibiting fishing in NL could shift that potential effort into open areas in the MA. More fishing in the MA could increase potential interactions with sea turtles and associated impacts. However, RSA fishing overall is a small percentage of total scallop fishing, and only some of the 1.25 million pounds of RSA compensation fishing will likely take place in the Mid-Atlantic. Therefore, overall impacts on protected resources are expected to be minimal from both No Action (Option 1) and Option 2 (prohibition of RSA fishing in NL).

5.3.4 Specifications for LAGC IFQ vessels

5.3.4.1 No Action LAGC IFQ

The no-action specifications are 1,530 mt total, combining the IFQ-only LAGC vessels and the limited access LAGC vessels. These values are higher than the FW24 specification alternatives, thus they would likely result in more fishing effort for this segment of the fishery. More fishing effort translates into more time fishing gear is in contact with the bottom and more potential

impacts on protected resources. However, the difference between No Action and FW24 allocations for the LAGC fishery is minor, about 500 mt higher under No Action, so overall the potential impacts on protected resources are slightly positive but negligible for both alternatives. The LAGC allocation under No Action (default 2013) is essentially the same as current levels of fishing (FY 2012 IFQ = 1,544 mt); thus the potential impacts on protected resources from No Action are the same as current baseline levels.

5.3.4.2 Specification alternatives for LAGC IFQ vessels (preferred alternative)

For fishing year 2013, these specifications allocate 1,010 mt to the IFQ-only fishery and an additional 101 mt to the IFQ + limited access fishery (1,144 mt and 114 mt in 2014). These amounts are lower than the No Action allocations and therefore would potentially reduce impacts on protected resources under the preferred specification alternatives. The reduced catch limits are consistent with the most recent biological analyses and survey data, and therefore are expected to have positive biological impacts on the scallop resource. To the extent that the alternative specifications lead to reduced area swept per catch as compared to No Action fishing levels, they would have positive impacts on protected resources. The mechanism for reduced area swept per catch would be higher catch rates on average combined with lower fishing effort overall.

5.3.4.2.1 Allocation of fleetwide access area trips to the LAGC IFQ fishery

This action also considered two options for allocating LAGC trips in access areas. Option 1 would allocate 5.5% of each access area TAC to the LAGC fishery. Option 2 would take CA2 access area trips and prorate them to access areas closer to shore (preferred alternative). This option would potentially increase access area fishing and associated impacts on protected resources in the Mid-Atlantic (more trips in HC only) compared to Option 1 (No Action). However, the additional trips available in HC would be minimal, 72 additional trips under Alternative 2 the preferred alternative (245 trips allocated in HC under Option 1 and 317 trips in HC under Option 2)(Table 15). Furthermore, both these options are expected to have minimal impacts on protected resources since all the available trips in HC were not fished in 2012 anyway. As of January 3, 2013 just over 13% of FY2012 allocated trips were utilized by the LAGC fishery (http://www.nero.noaa.gov/ro/fso/Reports/ScallopProgram/lagc_trips_hc_20130103.pdf).

Both Option 1 and Option 2 for AA trips for the LAGC fishery are expected to have negligible impacts on protected resources because the LAGC access trips are a relatively minor component of the scallop fishery overall. That being said, between the two options, Option 2 would likely lead to greater utilization of the TAC allocation because the smaller LAGC vessel tend not to fish in CA2, and in past no LAGC trips were used in this area. Therefore, Option 2 will result in additional effort from this fishery in the access areas and a slight increase in the magnitude of impacts to protected resources if more trips are utilized in HC under Option 2 compared to Option 1. However, overall effort from the LAGC fishery will be the same since pounds harvested in access areas will not be harvested in open areas; thus negligible impacts overall on protected resources.

5.3.5 Northern Gulf of Maine Hard TAC

The NGOM No Action specification is a hard TAC of 70,000 lb for all vessels (Alternative 1). This is the preferred alternative. Alternative 2 is a hard TAC of 58,000 pounds. Neither

alternative is expected to have impacts on protected resources since the Gulf of Maine is not a primary location where sea turtles are found. Furthermore, recent catch levels have been well below this TAC for the last several years, thus the potential overall impacts on protected resources from this fishery are minimal.

5.3.6 Measure to address delayed implementation of Framework 24

5.3.6.1 No Action

The lower ACLs in the updated 2013 specifications in comparison with no action means that overages could theoretically occur if the framework is not implemented by March 1 (May 1 is expected). No payback of these overages would be required under no action. Therefore, excessive fishing could occur under the No Action alternative before the framework goes into effect, which could result in higher fishing mortality and lower catch rates, and thereby increase area swept and potential impacts on protected resources, particularly from additional access area trips in HC and Delmarva, above the FW24 recommended levels.

5.3.6.2 Payback measures for limited access vessels in 2013 (preferred alternative)

Access area allocations are generally lower under the updated specifications, particularly in the Hudson Canyon. Some vessels will not be allocated a Hudson Canyon access trip in 2013, so excessive fishing before the framework goes into effect could result in higher fishing mortality and lower catch rates, and thereby increase area swept and potential impacts to protected resources since some vessels have up to two HC trips under default 2013 measures. Creating a payback measure of a 12 DAS penalty is expected to create a disincentive to fish in this area, which will reduce biological and potential impacts on protected resources compared to No Action.

5.3.6.3 Payback measures for LAGC IFQ vessels in 2013 (preferred alternative)

LAGC vessels receive more quota under no action than under the revised specifications. This measure is designed to reduce the incentive to transfer more than a vessel will ultimately be allocated by requiring a pound for pound deduction in FY 2013 from the lessee. This payback measure is expected to create a disincentive to transfer too much quota, which will reduce biological and habitat impacts compared to the No Action. However, any changes in EFH impacts that result from implementing this measure will likely be minor.

5.3.7 Measures to refine management of YT flounder bycatch in the scallop fishery

The following three alternatives would make adjustment to the measures used to help prevent and mitigate potential overages of the yellowtail flounder sub-ACL allocated to the scallop fishery. Note that there are preventative access area seasonal closures to reduce bycatch, as well as reactive accountability measure closures for LA vessels that are triggered if a YT sub-ACL is exceeded. On GB, statistical area 562 closes as a reactive accountability measure, with the season of the closure dependent on the extent of the overage. And for SNE/MA YT, the AM closure area is statistical areas 613, 539, and 527, with the season of closure dependent on the extent of the overage.

5.3.7.1 Modification of Georges Bank access area seasonal restrictions

The following alternatives consider changes to the months in which the three Georges Bank access areas (CA2, CA1, NL) are closed to reduce Georges Bank yellowtail flounder bycatch. These closures always occur regardless of whether reactive accountability measures are triggered.

No Action

The current schedule for all areas is a closure between March and June 14, with an additional closure period during the last month of the fishing year (February).

Modified seasonal closures (3 options)

- Option 1 would close all areas during March and April, and again during September through the end of the fishing year. Thus, access area fishing would only be allowed in May-August.

- Option 2 would close all areas during September through November.

- Option 3 would not close CA1 and NL during any months, but would close CA2 from August 15 through November 15. Preferred Alternative.

Eliminate seasonal closures

This alternative would eliminate all proactive seasonal closures in the GB access areas

5.3.7.1.1 Summary of Impacts of GB access area seasonal restrictions

Overall, there are very few, if any, direct impacts on protected resources from scallop fishing in GB access areas since sea turtles are not typically observed that far north. Therefore, the only impacts on protected resources from these options would be if they impact when vessels fish open area DAS and trips in Mid-Atlantic access areas. Sea turtles are typically found in the Mid-Atlantic from May-October, so if measures have the potential to shift effort out of the Mid-Atlantic during the summer and early fall, there may be beneficial impacts on sea turtles. However, these potential impacts depend on changes in fishing behavior which are difficult to predict.

Under No Action, the GB access areas are closed to scallop fishing Feb1-June 14. Therefore, vessels do not fish in the GB access areas until June15-Jan 31. For the most part, this 4.5 month closure period tends to concentrate GB access area effort in the summer, after the area opens on June 15 and before scallop meat weights get lower in the fall. Concentrating effort on GB in the summer can have beneficial impacts on sea turtles if effort shifts from the Mid-Atlantic where interactions with sea turtles are more likely than on GB.

Option 1 would close all three GB access areas from September 1-April 30. Again this change in season would have minimal direct impacts on protected resources since sea turtles are not typically found in the GB access areas. This option is designed to concentrate fishing during the season with highest scallop meat weights. If trips with a possession limit are fished during high meat weight months (May1-August 31), the trips will typically be fished faster with less area swept. Less area swept could have beneficial impacts on the environment including protected

resources, but sea turtles are not typically found in these areas, so reduced area swept in this case would have minimal impacts on protected resources either way within the access areas. However, this closure period could have indirect positive impacts on protected resources compared to No Action. Since this is a relatively long seasonal closure, 8 months, vessels would likely need to fish most of their open area DAS and MA access area trips (HC, ETA, and Delmarva) during the months when these areas are closed (September1-April 30). If this option causes vessels to fish GB trips in May-August, and all their MA access area trips and DAS in the MA during these months, potential impacts on protected resources could be positive since turtles are primarily in the MA May through October. If this measure causes some effort to shift from the MA to GB access areas between May-August, and less effort in the MA during that same time period, overall impacts on sea turtles could be positive.

Option 2 closes all three areas from September –November, a three-month closure. Again this would have minimal direct impacts on protected resources since sea turtles are not typically found in the GB access areas. This closure period could have indirect negative impacts on protected resources compared to No Action. This is a shorter seasonal closure for GB access areas, so arguably vessels would have more time to fish open area DAS in the MA as well as MA access area trips; those trips could be taken December 1 – August 31. This would include most of the time period that sea turtles are present in the MA (May-October). if fewer vessels fish in GB access areas during the summer and fall when interactions with sea turtles are more likely. This closure option is shorter than Option 1 so vessels would have more flexibility to fish in

Option 3, the preferred alternative, would not close CA1 and NL, and would close CA2 from August 15 through November 15. This is the most flexible option under consideration after the alternative that would eliminate the GB access area seasonal restrictions all together. This option would probably not cause substantial effort shifts to or from the MA during the turtle bycatch season since it only affects one area, and is only for three months long. Therefore, minimal impacts on protected resources compared to No Action, as well as compared to other alternatives under consideration.

This action also considered an alternative that would eliminate the GB access area seasonal closures. It is difficult to predict how fishing behavior will change with no seasonal closure at all. If more effort shifts to GB during higher meat weight periods, impacts on protected resources could be beneficial if that effort comes from the MA. But it is also possible that more effort will shift to GB access areas when meat weights are lower since those trips have a possession limit and are not under a DAS time restriction. If more trips are fished in GB access areas in the winter that could have negative impacts on protected resources if MA trips are then fished in the summer and fall. Compared to No Action, as well as the other alternatives considered, this alternative has uncertain impacts on protected resources, because effort could shift to times and areas with more or less impacts on protected resources.

5.3.8 Measures to address YT flounder bycatch in the LAGC fishery

These alternatives consider accountability measures specific to the LAGC fishery, or a subset of it. Catches of yellowtail in this fishery are mostly observed for dredge vessels fishing in the CC/GOM yellowtail stock area and for vessels fishing in the SNE/MA yellowtail stock area. Most of the SNE/MA yellowtail catch in the LAGC scallop fishery comes from scallop trawl

vessels. Overall, if measures reduce LAGC fishing in MA waters during the time of year when turtles are present there could be potential benefits for protected resources, but overall the magnitude of change is likely small, since the LAGC is a relatively small part of the fishery overall.

5.3.8.1 No Action

The No Action would have negligible impacts on protected resources because LAGC vessels are currently exempt form seasonal reactive AM closures. Therefore, fishing effort or location would not change.

5.3.8.2 YT AMs for LAGC vessels using trawl gear

Under Option 1, if the overall SNE/MA yellowtail sub-ACL is exceeded, the use of LAGC trawl gear would be prohibited in statistical areas 612 and 613 for a specified season (the same season as LA vessels, with duration depending on the extent of the overage). However, the areas would not close to LAGC trawl fishing between July and November. Under this option, LAGC trawl vessels would not be allowed to convert to dredges and fish in the area. Potential impacts on sea turtles could be positive if this AM option is triggered by closing an area south of Long Island where limited levels of turtles have been observed. However, the area would remain open to trawl vessels during the majority of the year that turtles are potentially present in that area, so the potential benefits would be minimal compared to No Action (no AM). In addition, if the area is closed during seasons with higher scallop meat weights like May and June, impacts on protected resources could be greater compared to No Action if vessels fish in areas and seasons with lower catch rates, or in areas with potentially more sea turtles. Thus any potential benefits could be cancelled out by these potential negative impacts.

Under Option 2, the preferred alternative, if more than 10% of the overall SNE/MA yellowtail sub-ACL is caught by the LAGC scallop trawl fishery, statistical areas 612 and 613 would close from March through June and again from December through February. If the overall scallop sub-ACL for SNE-MA yellowtail is exceeded, then the closure schedule reverts to option 1. LAGC trawl vessels would be able to convert to dredge gear if desired to fish in the AM area. If the 10% threshold is exceeded and the overall ACL is caught, the more restrictive 7 month closure period would apply. This option is expected to have similar impacts on protected resources to Option 1. Potential impacts on sea turtles could be positive if this AM option is triggered by closing an area south of Long Island where limited levels of turtles have been observed. However, the area would remain open to trawl vessels during the majority of the year that turtles are potentially present in that area, so the potential benefits would be minimal compared to No Action (no AM). In addition, if the area is closed during seasons with higher scallop meat weights like May and June, impacts on protected resources could be greater compared to No Action if vessels fish in areas and seasons with lower catch rates, or in areas with potentially more sea turtles. Thus any potential benefits could be cancelled out by these potential negative impacts.

Under Option 3, if the overall SNE-MA sub-ACL is exceeded, trawl vessels would be prohibited from the entire yellowtail stock area for the following fishing year, although the vessel could convert to a dredge vessel. There would be beneficial impacts on sea turtles if this AM was triggered and trawl vessels did not fish in the SNE/MA YT stock area at all. If these vessels

fished in GB instead, there would be potential benefits by removing this activity in areas with potential interactions with sea turtles. If these vessels converted to dredge gear these benefits would be reduced, since there would still be risk of interaction with dredge gear. Compared to No Action, as well as Option 1 and 2, this option has the greatest potential for positive impacts on protected resources.

5.3.8.3 YT AMs for LAGC vessels using dredge gear

Under Option 1, the preferred alternative, if the overall SNE-MA sub-ACL is exceeded AND the LAGC dredge fishery catches more than 3% of the sub-ACL, LAGC vessels would be subject to the same closure areas as limited access vessels (statistical areas 513, 537, 539), but on an alternate schedule. This is the preferred alternative. This option has potential benefits for protected resources by closing an area with limited levels of observed sea turtles bycatch for portions of the year when turtles are more likely to be in the area.

However, if the area is closed during seasons with higher scallop meat weights like May and June, impacts on protected resources could be greater compared to No Action if vessels fish in areas and seasons with lower catch rates, or in areas with potentially more sea turtles. Thus any potential benefits could be cancelled out by these potential negative impacts, which may be more likely since the AM schedule starts with closures in the spring when bycatch rates are higher. If effort if concentrated in this area in the summer as a result of this AM, that could have potentially negative impacts on sea turtles in the area compared to No Action that would not limit when a vessel could fish in this area. Finally, the magnitude of change in either direction is likely small, since the LAGC is a relatively small part of the fishery overall.

Under Option 2, if the overall GB sub-ACL is exceeded, LAGC vessels would be subject to the same closure area as limited access vessels (statistical area 562) during the same seasons (which vary depending on whether CA2 access area is open or closed). This AM is not expected to have any impacts on protected resources, positive or negative. LAGC vessels do not fish in this AM area now, and there have been no observed interactions with sea turtles and the scallop fishery in this area.

5.3.9 Timing of AMs for the scallop fishery YT flounder sub-ACL

5.3.9.1 No Action

Currently, NMFS determines around January 15 whether AMs are likely to be exceeded for either of the yellowtail sub-ACLs, based on projections and past bycatch data. Once all landings and observer data are available, the estimates are reviewed and the decision to implement an AM could be reevaluated if a different conclusion is reached. This would have neutral impacts on protected resources because this measure only relates to the timing of the AM, not the AM itself. When the AM is implemented will not make a difference in terms of impacts on protected resources.

5.3.9.2 AMs trigger in Year 2 (if reliable data available mid-year) or Year 3 (after a full year of data available) (Preferred Alternative)

Under this alternative, AMs could trigger at the start of year 2 if the overage is reliably estimated by the middle of year 1, or at the start of year 3 if additional data are needed to produce a reliable

estimate. If an AM is triggered, effort may shift from the AM area to locations outside the AM area or to a different season that is less optimal. This measure could influence the timing of these potential shifts in effort, but would probably not affect the total amount of effort or the locations that the effort shifts into, thus there would be no change in overall impacts to protected resources compared to No Action.

5.3.10 Measures to improve the flexibility and efficient use of LAGC IFQ by allowing transfer of quota mid-year

5.3.10.1 No Action

Currently, if a vessel with a LAGC IFQ permit has landed any scallops during a fishing year, it is prohibited from leasing out quota. In addition, IFQ can only be transferred once during a given fishing year, i.e., sub-leasing is not permitted. Applications for IFQ transfers must be submitted 30 days before the date on which the applicants desire to have the IFQ effective. These provisions do not apply to vessels that have both a LAGC IFQ and LA scallop permit, as these vessels are prohibited from leasing LAGC IFQ altogether. These measures are administrative and do not have direct impacts on protected resources, positive or negative.

5.3.10.2 Allow transfer of LAGC IFQ during the year (preferred alternative)

This alternative would allow sub-leasing and transfer of quota after an LAGC IFQ vessel landed scallops (implementation with other framework measures) and would allow IFQ to be transferred more than once (implementation delayed until March 2014). IFQ ownership and vessel caps would still apply. These two measures are administrative in nature and would not be expected to have any direct effects on protected resources.

5.3.11 Measure to expand the current observer set-aside program to include LAGC vessels in open areas

5.3.11.1 No Action

Currently, LAGC vessels are not covered under the observer set aside program when fishing in open areas, and coverage is paid for by NMFS. Under the observer set aside, the vessel pays for the coverage if selected to be observed, but they are given additional pounds of catch or DAS to offset the cost. These measures are administrative and do not have direct impacts on protected resources, positive or negative.

5.3.11.2 Include open area trips by LAGC vessels under the current observer set aside program (preferred alternative)

This alternative would include LAGC vessels fishing in open areas in the observer set aside program. Vessels would receive additional quota on a per-trip basis that could not be transferred to another vessel, but could be used on a subsequent trip. This measure is expected to increase observer coverage for this segment of the fishery compared to current levels under the regular observer program funded by NMFS. While it does not have any direct effects on protected resources, if more observer coverage of the LAGC fishery in open areas is the result of this measure, it could help describe potential interactions of that segment of the fishery and sea turtles.

5.3.12 Modify the observer set-aside allocation

5.3.12.1 No Action

Currently 1% of the total ACL is set aside to defray the cost of observer coverage, and is divided up into area-specific TACs. This creates issues when the area TAC has been fully harvested but an observer is assigned to a vessel fishing in the area, because the vessel must then bear the entire cost. These measures are administrative and do not have direct impacts on protected resources, positive or negative.

5.3.12.2 Same 1% allocation, but not area specific (preferred alternative)

This alternative would still specify area-based set aside TACs, but these would not be written into the regulations and would remain flexible in the event that one TAC is being used faster/more slowly than another. This flexibility combined with in-year compensation rate adjustments should help to minimize the chance that the set-aside is fully harvested prior to the end of the fishing year. This measure is not expected to have any direct effects on protected resources, but could improve management overall if it allows full and flexible use of the ACL set-aside.

5.4 ECONOMIC IMPACTS

5.4.1 Introduction

The following sections analyze the economic impacts of the management alternatives considered in Framework 24 and compare these with no action alternative. The objective of the cost-benefit analysis is to evaluate the net economic benefits arising from changes in consumer and producer benefits that are expected to occur with implementation of a regulatory action. As the Guidelines for the Economic Analysis of the Fishery Management Action (NMFS, 2007) [4] state "the proper comparison is '*with the action' to 'without the action'* rather than to *'before and after the action*,' since certain changes may occur even without action and should not be attributed to the regulation." Even without action, the scallop stock abundance in open and access areas will be different, requiring changes in open area DAS and trip allocations in order to maximize yield from the fishery over the long-term. As a result, landings, scallop prices, fishing costs, revenues and benefits from the fishery would change.

Furthermore, the Guidelines indicate that "the baseline is what is likely to occur in the absence of any of the proposed actions" and that, "The No Action alternative should be the basis of comparison for other alternatives. However, the No Action alternative does not necessarily mean a continuation of the present situation, but instead is the most likely scenario for the future, in the absence of other alternative actions"[5]. Therefore, the consistency of the Framework 24 analyses with these guidelines require that the biological and economic impacts of the proposed measures compared to the "No Action" scenario as defined in Section 2.2.1 of the document.

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[4] Guidelines for Economic Reviews of National Marine Fisheries Service Regulatory Actions, March 2007, http://www.nmfs.noaa.gov/sfa/domes_fish/EconomicGuidelines.pdf

[5] Ibid, p.12

As the Guidelines for Economic Analysis of Fishery Management Actions specify, "benefits and costs are measured from the perspective of the Nation, rather than from that of private firms or individuals. Benefits enjoyed by other nations are not included, although tax payments by foreign owners, and export revenues, are benefits to the Nation."

The overall benefit and costs of the fishery management actions generally vary over time depending on the rate of growth of the stock and according to the nature of management measures implemented to maximize the yield from fishery. Although a general guideline for the period of analysis cannot be established for all fishery management actions due to the diversity of possible situations and measures to be dealt with, the Guidelines state that "the period of analysis could reflect the time it takes for the fishery to move from its initial equilibrium along the expansion path to the final equilibrium point (including the time needed for the present value of costs and benefits to approximate zero) due to the adoption of the proposed regulation, holding all other influence constant." In addition, the Guidelines indicate that "a reasonable attempt should be made to conduct the analysis over a sufficient period of time to allow a consideration of all expected effects."

Because fishery management actions in general result in short-term costs for the industry in terms of foregone revenue, "choosing a period of analysis that is too short may bias the analysis toward costs, where costs are incurred in the short-term and benefits are realized later." Similarly, the Office of Management and Budget (OMB, 2003) indicated that the analyses should "present the annual time stream of benefits and costs expected to result from the rule," and state that "the beginning point for your stream of estimates should be the year in which the final rule will begin to have effects" and "the ending point should be far enough in the future to encompass all the significant benefits and costs likely to result from the rule."[6]

Furthermore, the economic impacts of the proposed regulations over the long-term should be evaluated by the discounted cumulative present value of the stream of benefits since benefits or costs that occur sooner are generally more valuable (or have a positive time preference). OMB Circular points out that the analytically preferred method of handling temporal differences between benefits and costs is to adjust all the benefits and costs to reflect their value in equivalent units of consumption and to discount them at the rate consumers and savers would normally use in discounting future consumption benefits (OMB, 2003). Discount rate is the interest rate used in calculating the present value of expected yearly benefits and costs. This Circular suggests that for regulatory analysis, the cost-benefit analyses should provide estimates of net benefits using both three percent and seven percent.

The benefits from the Framework 24 management action are expected to be realized over the long-term even though specifications in this action would mainly be implemented for one (2013) fishing year. This section examines both the short-term and the long-term economic impacts of the proposed regulations. The present value of long-term benefit and costs are estimated using both a 3% and a 7% discount rate. The higher discount rate provides a more conservative

[6] OMB Circular A-4 (September 17, 2003), http://www.whitehouse.gov/omb/circulars_a004_a-4/

estimate and a lower bound for the economic benefits of alternatives compared with the benefits predicted using a lower discount rate.

5.4.2 Acceptable Biological Catch (Section 2.1.1)

5.4.2.1 No Action ABC

Reauthorization of the MSA requires the SSC to set an acceptable biological catch (ABC), or maximum catch level that can be removed from the resource taking into account all sources of biological uncertainty. The Council is prohibited from setting catch limits above that level. This new requirement is expected to have long-term economic benefits on the fishery by helping to ensure that catch limits and fishing mortality targets are set at or below ABC. This should help prevent overfishing and optimize yield on a continuous basis. Under "No Action" for FY 2013 and FY 2014, the overall ABC for each year would be identical to that of the default FY 2013 ABC for the fishery of 63.3 million pounds (28,700 mt), after accounting for discards. In addition, a default ABC for 2015 would also be 63.3 million pounds (28,700 mt). From a cost benefit point of view, no action ABC is not expected to have any economic impacts compared to the no action baseline. Compared to the preferred alternative, no action would have positive economic impacts in the short-run because ABC for the fishery would exceed the ABC levels for the preferred alternative (21,004mt in 2013 and 23,697mt in 2014), allowing higher allocations, landings and revenues for the scallop fleet. However, the updated ABC values based on the best available science through 2012 are lower than the ABC values under no action. Therefore, if the specifications were based on the no action ABC values, fishing effort would be higher than it should be, resulting in overfishing of the scallop resource. This will have negative impacts on the scallop yield, revenues and total economic benefits from the scallop resource in the long-term.

5.4.2.2 ABC for 2013 and default for 2014 (Preferred Alternative)

The SSC met on September 13, 2012 and reviewed OFL and ABC recommendations prepared by the Scallop PDT. The updated values for ABC are provided in Table 7 of Section 2.1.1.2. As a result, ABC available to the fishery (after removing the discards) will be lower than the no action levels, 21,004mt for 2013 and 23,697 for 2014. Therefore, this measure is expected to have negative impacts on the landings and revenues, producer and consumer surpluses and net economic benefits to the nation in the short-term but positive economic benefits over the long-term.

5.4.3 Economic impacts of the Framework 24 specification alternatives

5.4.3.1 Description of the No Action and FW24 specification alternatives

Framework 24 includes four allocation alternatives (Alt1, Alt 2, Alt 3 and Alt 4) in addition to the "no action' and status quo (SQ) scenarios. These alternatives allocate a different number of open area DAS and access area trips in 2013 and 2014 as summarized in **Table 57** and **Table 58** below. The biological model projected landings, LPUE and size composition of landings for each of these alternatives for 2013-2026. These projections were then used as inputs in the economic model to estimate prices, revenues, costs, producer and consumer surpluses and total economic benefits from the scallop fishery.

The consistency of the Framework 24 analyses with the Guidelines for the Economic Analysis of the Fishery Management Action (NMFS, 2007) [7] require that the biological and economic impacts of alternatives compared to the "No Action" (i.e., without the action) alternative as defined in Section 2.1.2.1 of the document. The definition of "No action" follows a regulatory approach and refers to continuation of the allocations that are specified in the present regulations so long as they are compatible with the other measures included in those regulations. Therefore, the "no action" alternative does not reflect, a "state" or baseline that correspond to the same amount of fishing effort in 2012, but rather it refers to "what is likely to occur in the absence of any of the proposed actions". Accordingly, if no action was taken in 2013, there will be 4 access area allocations for the full-time limited access vessels equivalent to the number of trips in 2012. However, in accordance with the default measures for 2013, open area DAS allocations will equal to 26 days-at-sea per full-time vessels, or 75% of the allocations in 2012 (34 days).

The biological and economic projections below also includes a status quo scenario *(SQ)* to reflect the changes in landings and economic benefits as a result of changes in allocations in 2013 under the preferred alternative and other options from their 2012 values. Accordingly, SQ scenario assumes that the vessels would be allocated exactly the same amounts of open area DAS (34 DAS per full-time vessel) in 2013-2014 and would have the opportunity to take the same number of (4 per full-time vessel) access area trips as they did in 2012. The revenue projections for SQ scenario for the future years are different than the estimated values for 2012, however. This is because the continuation of the same number of open area DAS and access area trip allocations with this scenario would increase the fishing mortality above the sustainable levels and reduce yield and revenues in the long-term.

It must be emphasized, however, that the SQ scenario is not a management option. It was included here for the purposes of comparison since from the perspective of the participants of the fishery, a baseline that would reflect potential economic impacts relative to the recent level of allocations would be useful. SQ scenario, along with No Action, was also used to compare the short- to medium-term impacts of the preferred alternative and other options on the cash reserves and financial viability of the small business entities (in comparison to the situation under the present allocations) as a part of the Regulatory Flexibility Act (RFA) analyses. In contrast, Regulatory Impact Review (RIR) focuses on the impacts of regulations on the net benefits to the society and clearly indicates that the costs and benefits of the alternatives be compared to No Action instead of a scenario which assumes a continuation of the present allocations. Therefore, in the following sections, the costs and benefits of the preferred alternative are compared to the values for the "No Action" alternative. Specifically, these sections analyze the aggregate impacts of alternatives on landings, effort, revenues, fishing costs, consumer and producer surpluses and net economic benefits both on the limited access and general category fisheries (given that respectively 94.5% and 5.5% of the TAC is allocated to these fisheries) relative to the No Action levels. The impacts of alternatives on individual vessels are expected to be proportional to the aggregate impacts on revenues, fishing costs and net revenues (producer surplus).

[7] Guidelines for Economic Reviews of National Marine Fisheries Service Regulatory Actions, March 2007, http://www.nmfs.noaa.gov/sfa/domes_fish/EconomicGuidelines.pdf

Table 57– Framework 24 alternatives under consideration

		HC	Del	CA1	CA2	NL	Total # LA trips	Total # FT AA trips	FT Poss Limit	AA Allocation per FT vessel	Total AA allocation (mil lbs.)
No Action	2013	469	157	0	313	313	1252	4	18,000	72,000	23.3
	2014	469	157	0	313	313	1252	4	18,000	72,000	23.3
Alt 1	2013	245	0	119	262	0	626	2	13,000	26,000	7.8
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 2 (Preferred)	2013	210	0	118	182	116	626	2	13,000	26,000	7.8
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 3	2013	177	0	0	136	0	313	1	18,000	18,000	6.0
	2014 Default	0	0	0	0	0	0	0	0	0	0
Alt 4	2013	130	0	57	50	76	313	1	18,000	18,000	6.0
	2014 Default	0	0	0	0	0	0	0	0	0	0

Table 58 – Summary of LA open area DAS allocation alternatives under consideration in FW24

	2013			2014		
	FT DAS	PT DAS	Occ DAS	FT DAS	PT DAS	Occ DAS
No Action	26	10	2	26	10	2
Alt 1	33	13	3	23	9	2
Alt 2 (Preferred)	33	13	3	23	9	2
Alt 3	33	13	3	23	9	2
Alt 4	33	13	3	23	9	2

5.4.3.2 Summary of the economic impacts of the No Action and FW24 specification alternatives on LA vessels as well as fishery wide impacts

Framework 24 includes four alternatives with different trip allocations and possession limits for CA2 (Table 57 and Table 58). The preferred alternative (Alternative 2) is the specification alternative that allocates the maximum number of trips per area to optimize scallop yield, particularly in the shorter term. The amount of effort allocated to Closed Area 2 under Alternative 2 is 1,072 mt (2.4 million pounds), or 182 full-time trips at 13,000 pounds per trip (Table 57). In light of the very constraining GB YT ACL in 2013, the Scallop PDT developed a specific specification alternative to reduce YT bycatch upfront (Alternative 4). Alternative 4 reduces CA2 effort by more than half to 405 mt (about 900,000 pounds, or 50 18,000 pound trips) compared to Alternative 2. Although all the Tables include the results for all the four alternatives, the discussion mostly highlight a comparison of Alternative 2 with 4, since those

options are estimated to result in lower yellowtail catch in 2013 and higher economic benefits for the scallop fishery over the long-term compared to Alternative 1 and 3. These analyses also include the economic impacts both on the limited access and general category fisheries given that respectively 94.5% and 5.5% of the TAC is allocated to these fisheries. The impacts of alternatives on individual vessels are expected to be proportional to the aggregate impacts on revenues, fishing costs and net revenues (producer surplus).

The short-term and long-term economic impacts of No Action and alternatives considered in this Framework could be summarized as follows:

- No Action would allocate more access area trips (4 trips) in 2013 than optimal under the current scallop resource conditions. Although, in the short-term this would provide higher revenues for the scallop vessels (and as compared to the preferred alternative and other options, except for the SQ scenario, Table 59), the overfishing in the access areas would have negative impacts on the scallop biomass and yield over the long-term, reducing the future revenues and total economic benefits from the scallop fishery. Consequently, the cumulative present value of the revenues and economic benefits under No Action would be lower than the preferred alternative and other options over the long-term from 2013-2026 (Table 60 and Table 61). Although, the number of access area trips would stay at the same levels as in 2012 fishing year, No Action would allocate fewer open area DAS (26 days) than what was allocated in 2012 (34 days). This reduction in open area DAS combined with a lower LPUE because of the decline in estimated of stock abundance in 2013, the revenues for no action would be substancially lower ($448 million in 2013) compared to the actual revenues in 2011 ($582 million) and in 2012 (estimated to be about $550 million in inflation adjusted 2011 prices). The following summary and the subsections below provide more discussion of the impacts of the No Action on landings, prices, revenues, producer and consumer surpluses and total economic benefits in comparison to the Framework 24 alternatives.
- In the short-term (2013), the sum of landings, revenues and economic benefits for alternatives 1 to 4 (ALT1 to ALT4) will be lower than the economic benefits for the 'No Action" alternative and Status quo. Preferred alternative (Alternative 2) would result in higher landings and revenues compared to Alternatives 3 and 4 and slightly less landings and revenues than ALT1 in 2013 (Table 59, Table 62). Alternative 4 would result in lower landings compared to other alternatives in 2013 but higher landings after 2014 and over the long-term. Status quo allocations would result in higher landings in the short-term, but lower landings over the long-run compared to alternatives one (ALT1) through four (ALT4).
- Alternative 4 (ALT4) would result in smaller revenue compared ALT2 and ALT1 in the short-term (2013), but slightly higher revenue in the long-term compared to all the other alternatives (Table 59).
- It should be pointed out that the actual values of revenues for all alternatives could potentially exceed those shown in Table 59. They are based on conservative estimates for prices (Table 66 below) assuming no change in import prices, disposable income and exports to separate out the impacts of landings with those alternatives on prices. However, the reverse is possible too, if for example, the Japanese scallops recover offering competition to domestic scallops and if import prices and exports decline. For these reasons, estimated numbers for revenues and economic benefits should be mainly

used for comparing one alternative with another rather than for predicting the actual values on future years.

Table 59. Estimated Revenues (Undiscounted, Million $, in inflation adjusted 2011 values) (2010 Revenues=$459million, 2011 revenues=$582million)

Period	Fishing year	No Action	Status quo	ALT1	ALT2	ALT3	ALT4
2013-2015	2013	448.4	505.0	393.5	393.4	368.9	373.7
	2014	434.9	488.1	395.0	396.3	398.1	388.2
	2015	470.9	508.0	440.5	445.5	452.6	458.2
2013-2015 Total		**1,354.2**	**1,501.2**	**1,228.9**	**1,235.3**	**1,219.6**	**1,220.2**
2016-2018	2016	502.2	452.1	488.0	492.2	489.8	500.1
	2017	499.5	460.1	507.3	506.2	510.3	516.2
	2018	523.9	475.0	504.2	509.5	504.4	514.5
2016-2018 Total		**1,525.7**	**1,387.2**	**1,499.5**	**1,507.9**	**1,504.5**	**1,530.8**
2019-2026	2019	485.9	486.0	534.9	548.7	532.7	553.0
	2020	486.8	493.9	533.8	541.6	528.8	545.1
	2021	490.8	497.6	525.0	531.5	520.9	530.2
	2022	495.5	500.6	520.2	522.8	515.9	518.7
	2023	498.2	505.0	516.6	514.6	511.3	510.9
	2024	498.2	506.2	514.4	508.3	508.1	507.9
	2025	500.3	506.1	513.3	506.8	506.5	505.5
	2026	501.2	504.2	510.6	506.3	506.2	502.1
2019-2026 Total		**3,957.1**	**3,999.5**	**4,168.7**	**4,180.6**	**4,130.4**	**4,173.3**
Grand Total		**6,837.0**	**6,887.9**	**6,897.2**	**6,923.8**	**6,854.5**	**6,924.3**

- For the overall period from 2013 to 2026, however, the cumulative present value of the revenues for ALT4 will be $44.5 million ($4.8 million) higher and the revenues for ALT2 would be $44.2 million ($5.6 million) higher than the no action revenues using a discount rate of 3% (7%, Table 68 and Table 69).
- Alternative 4 (ALT4) results in slightly smaller producer surplus than ALT2 in the short-term and but higher producer surplus in the long-term compared to no action and other alternatives. Although producer surplus for the status quo would be higher in the short-term, this scenario would result in lower producer surplus compared to the preferred Alternative (ALT2) and ALT4 levels in the long-term (using a discount rate if 3%). The estimated present value of the producer surplus will be about $69.8 million higher in 2013-2026 with alternative 4 (Table 20, 3% discount rate). Similarly, producer surplus for the preferred alternative (ALT2) would exceed no action levels by $67.3 million in 2013-2026. Alternative 4 will result in higher producer surplus compared to the other alternatives in the long-term (Table 20). Table 21 shows the corresponding values by using a 7% discount rate to calculate the cumulative present value of the producer surplus with similar comparative results.
- Economic benefits include the benefits both to the consumers and to the fishing industry and equal the sum of benefits to the consumers and producers. Annual values of the total economic benefits for alternatives other than no action and status quo are expected to range from $368.8 million (ALT4, 2013) to $388.2 million (ALT2, 2013) and are expected to be less than the total economic benefits for no action ($437.1) million and Status quo ($494.9 million) values in 2013 (Table 19).

- However, in the long-term, the estimated present value of total economic benefits will be about $81.1 million higher in 2013-2026 with the preferred alternative (ALT 2) compared to the no action (Table 60, 3% discount rate). Similarly, total economic benefits for ALT4 would exceed no action levels by $85.7 million in 2013-2026. Alternative 4 will result in higher total economic benefits compared other alternatives in the long-term. Table 61 shows the corresponding values by using a 7% discount rate to calculate the cumulative present value of the total economic benefits with similar comparative results except that when the future benefits are discounted at 7%, status quo scenario would results in larger benefits over the period 2013-2026.
- In conclusion, the preferred alternative (ALT2) results in smaller total economic benefits than no action and but higher total economic benefits compared to other alternatives in the short-term. Over the long-term, the preferred alternative (ALT2) will have higher economic benefits compared to all alternatives including the status quo scenario with the exception of ALT4 which will have slightly higher benefits than the preferred alternative in the long-term.

Table 60. Cumulative present value of estimated benefits (Million $, Inflation adjusted values discounted at 3%)

Period	Values	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	Total revenue	-118.8	-113.0	-128.6	-128.1	139.1
	Total trip Costs	-28.3	-29.3	-30.5	-32.9	17.6
	Total producer Surplus	-90.5	-83.7	-98.1	-95.2	121.5
	Total Consumer Surplus	-11.5	-11.0	-11.8	-12.3	19.6
	Total benefits	-102.0	-94.7	-109.9	-107.6	141.1
2016-2018	Total revenue	-22.4	-15.2	-18.1	4.6	-119.6
	Total trip Costs	-4.1	-4.0	-3.9	-2.7	-7.7
	Total producer Surplus	-18.3	-11.2	-14.2	7.4	-111.8
	Total Consumer Surplus	-2.9	-1.8	-2.3	1.5	-20.3
	Total benefits	-21.2	-13.1	-16.5	8.8	-132.1
2019-2026	Total revenue	161.1	172.4	133.3	167.9	31.0
	Total trip Costs	9.8	10.2	8.1	10.3	2.1
	Total producer Surplus	151.2	162.2	125.1	157.6	28.9
	Total Consumer Surplus	25.8	26.7	20.5	26.8	4.3
	Total benefits	177.0	188.9	145.7	184.5	33.3
Total revenue		**19.8**	**44.2**	**-13.4**	**44.5**	**50.5**
Total trip Costs		**-22.6**	**-23.1**	**-26.3**	**-25.3**	**12.0**
Total producer Surplus		**42.4**	**67.3**	**12.9**	**69.8**	**38.6**
Total Consumer Surplus		**11.4**	**13.8**	**6.4**	**16.0**	**3.7**
Total benefits		**53.8**	**81.1**	**19.3**	**85.7**	**42.3**

Table 61. Cumulative present value of estimated benefits (Million $, Inflation adjusted values discounted at 7%)

Period	Values	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	Total revenue	-111.0	-105.8	-121.4	-120.9	129.7
	Total trip Costs	-26.3	-27.3	-28.5	-30.7	16.4
	Total producer Surplus	-84.7	-78.5	-92.9	-90.2	113.4
	Total Consumer Surplus	-10.7	-10.3	-11.1	-11.7	18.3
	Total benefits	-95.5	-88.8	-104.1	-101.9	131.6
2016-2018	Total revenue	-18.4	-12.5	-14.8	4.0	-99.0
	Total trip Costs	-3.3	-3.2	-3.1	-2.1	-6.4
	Total producer Surplus	-15.2	-9.3	-11.7	6.1	-92.6
	Total Consumer Surplus	-2.4	-1.5	-1.9	1.2	-16.8
	Total benefits	-17.5	-10.8	-13.5	7.4	-109.4
2019-2026	Total revenue	113.9	123.9	95.4	121.7	20.7
	Total trip Costs	7.0	7.4	5.8	7.5	1.4
	Total producer Surplus	106.9	116.5	89.6	114.2	19.3
	Total Consumer Surplus	18.3	19.3	14.8	19.6	2.9
	Total benefits	125.2	135.8	104.4	133.7	22.3
Total revenue		**-15.6**	**5.6**	**-40.8**	**4.8**	**51.5**
Total trip Costs		**-22.6**	**-23.1**	**-25.8**	**-25.3**	**11.4**
Total producer Surplus		**7.0**	**28.7**	**-15.0**	**30.1**	**40.1**
Total Consumer Surplus		**5.2**	**7.5**	**1.8**	**9.1**	**4.5**
Total benefits		**12.2**	**36.2**	**-13.2**	**39.2**	**44.5**

The following sections describes the detailed results of the proposed options on landings, meat count, LPUE, effort, prices, revenues and total economic benefits.

5.4.3.2.1 Impacts of Framework 24 specification alternatives on landings, meat count and LPUE

Alternative 4 (ALT4) would result in smaller landings in the short-term (2013-2014), but higher landings in the long-term compared to ALT1, ALT2 and ALT3 (Table 62). Because no action would allocate 4 access area trips, the landings with no action would be about 44 million lb. in 2013, while under the preferred alternative (ALT2), landings would be 38.2 million. For the overall long-term period from 2013 to 2026, however, landings for alternative 4 are estimated to exceed the levels for the no action by about 15.8 million lb., landings for the status quo by 6.7 million and would be slightly lower than the landings for ALT4.. This is because alternatives 2 and 4 would result in a higher LPUE in both in the short- and the long-term compared to the other alternatives (Table 63). In general, landings would consist of larger scallops for ALT2, ALT3 and ALT4 compared to other scenarios (Table 64, Table 65).

Table 62. Scallop landings by Fishyear (Million lb.)

Period	Fishing year	No Action	Status quo	ALT1	ALT2	ALT3	ALT4
2013-2015	2013	44.0	50.9	38.4	38.2	36.1	36.2
	2014	43.3	49.8	38.6	38.8	38.9	38.0
	2015	48.5	53.2	44.9	45.5	46.3	46.9
2013-2015 Total		**135.8**	**153.9**	**121.9**	**122.6**	**121.2**	**121.1**
2016-2018	2016	53.4	47.1	51.7	52.2	52.0	53.3
	2017	52.7	47.8	53.9	53.7	54.2	55.0
	2018	55.8	49.6	53.4	54.0	53.4	54.7
2016-2018 Total		**161.9**	**144.4**	**159.0**	**160.0**	**159.5**	**162.9**
2019-2026	2019	50.8	50.9	57.0	58.8	56.7	59.3
	2020	50.8	51.8	56.8	57.6	56.0	58.2
	2021	51.1	52.1	55.4	56.2	54.8	56.1
	2022	51.7	52.3	54.7	54.9	54.1	54.5
	2023	52.0	52.8	54.1	53.8	53.5	53.4
	2024	52.0	52.9	53.8	53.0	53.1	52.9
	2025	52.1	52.9	53.7	52.7	52.8	52.7
	2026	52.2	52.6	53.3	52.7	52.7	52.2
2019-2026 Total		**412.7**	**418.3**	**438.9**	**439.7**	**433.7**	**439.3**
Grand Total		**710.5**	**716.6**	**719.8**	**722.3**	**714.5**	**723.3**

Table 63. Estimated average LPUE (lb./DAS) in all areas

Period	Fishing year	No Action	Status quo	ALT1	ALT2	ALT3	ALT4
2013-2015	2013	2,015	2,035	2,263	2,385	2,313	2,438
	2014	2,038	2,025	2,501	2,476	2,549	2,593
	2015	2,183	2,105	2,559	2,567	2,581	2,597
2013-2015 Total		**2,079**	**2,055**	**2,441**	**2,476**	**2,481**	**2,543**
2016-2018	2016	2,707	2,562	2,628	2,629	2,630	2,646
	2017	2,656	2,554	2,752	2,775	2,760	2,790
	2018	2,593	2,554	2,761	2,781	2,764	2,793
2016-2018 Total		**2,652**	**2,557**	**2,714**	**2,728**	**2,718**	**2,743**
2019-2026	2019	2,571	2,563	2,661	2,679	2,661	2,684
	2020	2,557	2,574	2,659	2,672	2,651	2,677
	2021	2,551	2,575	2,632	2,646	2,621	2,644
	2022	2,559	2,576	2,613	2,625	2,604	2,615
	2023	2,566	2,577	2,606	2,609	2,590	2,594
	2024	2,572	2,584	2,599	2,587	2,583	2,582
	2025	2,572	2,582	2,597	2,578	2,576	2,580
	2026	2,575	2,583	2,593	2,580	2,575	2,577
2019-2026 Total		**2,565**	**2,577**	**2,620**	**2,622**	**2,608**	**2,619**
Grand Total		**2,480**	**2,461**	**2,602**	**2,614**	**2,604**	**2,629**

Table 64. Average Meat Count

Period	No Action	Status quo	ALT1	ALT2	ALT3	ALT4
2013-2015	15.9	16.0	14.7	14.7	14.8	14.7
2016-2018	15.2	15.5	15.7	15.7	15.6	15.7
2019-2026	15.2	15.3	15.2	15.1	15.2	15.1
Grand Total	**15.4**	**15.5**	**15.2**	**15.1**	**15.2**	**15.2**

Table 65. Composition of landings by size category – Average lbs. by period (million lbs.)

Period	Values	No Action	Status quo	ALT1	ALT2	ALT3	ALT4
2013-2015	U-10	9.6%	8.9%	11.1%	11.2%	10.3%	10.7%
	10-20 count	71.6%	72.0%	76.1%	75.8%	76.6%	76.0%
	20-30 count	17.7%	18.0%	12.1%	12.3%	12.5%	12.7%
	30-40 count	1.1%	1.1%	0.6%	0.6%	0.7%	0.7%
2016-2018	U-10	5.3%	4.5%	4.6%	4.8%	4.9%	4.8%
	10-20 count	83.1%	82.5%	83.7%	83.6%	83.6%	83.5%
	20-30 count	11.0%	12.3%	11.2%	11.0%	10.9%	11.1%
	30-40 count	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%
2019-2026	U-10	7.3%	7.1%	7.9%	8.4%	8.0%	8.2%
	10-20 count	80.3%	80.3%	80.0%	79.7%	79.9%	79.9%
	20-30 count	11.8%	11.9%	11.4%	11.3%	11.5%	11.3%
	30-40 count	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%

5.4.3.2.2 Impacts of Framework 24 specification alternatives on prices, revenues

Prices are estimated using the ex-vessel price model that takes into account the impacts of changes in meat count, domestic landings, exports, import prices, income of consumers, and composition of landings by market category (i.e., size of scallops) including a price premium on under count 10 scallops (See Appendix II to Framework 24 for the Economic Model). The price estimates shown in Table 66 correspond to the price model outputs assuming that the import prices will be constant at their 2011 levels (given that 2012 trade data is not complete yet), scallop exports will constitute 47% of the domestic landings, and the disposable income will be constant at the current levels in 2011, so that only the effects of the reduction in and changes in the size composition of landings could be identified. As such, these are conservative estimates for prices and actual prices could be higher (lower) than the values estimated in Table 66 if the import prices, exports and disposable income increase (decrease) in the future years.

Although the absolute values for revenues, producer and consumer surpluses, and total economic benefits would change with the value of estimated prices, the percentage differences of these values for alternative 2 and other alternatives relative to the no action alternative would not change in any significant way. Higher prices than estimated in Table 66 will increase the short-term impact of alternative 2 on revenues compared to no action, while lower prices reduce this impact. The long-term benefits will be greater with higher prices and smaller with lower prices, however (See Section 5.4.11 for further discussion of the risks and uncertainties).

Table 66. Estimated ex-vessel price per pound of scallops (inflation adjusted in 2011 constant prices)

Fishing year	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013	10.19	10.24	10.29	10.23	10.33	9.92
2014	10.03	10.23	10.21	10.23	10.22	9.79
2015	9.71	9.81	9.78	9.78	9.77	9.55
2016	9.41	9.44	9.42	9.42	9.39	9.60
2017	9.48	9.41	9.42	9.41	9.39	9.63
2018	9.38	9.44	9.43	9.45	9.41	9.58
2019	9.57	9.38	9.34	9.40	9.32	9.56
2020	9.59	9.40	9.39	9.44	9.37	9.53
2021	9.60	9.47	9.46	9.50	9.45	9.55
2022	9.58	9.51	9.52	9.53	9.52	9.56
2023	9.58	9.54	9.56	9.56	9.57	9.57
2024	9.59	9.56	9.60	9.57	9.59	9.57
2025	9.60	9.56	9.61	9.59	9.60	9.57
2026	9.60	9.58	9.61	9.60	9.62	9.59

Alternative 4 (ALT4) would result in smaller revenue compared ALT2 and other alternatives (except for ALT3 in 2013) in the short-term, but higher revenue in the long-term compared to all the other alternatives (Table 67). The sum of scallop revenue is estimated to be $1220.2 million for 2013-2015, about $15 million lower than ALT2 during the same period. However, during 2016-2018, undiscounted revenues for ALT4 will exceed the values for ALT2 by about $31 million.

The economic impacts of alternatives considered in this Framework are compared with the no action alternative to be consistent with the definition provided in Section 2.2.1 and with Guidelines for the Economic Analysis of the Fishery Management Action (NMFS, 2007). The present value of the estimated revenue alternatives ALT1 to ALT4 would be quite lower in the short-term (2013-2015) compared to no action and status quo scenarios. The reason for this is that the regulations would allow only 1 to 2 access area trip allocations in 2013, compared to 4 trips for no action and status quo. As a result, landings, revenues and total economic benefits of alternative 4 and alternatives will falls short the levels for the no action in the short-term (Table 67,Table 68, Table 69).

In addition to the no action alternative, the results for alternative 4 and other alternatives are compared with the SQ alternative to show the results when DAS and access area trip allocations were set at exactly the same values as in 2011 (i.e., 34 full-time DAS and 4 trips). In other words, this comparison would show the short and the long-term impacts of changes in the open area DAS allocations and number of access area trips from their 2012 levels. It should be noted, however, that the status quo allocations would result in F rates which are above the target F. Thus, the status quo is not a true option and is included here only for the analytical purposes.

The guidelines for the economic analysis suggest that changes in net benefits are measured by the difference in the present value of the discounted stream of net benefits of regulatory action as compared to the status quo or no action. Discounting the future benefits would lower the long-term benefits and the benefits of alternatives that result in lower landings in the short-term but

higher landings in the long-term. The results of the economic analyses are similar, however, to the results when comparison is made using the undiscounted revenues above in Table 67.

Table 67 to Table 69 indicate that in 2013-2015, SQ allocations would result in highest revenues compared to all alternatives, but starting in 2016, it will result in lower landings compared to alternative 4 and other alternatives including the no action. As a result, total revenues (undiscounted) over the long-term for alternative ALT1, ALT2 and ALT4 will exceed the revenues for the SQ alternative.

Table 67. Estimated Revenues (Undiscounted, Million $, in inflation adjusted 2011 values) (2010 Revenues=$459million, 2011 revenues=$582million)

Period	Fishing year	No Action	Status quo	ALT1	ALT2	ALT3	ALT4
2013-2015	2013	448.4	505.0	393.5	393.4	368.9	373.7
	2014	434.9	488.1	395.0	396.3	398.1	388.2
	2015	470.9	508.0	440.5	445.5	452.6	458.2
2013-2015 Total		**1,354.2**	**1,501.2**	**1,228.9**	**1,235.3**	**1,219.6**	**1,220.2**
2016-2018	2016	502.2	452.1	488.0	492.2	489.8	500.1
	2017	499.5	460.1	507.3	506.2	510.3	516.2
	2018	523.9	475.0	504.2	509.5	504.4	514.5
2016-2018 Total		**1,525.7**	**1,387.2**	**1,499.5**	**1,507.9**	**1,504.5**	**1,530.8**
2019-2026	2019	485.9	486.0	534.9	548.7	532.7	553.0
	2020	486.8	493.9	533.8	541.6	528.8	545.1
	2021	490.8	497.6	525.0	531.5	520.9	530.2
	2022	495.5	500.6	520.2	522.8	515.9	518.7
	2023	498.2	505.0	516.6	514.6	511.3	510.9
	2024	498.2	506.2	514.4	508.3	508.1	507.9
	2025	500.3	506.1	513.3	506.8	506.5	505.5
	2026	501.2	504.2	510.6	506.3	506.2	502.1
2019-2026 Total		**3,957.1**	**3,999.5**	**4,168.7**	**4,180.6**	**4,130.4**	**4,173.3**
Grand Total		**6,837.0**	**6,887.9**	**6,897.2**	**6,923.8**	**6,854.5**	**6,924.3**

Table 68 and Table 69 indicate that the estimated revenues will be about $120.9 ($128.1) million lower in 2013-2015 with alternative 4 compared to the no action at 7% discount rate (at 3% discount rate). There are trade-offs between the short-term and the long-term benefits, however. Because under no action more scallops would be landed in 2013-2015, less would be landed over the long-term resulting in lower revenues under the no action alternative for 2013-2026 compared to alternative 4 and other alternatives (Table 68 and Table 69). As a result, cumulative present value for the revenues for alternative 4 (ALT4) will exceed revenues for no action by $121.7 over the long-term (2019-2026) using a 7% discount rate (Table 68) and by $167.9 million using a 3% discount rate (Table 69). Similarly, revenues for all the other alternatives will exceed the present value of the revenues for no action during the same period. For the overall period from 2012 to 2026, present value of the revenues for ALT4 will be $44.5 million ($4.8 million) higher and the revenues for ALT2 would be $44.2 million ($5.6 million) higher than the no action revenues using a discount rate of 3% (7%, Table 68 and Table 69).

Table 68. Cumulative present value of estimated revenues (Million $, Inflation adjusted values discounted at 7%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	PV of scallop revenue	1183.3	1072.3	1077.5	1061.9	1062.4	1313.0
	Difference from No Action		-111.0	-105.8	-121.4	-120.9	129.7
2016-2018	PV of scallop revenue	1088.4	1070.0	1075.9	1073.6	1092.4	989.4
	Difference from No Action		-18.4	-12.5	-14.8	4.0	-99.0
2019-2026	PV of scallop revenue	1964.7	2078.6	2088.6	2060.1	2086.4	1985.5
	Difference from No Action		113.9	123.9	95.4	121.7	20.7
PV of scallop revenue		**4236.5**	**4220.9**	**4242.1**	**4195.7**	**4241.2**	**4287.9**
Difference from No Action			**-15.6**	**5.6**	**-40.8**	**4.8**	**51.5**

Table 69. Cumulative present value of estimated revenues (Million $, Inflation adjusted values discounted at 3%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	PV of scallop revenue	1276.2	1157.4	1163.2	1147.6	1148.1	1415.3
	Difference from No Action		-118.8	-113.0	-128.6	-128.1	139.1
2016-2018	PV of scallop revenue	1315.9	1293.5	1300.7	1297.8	1320.5	1196.4
	Difference from No Action		-22.4	-15.2	-18.1	4.6	-119.6
2019-2026	PV of scallop revenue	2905.7	3066.8	3078.2	3039.0	3073.7	2936.7
	Difference from No Action		161.1	172.4	133.3	167.9	31.0
PV of scallop revenue		**5497.8**	**5517.7**	**5542.1**	**5484.4**	**5542.3**	**5548.4**
Difference from No Action			**19.8**	**44.2**	**-13.4**	**44.5**	**50.5**

5.4.3.2.3 Impacts of Framework 24 specification alternatives on DAS, fishing costs and open area days and employment

Table 70 shows open area DAS per full-time vessel for each alternative and fishing year and Table 71 show total fleet DAS from all areas. Total effort measured in terms of DAS used as a sum total of all areas is expected to be smaller in the short-term for all alternatives compared to No Action and status quo scenarios because of smaller number of access area trips would be allocated for alternatives ALT1 to ALT4. However, starting in 2016, total effort measured in terms of DAS used will be higher under those alternatives compared to no action and status quo (except in 2017 and 2018, no action DAS will be higher).

As compared to No Action, the overall DAS used will decline by 22% (ALT1) to 32% (ALT4) in 2013 and as compared to the SQ alternative, the overall DAS used will decline by 32% (ALT1) to 41% (ALT4), again due to the lower access area allocations (1 to 2 trips) compared to 4 trips that would be taken under No Action and SQ scenarios. This could lead to a reduction in employment if less crew was employed to maintain DAS spent per crew at the present levels. On the other hand, it is uncertain to what extent the reduction in crew-days will result in a reduction in the number of crew given that this reduction is mostly limited to 2013 assuming a one year Framework (to 2103-2014 assuming a two year Framework) and that DAS-used are expected to increase in the following years starting in 2016 (or before depending on the future actions). Even though, the CREW*DAS could decline under those alternatives, the decline in the trips costs with less effort could help to prevent some of the decline in crew income, however.

Total trip costs for the fleet vary with the total DAS-used for each alternative. Table 72 shows that undiscounted annual values of the trips costs are quite similar for alternatives 1 to 4 both in the short-term and the long-term. Status quo and no action would result in the higher trip costs in the short-term but lower costs in the long-term. Present value of the fleet costs are summarized and compared with no action and SQ alternatives in Table 73 using a discount rate of 7% and in Table 74 using a discount rate of 3%. Because of lower DAS used, the present value of the trip costs for the ALT1 to ALT4 will be lower compared to the costs with status quo ($127.9 million in 2013-2015) and compared to no action ($111.6 million) (Table 73, 7% discount rate). For the long-term period from 2013 to 2026, the cumulative present value of the trip costs for all alternatives (ALT1 to ALT4) will be lower than the costs for No Action and status quo levels. Table 74 shows the corresponding values by using a 3% discount rate to calculate the cumulative present value of the fleet costs with similar comparative results.

Table 70. Estimated Open Area DAS per FT vessel (averages)

Period	Fishing year	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	2013	26	33	33	33	33	34
	2014	26	31	31	31	31	34
	2015	28	31	31	31	32	34
2013-2015 Total		**27**	**32**	**32**	**32**	**32**	**34**
2016-2018	2016	53	32	33	32	33	50
	2017	50	23	22	23	22	47
	2018	54	19	20	19	20	48
2016-2018 Total		**52**	**25**	**25**	**25**	**25**	**48**
2019-2026	2019	49	41	42	41	54	49
	2020	48	52	52	51	53	49
	2021	49	51	51	50	51	49
	2022	49	50	50	50	50	49
	2023	49	50	49	49	49	49
	2024	48	49	49	49	49	49
	2025	48	49	49	49	49	49
	2026	48	49	49	49	48	49
2019-2026 Total		**49**	**49**	**49**	**49**	**50**	**49**
Grand Total		**45**	**40**	**40**	**40**	**41**	**46**

Table 71. Estimated Total DAS-used in all areas

Period	Fishing year	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	2013	21,842	16,970	16,025	15,594	14,846	25,007
	2014	21,273	15,435	15,679	15,271	14,647	24,614
	2015	22,206	17,548	17,740	17,927	18,064	25,267
2013-2015 Total		**65,321**	**49,953**	**49,444**	**48,792**	**47,557**	**74,888**
2016-2018	2016	19,717	19,672	19,870	19,762	20,125	18,380
	2017	19,842	19,585	19,364	19,639	19,697	18,697
	2018	21,540	19,347	19,421	19,302	19,582	19,410
2016-2018 Total		**61,099**	**58,604**	**58,655**	**58,703**	**59,404**	**56,487**
2019-2026	2019	19,751	21,437	21,936	21,293	22,107	19,844
	2020	19,862	21,345	21,573	21,137	21,727	20,127
	2021	20,047	21,065	21,228	20,917	21,224	20,243
	2022	20,205	20,921	20,919	20,782	20,829	20,316
	2023	20,275	20,779	20,629	20,655	20,583	20,480
	2024	20,206	20,706	20,477	20,549	20,500	20,479
	2025	20,265	20,668	20,456	20,497	20,406	20,477
	2026	20,266	20,560	20,424	20,475	20,261	20,359
2019-2026 Total		**160,877**	**167,481**	**167,642**	**166,305**	**167,637**	**162,325**
Grand Total		**287,297**	**276,038**	**275,741**	**273,800**	**274,598**	**293,700**

Table 72. Estimated fleet trip costs in all areas ($ million, in 2011 values)

Period	Fishing year	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	2013	43	33	31	30	29	49
	2014	42	30	31	30	29	48
	2015	43	34	35	35	35	49
2013-2015 Total		**128**	**98**	**97**	**95**	**93**	**146**
2016-2018	2016	39	38	39	39	39	36
	2017	39	38	38	38	38	37
	2018	42	38	38	38	38	38
2016-2018 Total		**119**	**114**	**115**	**115**	**116**	**110**
2019-2026	2019	39	42	43	42	43	39
	2020	39	42	42	41	42	39
	2021	39	41	41	41	41	40
	2022	39	41	41	41	41	40
	2023	40	41	40	40	40	40
	2024	39	40	40	40	40	40
	2025	40	40	40	40	40	40
	2026	40	40	40	40	40	40
2019-2026 Total		**314**	**327**	**327**	**325**	**327**	**317**
Grand Total		**561**	**539**	**539**	**535**	**536**	**574**

Table 73. Cumulative present value of estimated trip costs (Million $, Inflation adjusted values discounted at 7%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	**PV of trip costs**	111.6	85.3	84.3	83.1	80.9	127.9
	Difference from No Action		-26.3	-27.3	-28.5	-30.7	16.4
2016-2018	**PV of trip costs**	85.0	81.8	81.8	81.9	82.9	78.7
	Difference from No Action		-3.3	-3.2	-3.1	-2.1	-6.4
2019-2026	**PV of trip costs**	156.1	163.0	163.5	161.9	163.6	157.5
	Difference from No Action		7.0	7.4	5.8	7.5	1.4
PV of trip costs		**352.7**	**330.1**	**329.6**	**326.9**	**327.3**	**364.1**
Difference from No Action			**-22.6**	**-23.1**	**-25.8**	**-25.3**	**11.4**

Table 74. Cumulative present value of estimated trip costs (Million $, Inflation adjusted values discounted at 3%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	**PV of trip costs**	120.3	92.0	91.0	89.7	87.4	137.9
	Difference from No Action		-28.3	-29.3	-30.5	-32.9	17.6
2016-2018	**PV of trip costs**	102.9	98.8	98.9	98.9	100.1	95.1
	Difference from No Action		-4.1	-4.0	-3.9	-2.7	-7.7
2019-2026	**PV of trip costs**	230.8	240.6	241.0	238.9	241.1	232.8
	Difference from No Action		9.8	10.2	8.1	10.3	2.1
PV of trip costs		**453.9**	**431.3**	**430.8**	**427.6**	**428.6**	**465.9**
Difference from No Action			**-22.6**	**-23.1**	**-26.3**	**-25.3**	**12.0**

5.4.3.2.4 Impacts of Framework 24 specification alternatives on producer surplus

Producer surplus (benefits) for a particular fishery shows the net benefits to harvesters, including vessel owners and crew, and is measured by the difference between total revenue and operating costs (Appendix III). Annual values of the producer surplus for alternatives other than No Action and status quo are expected to range from $338.4 million (ALT4, 2013) to $362.1 million (ALT2, 2013), and to be less than the producer surplus for no action ($405.7 million and Status quo ($456.1 million) values (Table 75).

There are trade-offs between the short-term and the long-term benefits, however. The estimated present value of the producer surplus will be about $69.8 million higher in 2013-2026 with alternative 4 compared to the no action (Table 76, 3% discount rate). Similarly, producer surplus for ALT2 would exceed no action levels by $67.3 million in 2013-2026. Alternative 4 will result in higher producer surplus compared to all the other alternatives in the long-term (Table 76). Table 77 shows the corresponding values by using a 7% discount rate to calculate the cumulative present value of the producer surplus with similar comparative results.

In conclusion, alternative 4 (ALT4) results in slightly smaller producer surplus than ALT2 in the short-term but higher producer surplus in the long-term compared to no action and other alternatives. Although producer surplus for the scenario would be higher in the short-term, status quo scenario would result in lower producer surplus compared to the ALT2 and ALT4 levels in the long-term.

Table 75 - Estimated Producer surplus ($ million, in inflation adjusted 2011 prices, undiscounted values)

Period	Fishing year	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	2013	405.7	360.3	362.1	338.4	344.7	456.1
	2014	393.3	364.8	365.7	368.3	359.6	440.1
	2015	427.5	406.2	410.9	417.6	422.9	458.7
2013-2015 Total		**1226.6**	**1131.4**	**1138.7**	**1124.3**	**1127.3**	**1354.9**
2016-2018	2016	463.7	449.6	453.4	451.2	460.8	416.3
	2017	460.8	469.0	468.4	471.9	477.7	423.5
	2018	481.9	466.4	471.6	466.7	476.3	437.1
2016-2018 Total		**1406.4**	**1385.1**	**1393.4**	**1389.9**	**1414.8**	**1276.9**
2019-2026	2019	447.3	493.1	505.9	491.1	509.8	447.2
	2020	448.1	492.1	499.5	487.6	502.7	454.6
	2021	451.6	483.8	490.1	480.0	488.7	458.1
	2022	456.1	479.3	482.0	475.3	478.0	460.9
	2023	458.6	476.0	474.3	470.9	470.7	465.0
	2024	458.8	473.9	468.3	468.0	467.8	466.2
	2025	460.8	473.0	466.8	466.5	465.6	466.1
	2026	461.7	470.5	466.4	466.2	462.5	464.4
2019-2026 Total		**3642.9**	**3841.6**	**3853.2**	**3805.6**	**3845.9**	**3682.5**
Grand Total		**6275.9**	**6358.1**	**6385.3**	**6319.8**	**6388.0**	**6314.3**

Table 76. Short and long-term cumulative present value of producer surplus (million $, in 2011 inflation-adjusted prices, discount rate of 3%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	PV of producer surplus	1155.9	1065.5	1072.3	1057.9	1060.7	1277.4
	Difference from No Action		-90.5	-83.7	-98.1	-95.2	121.5
2016-2018	PV of producer surplus	1213.0	1194.7	1201.8	1198.9	1220.4	1101.2
	Difference from No Action		-18.3	-11.2	-14.2	7.4	-111.8
2019-2026	PV of producer surplus	2675.0	2826.2	2837.2	2800.1	2832.6	2703.9
	Difference from No Action		151.2	162.2	125.1	157.6	28.9
PV of producer surplus		**5043.9**	**5086.3**	**5111.3**	**5056.8**	**5113.7**	**5082.5**
Difference from No Action			**42.4**	**67.3**	**12.9**	**69.8**	**38.6**

Table 77. Short and long-term cumulative present value of producer surplus (million $, in 2011 inflation-adjusted prices, discount rate of 7%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	PV of producer surplus	1071.7	987.0	993.2	978.8	981.5	1185.1
	Difference from No Action		-84.7	-78.5	-92.9	-90.2	113.4
2016-2018	PV of producer surplus	1003.4	988.2	994.1	991.7	1009.5	910.8
	Difference from No Action		-15.2	-9.3	-11.7	6.1	-92.6
2019-2026	PV of producer surplus	1808.7	1915.6	1925.2	1898.2	1922.8	1828.0
	Difference from No Action		106.9	116.5	89.6	114.2	19.3
PV of producer surplus		**3883.8**	**3890.8**	**3912.5**	**3868.8**	**3913.9**	**3923.9**
Difference from No Action			**7.0**	**28.7**	**-15.0**	**30.1**	**40.1**

5.4.3.2.5 Impacts of Framework 24 specification alternatives on consumer surplus

Consumer surplus for a particular fishery is the net benefit that consumers gain from consuming fish based on the price they would be willing to pay for them. Consumer surplus will increase when fish prices decline and/or the amount of fish harvested goes up. Annual values of the consumer surplus (undiscounted) are shown in Table 78, and the cumulative present values are summarized in Table 79 (3% discount rate) and Table 80 (7% discount rate).

Annual values of the consumer surplus for alternatives other than no action and status quo are expected to range from $24 million (ALT4, 2013) to $26 million (ALT2, 2013), and to be less than the consumer surplus for no action ($31.3 million and Status quo ($38.8 million) values in 2013 (Table 75).

There are trade-offs between the short-term and the long-term benefits, however. The estimated present value of the consumer surplus will be about $16 million higher in 2013-2026 with Alternative 4 compared to the no action (Table 76, 3% discount rate). Similarly, consumer surplus for ALT2 would exceed no action levels by $13.8 million in 2013-2026. Alternative 4 will result in higher consumer surplus compared to all the other alternatives in the long-term (Table 76). Table 77 shows the corresponding values by using a 7% discount rate to calculate the cumulative present value of the consumer surplus with similar comparative results.

In conclusion, alternative 4 (ALT4) results in slightly smaller consumer surplus in the short-term but higher consumer surplus in the long-term compared to ALT2 and no action. Although consumer surplus for the SQ scenario would be higher in the short-term, status quo scenario would result in lower consumer surplus compared to the ALT2 and ALT4 levels in the long-term.

Table 78. Estimated Consumer surplus ($ million, in inflation adjusted 2011 prices, undiscounted values)

Period	Fishing year	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	2013	31.3	26.4	26.0	24.4	24.0	38.8
	2014	31.2	27.2	27.5	27.4	26.6	38.7
	2015	38.7	35.4	36.2	36.9	37.6	44.5
2013-2015 Total		**101.2**	**89.0**	**89.6**	**88.8**	**88.3**	**122.0**
2016-2018	2016	47.2	45.1	45.8	45.5	47.1	38.9
	2017	46.0	47.8	47.6	48.2	49.2	39.4
	2018	50.1	47.0	47.7	46.8	48.7	41.5
2016-2018 Total		**143.3**	**139.9**	**141.1**	**140.6**	**144.9**	**119.8**
2019-2026	2019	43.1	51.3	53.6	50.7	54.3	43.0
	2020	42.9	50.9	52.0	49.8	52.8	44.2
	2021	43.1	48.9	49.7	47.9	49.8	44.4
	2022	43.8	47.6	47.8	46.8	47.4	44.5
	2023	44.2	46.8	46.4	46.0	45.8	44.8
	2024	44.1	46.3	45.1	45.4	45.0	45.0
	2025	44.2	46.1	44.7	44.9	44.7	45.0
	2026	44.2	45.6	44.6	44.7	44.1	44.6
2019-2026 Total		**349.6**	**383.4**	**383.9**	**376.2**	**384.0**	**355.5**
Grand Total		**594.1**	**612.3**	**614.7**	**605.6**	**617.2**	**597.3**

Table 79. Short and long-term cumulative present value of consumer surplus (million $, in 2011 inflation-adjusted prices, discount rate of 3%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	PV of consumer surplus	95.2	83.7	84.2	83.4	82.9	114.8
	Difference from No Action		-11.5	-11.0	-11.8	-12.3	19.6
2016-2018	PV of consumer surplus	123.6	120.7	121.7	121.3	125.0	103.3
	Difference from No Action		-2.9	-1.8	-2.3	1.5	-20.3
2019-2026	PV of consumer surplus	256.7	282.5	283.4	277.3	283.6	261.1
	Difference from No Action		25.8	26.7	20.5	26.8	4.3
PV of consumer surplus		**475.5**	**486.9**	**489.3**	**481.9**	**491.5**	**479.2**
Difference from No Action			**11.4**	**13.8**	**6.4**	**16.0**	**3.7**

Table 80. Short and long-term cumulative present value of consumer surplus (million $, in 2011 inflation-adjusted prices, discount rate of 7%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	PV of consumer surplus	88.1	77.4	77.8	76.9	76.4	106.4
	Difference from No Action		-10.7	-10.3	-11.1	-11.7	18.3
2016-2018	PV of consumer surplus	102.2	99.8	100.7	100.3	103.4	85.4
	Difference from No Action		-2.4	-1.5	-1.9	1.2	-16.8
2019-2026	PV of consumer surplus	173.6	191.9	192.9	188.4	193.2	176.5
	Difference from No Action		18.3	19.3	14.8	19.6	2.9
PV of consumer surplus		**363.9**	**369.1**	**371.4**	**365.7**	**373.0**	**368.3**
Difference from No Action			**5.2**	**7.5**	**1.8**	**9.1**	**4.5**

5.4.3.2.6 Impacts of Framework 24 specification alternatives on total economic benefits

Economic benefits include the benefits both to the consumers and to the fishing industry and equal the sum of benefits to the consumers and producers. Annual values of the total economic benefits (undiscounted) are shown in Table 81 and the cumulative present values are summarized in Table 82 (3% discount rate) and Table 83 (7% discount rate).

Annual values of the total economic benefits for alternatives other than no action and status quo are expected to range from $368.8 million (ALT4, 2013) to $388.2 million (ALT2, 2013) and are expected to be less than the total economic benefits for no action ($437.1) million and Status quo ($494.9 million) values in 2013 (Table 75).

There are trade-offs between the short-term and the long-term benefits, however. The estimated present value of total economic benefits will be about $85.7 million higher in 2013-2026 with alternative 4 compared to the no action (Table 76, 3% discount rate). Similarly, total economic benefits for ALT2 would exceed no action levels by $81.1 million in 2013-2026. Alternative 4 would result in higher total economic benefits compared to all the other alternatives in the long-term (Table 76). Table 77 shows the corresponding values by using a 7% discount rate to calculate the cumulative present value of the total economic benefits with similar comparative results.

In conclusion, alternative 4 (ALT4) results in smaller total economic benefits than no action and ALT2 in the short-term and but higher total economic benefits in the long-term compared to no action and other alternatives. Although in the short-term, total economic benefits for the status quo scenario would be higher, status quo scenario would result in lower total economic benefits compared to the ALT2 and ALT4 levels in the long-term using a discount rate of 3%. However, if future benefits were discounted more at 7%, status quo scenario benefits would slightly exceed the benefits for ALT2 and ALT4 over the long-term as well.

Table 81. Estimated total benefits ($ million, in inflation adjusted 2011 prices, undiscounted values)

Period	Fishing year	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	2013	437.1	386.7	388.1	362.9	368.8	494.9
	2014	424.5	392.1	393.2	395.7	386.2	478.8
	2015	466.3	441.6	447.1	454.5	460.5	503.2
2013-2015 Total		**1327.8**	**1220.4**	**1228.3**	**1213.1**	**1215.6**	**1476.9**
2016-2018	2016	510.9	494.7	499.2	496.8	507.9	455.2
	2017	506.8	516.9	516.0	520.1	526.9	462.9
	2018	531.9	513.4	519.3	513.6	524.9	478.6
2016-2018 Total		**1549.7**	**1525.0**	**1534.5**	**1530.5**	**1559.8**	**1396.7**
2019-2026	2019	490.4	544.4	559.5	541.8	564.1	490.2
	2020	491.0	543.0	551.4	537.4	555.4	498.9
	2021	494.7	532.7	539.8	527.9	538.6	502.5
	2022	499.9	526.9	529.8	522.2	525.4	505.4
	2023	502.9	522.8	520.6	516.9	516.5	509.8
	2024	502.9	520.2	513.4	513.4	512.9	511.2
	2025	504.9	519.0	511.5	511.3	510.3	511.1
	2026	505.9	516.1	511.1	510.9	506.6	509.0
2019-2026 Total		**3992.5**	**4225.0**	**4237.2**	**4181.8**	**4229.9**	**4038.1**
Grand Total		**6870.0**	**6970.4**	**6999.9**	**6925.4**	**7005.2**	**6911.6**

Table 82. Short and long-term cumulative present value of total economic benefits (million $, in 2010 inflation-adjusted prices, discount rate of 3%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	PV of total economic benefits	1251.1	1149.2	1156.5	1141.2	1143.6	1392.3
	Difference from No Action		-102.0	-94.7	-109.9	-107.6	141.1
2016-2018	PV of total economic benefits	1336.6	1315.4	1323.5	1320.1	1345.4	1204.5
	Difference from No Action		-21.2	-13.1	-16.5	8.8	-132.1
2019-2026	PV of total economic benefits	2931.7	3108.7	3120.6	3077.4	3116.2	2965.0
	Difference from No Action		177.0	188.9	145.7	184.5	33.3
PV of total economic benefits		**5519.5**	**5573.3**	**5600.6**	**5538.7**	**5605.2**	**5561.7**
Difference from No Action			**53.8**	**81.1**	**19.3**	**85.7**	**42.3**

Table 83. Short and long-term cumulative present value of total economic benefits (million $, in 2011 inflation-adjusted prices, discount rate of 7%)

Period	Values	No Action	ALT1	ALT2	ALT3	ALT4	Status quo
2013-2015	PV of total economic benefits	1159.8	1064.4	1071.0	1055.8	1057.9	1291.5
	Difference from No Action		-95.5	-88.8	-104.1	-101.9	131.6
2016-2018	PV of total economic benefits	1105.6	1088.1	1094.8	1092.0	1113.0	996.2
	Difference from No Action		-17.5	-10.8	-13.5	7.4	-109.4
2019-2026	PV of total economic benefits	1982.3	2107.5	2118.1	2086.6	2116.0	2004.5
	Difference from No Action		125.2	135.8	104.4	133.7	22.3
PV of total economic benefits		**4247.7**	**4259.9**	**4283.9**	**4234.4**	**4286.9**	**4292.2**
Difference from No Action			**12.2**	**36.2**	**-13.2**	**39.2**	**44.5**

5.4.3.2.7 No restriction on RSA catch from NL in 2013 under specification Alternatives 2 and 4 (Option 1, Preferred Alternative)

No action on this measure, i.e., no restriction of RSA catch form this area, is expected to have the opposite impacts, i.e., positive economic impacts on vessels that take compensation trips, but negative impacts on the scallop yield and revenues from this area in 2014.

5.4.3.2.8 Prohibition RSA compensation fishing in NL in 2013 under specification Alternative 2 and Alternative 4 (Option 2)

Prohibition of RSA fishing in NL could have some indirect negative economic impacts on vessels that take RSA compensation trips because many access areas in Mid-Atlantic would be closed and the scallop resource in the open areas is not as abundant as the resource in NL. In addition, fishing costs for trips taken to this area are lower because it is closer to the shore. However, prohibition of the RSA compensation trips in the NL area will reduce the fishing mortality in that area with positive impacts on the scallop yield in the upcoming years with positive economic impacts.

5.4.3.3 Specifications for limited access general category (LAGC) IFQ vessels

5.4.3.3.1 No Action specifications for LAGC IFQ vessels

Under No Action, the TAC for IFQ-only vessels would be about 3.2 million pounds and the TAC for full-time, part-time, and occasional vessels with LAGC IFQ permits would be about 170,000 pounds (Table 11?). LAGC IFQ vessels would be allocated 893 trips in HC, 298 in Delmarva and 595 in Nantucket Lightship. These would be the annual fleetwide allocations for general category vessels until they are replaced by a subsequent action. The economic impacts of the no action were analyzed as a part of the overall cost benefit analysis of the specification scenarios for both LA and LAGC vessels. Although the economic impacts of no action will be positive on the LAGC IFQ vessels in the short-term, the level of LAGC TAC is higher than it should be to prevent overfishing of the scallop resource. As a result, no action would lower the scallop yield, landings and revenues over the long-term and result in lower economic benefits for all the participants of the fishery (See the cost benefits analyses of in Section 5.4.3 comparing short- and long-term benefits of the no action and the management alternatives).

5.4.3.3.2 FW24 specification alternatives for LAGC vessels (Preferred Alternative)

The total sub-ACL for the LAGC fishery is the same regardless of the allocation scenario selected (Alternative 1-4). The LAGC IFQ fishery is allocated 5.5% of the total ACL for the fishery. A portion of LAGC IFQ is reserved for LA vessels with LAGC IFQ permits (0.5%) and the remaining catch is available for vessels with LAGC IFQ permits (Table 14). For FY2013 the total LAGC IFQ is equivalent to about 2.4 million pounds, and 2.8 for 2014. The default 2015 IFQ allocation is about 3.2 million pounds.

The economic impacts of the specification alternatives were analyzed as a part of the overall cost benefit analysis in Section 5.4.3 . Because the TAC for the preferred alternative is lower than the TAC for the no action, the economic impacts of this alternative will be negative on the LAGC IFQ vessels in the short-term. However, as the analyses in Section 5.4.3 showed, the preferred alternative will result in higher economic benefits of the long-term.

Table 84 – Summary of LAGC IFQ allocations under consideration in FW24 (same for all allocation scenarios)

LAGC Allocations	2013	2014	2015
IFQ-only (5% of ACL)= sub-ACL = ACT	2,227,083 (1010 mt)	2,520,963 (1,143 mt)	2,901,601 (1316 mt)
IFQ + LA (0.5% of ACL)=sub-ACL=ACT	222,708 (101 mt)	252,096 (114 mt)	290,160 (131 mt)

This action is also considering two options for allocating fleetwide trips to the LAGC IFQ fishery. Option 1 (No Action) is to allocate 5.5% of the total access area TAC for every area open in a particular year. And a second option would be to take the 5.5% from CA2 and prorate those trips proportionally among the remaining areas open in a particular year.

5.4.3.3.3 Allocation of fleetwide access area trips to the LAGC IFQ fishery

5.4.3.3.3.1 Option 1 (No Action): Allocate 5.5% of each access area TAC to the LAGC IFQ fishery

This alternative would allocate 5.5% of the access area TAC per area to the LAGC fishery in the form of fleetwide trips. Vessels would still be restricted to the possession limit of 600 pounds. Once the fleetwide max is projected to be fished, NMFS would close that access area to LAGC IFQ vessels for the remainder of the fishing year. Option 1 (No Action) allocates trips to CA2, and areas which is not accessible for many smaller LAGC IFQ vessels. Thus most of these trips are taken in the open areas instead of in other access areas with higher scallop abundance, lowering potential economic benefits for this fishery compared to a more optimum allocation system that excludes CA2 (i.e., Option 2).

5.4.3.3.3.2 Option 2 - Allocate 5.5% of the total access area TAC available and prorate LAGC IFQ trips proportionally in all areas open that year excluding CA2 (Preferred Alternative)

And a second option would be to take the 5.5% from CA2 and prorate those trips proportionally among the remaining areas open in a particular year. This option is expected to have positive economic impacts on the LAGC vessels compared to the No Action (i.e., Option 1) because they will be able to use CA2 trips in areas closer to the shore with lower trip costs. Although the possession limit will stay at 600 pounds, if the LPUEs in access areas are higher than open areas, the vessels will be able to land scallops in a shorter time, again saving on the trip costs and increasing their profits compared to Option 1 (No Action).

5.4.4 NGOM hard TAC

The preferred Alternative is equivalent to no action keeping the NGOM hard TAC at 70,000 pounds, with no economic impacts on the NGOM fishery or scallop fishery in general. Alternative option would set the TAC at 58,000 pounds in accordance with the updated surveys to be precautionary. However, given that current scallop catches by NGOM vessels are very low, either TAC level would likely not impact vessels. Thus, no significant economic impacts are expected from no action or alternative option.

5.4.5 Measures to address delayed implementation of Framework 24

The Council decided to move final action for this framework until the November 2012 Council meeting so that the results from the most recent scallop resource surveys could be used. When final action is in November the earliest the action could be implemented is May 2013, two months after the start of the fishing year on March 1. While this adds complexity to the management program, the Council supports that using recent survey information outweighs the benefits of having the framework in place on March 1.

5.4.5.1 No Action – No specific payback measures to address negative impacts of delayed implementation of FW24

Under the No Action, vessels would be permitted to fish under 2013 default allocations from FW22 until FW24 is implemented to replace them. Default 2013 allocations include 26 open area DAS for FT LA vessels and 4 access area trips. The default 2013 IFQ allocation is about 3.4 million pounds for all vessels with LAGC IFQ permits. No Action might perhaps have some positive economic impacts on scallop vessels in the very short-term because it would allow FT LA vessels to have two 18,000 pound trips, totaling of just under 12 million pounds, although it is uncertain if the vessels could indeed land so many pounds in those areas at the current resource conditions. Under most alternatives in Framework 24 only a portion of the fleet will be allocated a trip in Hudson Canyon, a total of 2.3 to 3.2 million pounds depending on the scenario to optimize yield because current scallop resource conditions do not allow more trips. Thus under no action allocating more access area trips than could be supported by the resource has the potential to have negative impacts on the future scallop yield especially because there is very strong recruitment in that area. As a result, no action could have negative economic impacts in the future years and over the long-term on the scallop fishery.

5.4.5.2 Payback measures for limited access vessels (Preferred Alternative)

The specific measures that are included until this action is implemented (earliest by May 2013) will help to reduce the adverse impacts of exceeding the proposed allocations in Framework 24 in 2013 on the scallop resource. These measures are described in Section 2.1.7.2 of the Framework 24 document. Total DAS in the open areas will be 26 DAS, which is less than alternatives under consideration in this framework. Any excesses over the open area DAS-used above the ultimate value allocated for 2013 will be reduced the following fishing year (2014). Specifically, if a vessel takes 2013 access area trips authorized by FW22, it will have to give up all 2013 access area trips authorized to that vessel under FW24, plus potentially 12 2013 open area DAS. Section 2.1.7.2 provides some examples of how this system can work.

Since taking extra trips will result in a net loss of pounds, this could have negative economic impacts in the very short-term discouraging the vessels from taking those trips. However, as discussed above regarding the impacts for no action, taking the number of trips allocated by FW22 could have negative impacts on the scallop yield and revenues from these areas in the future years. As a result, the payback measures would help reduce the negative impacts of overfishing in 2013 on the scallop resource and would have positive long-term impacts on landings, revenues, producer and consumer benefit and net national economic benefits.

5.4.5.3 Payback measures for LAGC IFQ vessels (Preferred Alternative)

Under the default 2013 measures, the total LAGC sub-ACL is higher than the sub-ACL being proposed by FW24. Therefore, on March 1, 2013 each vessel will be awarded more quota than they ultimately will receive once FW24 is implemented.

According to the preferred alternative, if LAGC vessels exceed final allocations, their overage to be deducted pound by pound from their allocations in 2013 fishing year along with any other incurred overages. Similarly, if a vessel transfers (lease or permanent) all of its allocation to other vessels prior to FW24's implementation (transfers more than it ends up being allocated), the vessel(s) that transferred in the pounds will receive a pound-for-pound deduction in FY 2013 (not the vessel that leased out the IFQ). The preferred alternative may have some negative economic impacts on IFQ vessels in the very short-term because without these payback measures LAGC vessels could land more scallops and earn more revenue in 2013. However, reducing the incentive to fish FW22 allocation will help lower the negative impacts of overfishing in 2013 on the scallop resource. As a result, these measures will have positive long-term impacts on landings, revenues and economic benefits from the scallop fishery.

5.4.6 Modification of Georges Bank access area seasonal restrictions

Framework 24 includes several options to modify GB seasonal restrictions to provide access during months with highest scallop meat weights and to minimize yellowtail bycatch. Because Framework 24 includes an alternative to modify the GB access area seasonal restrictions (Section 2.2.1), this action is also a joint framework with the NE Multispecies FMP (Framework 49). However, this alternative is not expected to have economic impacts to the groundfish fishery. There may be some positive or negative impacts on the some groundfish stocks as a result of these potential measures, but no direct impacts are expected on the fishery and overall landings of groundfish. See Section 5.6 for a more detailed assessment of the potential impacts on the groundfish resource from these measures.

5.4.6.1 No Action - Closure period would remain February 1- June 14

Under no action, access to GB areas starts on June 15th and they stay open until the end of January of the following year. Thus, those areas would be closed to fishing for 4.5 months with no action. The No Action has potentially negative economic impacts compared to the other measures under consideration because it keeps the GB access areas closed to the scallop fishery during several months with higher scallop meat weights (primarily May 1 -June14). Although, closure period would not affect total pounds of scallops that would be landed from the access areas, fishing during months when less meat weights are smaller could increase the day-at-sea to land the possession limit and increase the fishing costs resulting in lower profits. In addition, price for smaller scallops are usually lower than the larger scallops, thus fishing in those months could lower revenues as well. Fishing during the months when scallop meat weights are relatively smaller could also have negative impacts on the scallop resource and yield, lowering future landings and revenues from the scallop fishery.

5.4.6.2 Option 1 - Closure period would be modified to provide access during months with highest scallop meat weights to reduce fishing time and scallop fishing mortality

This option would provide access earlier starting in May because that would improve scallop yield and reduce fishing mortality. Since there is a possession limit in access areas, fishing for scallops when meat weights are largest also reduces bottom contact time and bycatch because fewer scallops are needed to harvest the possession limit. However, this alternative would reduce the months GB access areas open to fishing to four months keeping the area closed after August. The net economic impacts of this alternative compared to no action will depend whether the positive impacts on the scallop yield will outweigh the costs associated with reduced flexibility with narrowing the fishing season to 4 months under this option.

It is evident from Table 86 and Table 87 that as a result of late opening of the GB access areas in 2011 (in August) a major proportion (78% of all landings in CA1 and 48% of all landings in CA2) of the scallop lb. were landed in the month of August. Comparison with Table 88 indicates that when those areas were opened on June 15th in 2012, the landings were more evenly spread among months from June to September 12. Considering that 62% of CA2 TAC, 67% of the CA1 TAC and 30% of the NLS TAC were landed so far by September 12, closing these areas will result in a shift of effort from September –January to May-August under Option1. This is expected to have both positive and negative economic impacts on the scallop fishery. Narrowing fishing season to four months will reduce the flexibility for vessel owners to choose when to fish and to adjust their fishing patterns to the changes in prices and fuel costs from one months to another with a possible increase in fishing costs and some negative impacts on the revenues. On the other hand, shifting effort to months with high meat weights could reduce the fishing time to land the possession limit and have a favorable impact on fishing costs outweighing some of the negative impacts.

Constraining effort to 4 months from May to August (instead of spreading the effort through June 15 to January under no action) could also have some negative impacts on the average prices and revenues scallop fishermen receive from these areas. Table 85 shows that average ex-vessel prices from May to August window were higher compared to prices in months from January to April, but lower than the prices in the period from September to December in 2010 and 2011.

Even though, during those months scallop landings include more of larger scallops with a price premium, increase in the supply of those scallops in a shorter period of time (due to the closures) could have some dampening impact on their prices holding other factors (including the changes in demand for exports, import prices, income and preferences of consumers) that affect price constant. However, it is uncertain, to what extent the price premium associated with larger scallops over the May to August period could offset some of the negative effects of the effort shifts.

Over the long-term, opening the access areas early and shifting effort from low meat weights months (October is the lowest) to high meat weight months (June is highest) will have positive impacts on the scallop resource and future yield from the scallop fishery with positive economic impacts. It will also reduce bottom contact time and bycatch because fewer scallops would be needed to harvest the possession limit reducing the risk for triggering AMs in case yellowtail ACL is exceeded. Thus, the net economic impacts of Option 1 compared to no action could range from a small negative impact to a slight positive impact in the short-term. However, the positive impacts on the scallop yield and reduction of the risk of triggering yellowtail AMs could result in positive economic impacts over the long-term.

Table 85. Average Ex-vessel scallop prices by month

Month	**2010**	**2011**	**2010-2011 Average**
1	6.25	9.79	7.79
2	6.99	9.46	8.35
3	7.20	9.29	8.30
4	6.77	9.75	8.11
Average of 1 to 4	**6.86**	**9.55**	**8.17**
5	6.54	9.85	8.31
6	7.14	9.51	8.38
7	9.83	9.93	9.86
8	8.45	9.80	9.31
Average of 5 to 8	**7.99**	**9.77**	**8.91**
9	8.56	10.45	9.52
10	8.67	10.25	9.49
11	9.43	10.60	9.99
12	9.77	10.95	10.35
Average of 9 to 12	**8.96**	**10.50**	**9.73**

Table 86. Monthly distribution of landings in CA1 and CA2 in 2011 (Open from August 2011 to January 2011)

Area	Month	Scallop lb.	Percentage distribution of landings by month
CA1	8	6,500,546	78%
	9	1,059,078	13%
	10	508,716	6%
	11	146,577	2%
	12	161,585	2%
Total		8,376,502	100%
CA2	8	1,284,116	48%
	9	654,057	24%
	10	405,058	15%
	11	257,353	10%
	12	70,979	3%
Total		2,671,563	100%

Table 87. Monthly distribution of landings in Nantucket Lightship area in 2010 (Open from June 28 to January 2011)

Area	Month	Scallop lb.	Percentage distribution of landings by month
NSA	6	13,465	0%
	7	5,553,301	97%
	8	79,042	1%
	9	24,462	0%
	10	4,280	0%
	12	72,401	1%
	Total	5,746,951	100%

Table 88. Monthly distribution of landings in Nantucket Lightship, CA1 and CA2 area in 2012 (Open from June 15 to January 2011)

Date	Closed Area I	Closed Area II	Nantucket Lightship	All Areas
June-12	666,124	988,169	268,991	1,923,284
July-12	1,499,011	1,331,517	724,315	3,554,843
August-12	660,261	902,787	538,940	2,101,988
September-12	803,308	694,523	209,123	1,706,954
Total	3,628,704	3,916,996	1,741,369	9,287,069
Area TAC	5,886,000	5,886,000	2,943,000	14,715,000
% of Total TAC				
June-12	11%	17%	5%	13%
July-12	25%	23%	12%	24%
August-12	11%	15%	9%	14%
September-12	14%	12%	4%	12%
Total	62%	67%	30%	63%
Area TAC	100%	100%	50%	100%

5.4.6.3 Option 2 - Closure period would be modified to only the months with highest yellowtail flounder bycatch

This option would allow access to the GB areas for nine months and keep it closed only in the months of September to November. Thus, it would provide more flexibility to vessels about when to fish compared to both Option 1 and no action with positive impacts on profits. Furthermore, it will shift effort from some of the low meat weight months (November) to high meat weight months benefiting the scallop resource. This could reduce the fishing time and the trip costs since fewer scallops will be needed to harvest the possession limit.

5.4.6.4 Preferred Alternative: Option 3 (Advisory Panel recommendation)

Based on an AP recommendation, the Committee revised one of the GB seasonal closure alternatives so that only CA2 would be closed from Aug15-Nov15 (a combination of the lowest meat weights and highest YT) and no closures for CA1 and NL. The main rationale provided from the AP meeting was that overall bycatch is low in CA1 and there does not seem to be a strong seasonal difference. Therefore, imposing a seasonal restriction may not do much and could actually shift effort into higher bycatch areas if vessels fish in open areas when NL is closed.

This option would provide higher flexibility to vessels compared to no action and other options since CA2 would close for only 3 months and CA1 and NL would be open all year, resulting in positive economic benefits for the scallop fishery. It is more likely, however, the long-term benefits of this option would be somewhat lower compared to Options 1 to 2 since the effort could occur in CA1 and NL during the low-meat weight seasons as well.

5.4.6.5 Eliminate GB access area seasonal restrictions

This alternative would remove any seasonal restriction for scallop fishing in portions of the existing GF closed areas. This alternative may be selected if it is found that limited scallop fishing in portions of the GF closed areas year round would not have substantial negative impacts on groundfish mortality and spawning. This option would provide higher flexibility to vessels compared to no action and all the other options including 3 above with some positive economic benefits for the scallop fishery in the short-term. It is more likely, however, for the long-term benefits of this option to be lower compared to the economic benefits from other options since fishing effort could occur in the access areas during the low-meat weight seasons resulting in higher fishing costs and lower benefits for the scallop resource. In addition, this option is not pro-active and does not avoid fishing during the high YT bycatch months.

5.4.7 Measures to address YT flounder bycatch in the LAGC fishery (Section 2.2.2, p.38)

5.4.7.1 No Action YT bycatch in the LAGC fishery – catch under the scallop fishery sub-ACL with no AMs

Under No Action, the only fleet subject to the YT AMs is the limited access scallop fishery. Vessels with a LAGC permit (dredge and trawl) would not be subject to potential AM closures. YT catch by LAGC vessels would still count against the scallop fishery YT sub-ACLs (GB and SNE/MA), but if an AM is triggered, LAGC vessels are exempt from those measures. As a result, this action would have positive economic impacts on the LAGC vessels and negative economic impacts on the LA vessels if the AM triggered. Also, no accountability for the LAGC fishery would likely to increase the risk of catching a substantial proportion of YT sub-ACL by this fishery with negative economic impacts on the overall scallop fishing industry.

5.4.7.2 YT AMs for LAGC vessels using trawl gear in Southern New England / Mid-Atlantic

The only YT stock area that LAGC trawl vessels fish in is the SNE/MA YT stock area. For the last two years this component of the scallop fishery has caught a substantial percentage of the total YT catch.

5.4.7.2.1 LAGC trawl AM for SNE/MA YT – Option 1 – area restriction

If the overall SNE sub-ACL for the scallop fishery is exceeded the AM for LAGC vessels with trawl gear would be a prohibition on the use of trawl gear in statistical areas 612 and 613 for a specified period of time to account for the overage. A substantial proportion (67.1%) of the scallop landings by these vessels took place in areas 612 and 613 in years 2010-2011 (**Table 90**). Vessels with trawl gear will NOT be permitted to switch to dredge gear and fish in areas closed by this AM.

The AM schedule will be the same as the LA AM schedule, except the closure will only apply to LAGC vessels up to a 15% overage. If the scallop fishery catch exceeds 15% the area would only remain closed to LA vessels. This modification was developed to recognize that these vessels are more limited in terms of areas they can fish. The AM area would be closed during the spring and winter when bycatch rates are typically higher, and the area would remain open for LAGC trawl vessels during part of the year they historically fish in this area to minimize impacts. Overall, the AM would be effective compared to No Action because it would eliminate

LAGC trawl fishing during months with higher bycatch of YT. No matter what the overage is, LAGC trawl vessels would be allowed to fish in the AM area during the months of July – November. As Table 89 shows, the seasonal distribution of scallop landings by OTF+OTC vessels varied, but in 2010 and 2011 the majority of landings occurred from May-July.

Table 89. Percentage composition of Scallop Landings by Trawls (OTF+OTC) by month from areas 612 and 613 (VTR data for 2010-2011 calendar years, vessels with LAGC-IFQ permits)

MONTH	612	613	Grand Total
1	0.71%	4.94%	5.65%
2	2.31%	1.18%	3.50%
3	0.61%	3.33%	3.94%
4	0.66%	6.66%	7.32%
5	9.05%	4.03%	13.08%
6	16.16%	4.47%	20.63%
7	9.96%	2.14%	12.10%
8	5.34%	4.12%	9.46%
9	4.73%	2.37%	7.10%
10	3.81%	3.76%	7.57%
11	0.67%	3.37%	4.04%
12	0.43%	5.18%	5.61%
Grand Total	54.45%	45.55%	100.00%

Note: The trips with more than 1200lb. of scallop landings are excluded.

In the event that bycatch rates are higher than expected, the SNE/AM area will close in accordance with the schedule shown on Table 90. The scallop catch associated with these time periods has been provided as well. The impacts of this option on LAGC fishery is analyzed in Table 90 below. It is assumed that the distribution of scallop landings by area and season will be similar to the patterns observed in 2010-2011 calendar years.

If the overage rate is not high, these closures are expected to have low negative impacts on total scallop landings by the LAGC vessels since the effort will shift to other seasons and areas with lower YT bycatch rates. For example, if the yellowtail overage is 3% or less, the stat areas 612 and 613 will be closed from February to April and as result, total landings from these areas would be reduced by 14.8% during the closure period. However, the vessels will have the opportunity to shift their effort to the other months, minimizing revenue losses from closures. If the overage rate is higher, more effort will have to be shifted to other months, however. For example, a yellowtail ACL overage of 15% would result in closure of three-digit statistical areas 612+613 in all months with the exception of July to November. Because 59.7% of all scallops were landed in that closure period, the vessels would have to shift a substantial portion of their effort to July through November, which could result in higher costs of fishing. As the effort shifts to other areas and/or months, the steaming time and duration of the trip for those vessels that normally fish in those areas at during the closure months will increase. If the scallop abundance in other areas is not sufficiently high enough to cover the extra costs of steaming or fishing longer, there would be negative, non-significant, impacts on crew income and profits.

This increase in costs could be minimized to some extent by leasing of quota to vessels that fish in other areas. Leasing will also involve some costs, however, such as the transaction costs and the margins lessors will require to make fishing the leased quota profitable.

Table 90. The 2010-2011 landings in closed periods for SNE/MA AM schedule (3 Digit Areas 612+613, LAGC-IFQ vessels using trawl gear, i.e., OTF+OTC)

Schedule for Closure					
Overage	**LAGC Trawl Closure**	**Sum of scallop landings for 2010+2011 in 612+613**	**Sum of scallop landings from all areas**	**Landings in 612+613 as % of scallop landings from all areas during the closure period**	**Landings in 612+613 in the closure period as a % of all scallop landings from all areas during the whole year**
2% or less	Mar-Apr	71,977	125,075	57.5%	11.3%
2.1-3%	Mar-Apr, and Feb	94,329	150,168	62.8%	14.8%
3.1-7%	Mar-May, and Feb	177,957	280,472	63.4%	27.8%
7.1-9%	Mar-May, and Jan-Feb	214,064	331,588	64.6%	33.5%
9.1-12%	Mar-May, and Dec-Feb	249,921	377,580	66.2%	39.1%
12.1-15%	Mar-June, and Dec-Feb	381,760	580,169	65.8%	59.7%
Open Period	July to November	257,388	372,522	69.1%	40.3%
	All Year	639,148	952,691	67.1%	100.0%

Although, the impacts on the overall LAGC fishery may be small at the low overage rates, there could be some distributional impacts on vessels from different states and ports. The closures will impact vessels home ported in New York and New Jersey most. LAGC vessels that are home-ported in those states landed majority of scallops in 612 and 613 (Table 91).

Table 91. Number of OTF+OTC vessels and Scallop landings by homeport and area (VTR data for 2010-2011, vessels with LAGC-IFQ permits, all trips including the ones>1200)

			Home state			
year	Area	Data	MA+RI	NY+NJ	Oth.MidAt	Grand Total
2010	612	Number of vessels		21	6	27
		Scallop lb.		33,133	74,396	107,529
	613	Number of vessels		11	NA	13
		Scallop lb.		114,695	NA	NA
	other	Number of vessels	NA	6	20	35
		Scallop lb.	NA	>15000	179,436	>185,000
Total Scallop lb.			NA	165,886	254,632	421,943
2011	612	Number of vessels		14	15	29
		Scallop lb.		20,580	212,019	232,599
	613	Number of vessels	NA	11	NA	NA
		Scallop lb.	NA	174,829	NA	175,629
	other	Number of vessels	12	10	14	36
		Scallop lb.	NA	>25000	73,379	108,557
Total Scallop lb.			4,170	226,417	286,198	516,785

5.4.7.2.2 LAGC trawl AM for SNE/MA YT – Option 2 – gear restriction in 613 and 612 (Preferred Alternative)

The SNE/MA YT AM for the LAGC trawl fishery could be triggered two different ways under this option. First, the AM would be triggered if the estimated catch of SNE/MA YT by the LAGC trawl fishery is more than 10% of the total SNE/MA YT sub-ACL for the scallop fishery, closing areas 612 and 613 to fishing by trawl gear from March to June and again from December – February (total of seven months). In 2011 and 2012, the LAGC trawl fishery is estimated to have caught a substantial percent of the total SNE/MA YT catch by the scallop fishery; about 17% of the catch in 2011 and over 23% of the catch in FY2012 to date (Table 21 in Section 2.2.2). As a result, it is likely that this measure will increase incentive to reduce bycatch from current levels for the LAGC-IFQ trawl fishery.

However, if the YT bycatch by this fishery remains above 10%, the preferred alternative would close the three-digit statistical areas 612 and 613 for seven months, impacting 65.8% of the scallop landings that took place during these months in those areas by the LAGC trawl fishery. In that case, the vessels would have to shift a substantial portion of their effort to July through November if they want to fish with trawl gear, which is likely to increase costs of fishing. As the effort shifts to other areas and/or months, the steaming time and duration of the trip for those vessels that normally fish in those areas during the closure months will increase. If the scallop abundance in other months/areas is not sufficiently high enough to cover the extra costs of steaming or fishing longer, there would be negative non-significant impacts on crew income and profits compared to No Action. From that perspective, this alternative is more restrictive than Option 1, which doesn't have such a threshold for AM trigger. However, Option 2 (preferred alternative) would also allow vessels to continue fishing for scallops if they switch to dredge

gear. This would provide flexibility for those vessels that have the capacity to use dredge gear to fish during months which are optimal, such as during those times when scallop prices go up or fuel prices go down- to would maximize their profits. This will alleviate the potential impacts of AM closures, but will still increase the costs for the LAGC Trawl vessels. Switching to dredge gear could cost from about $2500 to $3000 for small dredges to $6000 for a regular dredges (Framework 23 Analyses, Section 5.4.1.1.2.3). Given the amount of revenue loss, however, the costs of installing a dredge could outweigh cost of shifting effort to other months and areas during the AM closure season.

The second way an AM could trigger for this segment of the fishery under this option is if the overall SNE/MA YT AM is triggered. If the overall SNE sub-ACL for the scallop fishery is exceeded the AM for LAGC vessels with trawl gear would be a prohibition on the use of trawl gear in statistical areas 612 and 613 according to the AM schedule specified in Option 1 above, with economic impacts similar to the impacts for Option 1. However, in this case, vessels with trawl gear WOULD be permitted to switch to dredge gear and fish in areas closed by this AM, providing flexibility for these vessels to fish during months which are optimal, such as during those times when scallop prices go up or fuel prices go down- to would maximize their profits. Therefore, the preferred alternative is more flexible than Option 1 because it allows a trawl vessel to convert to dredge gear. And it is more flexible than Option 3 because it is not a gear restriction for the entire SNE/MA YT stock area. Vessels would be permitted to switch back to trawl gear later in the year or when fishing in areas outside of the AM closure. These measures are expected to alleviate some of the negative economic impacts of any closures from the implementation of AMs for the LAGC trawl vessels.

5.4.7.2.3 LAGC trawl AM for SNE/MA YT – Option 3 – gear restriction

If the overall SNE sub-ACL for the scallop fishery is exceeded the AM for LAGC vessels with trawl gear would be a prohibition on the use of trawl gear in any part of that YT stock area for the following fishing year. Since 99% of the fishing by LAGC-IFQ vessels using trawl gear takes place in the SNE-YT stock area, closing this area to fishing would have considerable negative economic impacts on those vessels compared to No Action (as well as compared to Option 1). For example, the revenue loss could have been more than $5 million if these areas were closed in fishing in 2011 (about 522,446 lb. of scallops were landed in those areas in 2011 calendar year) . However, a provision to allow these vessels to fish with dredge gear in those areas will alleviate these impacts although not totally since switching to dredge gear comes with some costs ranging from about $2500 to $3000 for small dredges to $6000 for a regular dredge (Framework 23). Given the amount of revenue loss, the costs of installing a dredge could outweigh the loss of revenues from not fishing. If a vessel does convert to dredge gear it would be subject to any AMs the LAGC dredge vessels are subject to. The provision to allow those vessels to revert to a trawl vessel after the year an AM is effective or stay as a dredge vessel, will provide some flexibility with positive economic impacts.

5.4.7.3 YT AMs for LAGC vessels using *dredge* gear

Recent catches of GB YT by the LAGC dredge fishery are relatively minor, 1-2% of the total SNE/MA sub-ACL. Therefore, the PDT recommends that AMs be implemented for the LAGC dredge fishery, but only if that segment of the fishery catches more than a specified percentage of total catch.

5.4.7.3.1 Southern New England / Mid-Atlantic YT AM (Preferred Alternative)

If the total sub-ACL is exceeded and an AM is triggered for the scallop fishery, the LAGC dredge fishery would not have a specific AM unless their estimated catch was more than 3% of the total catch by the scallop fishery. If their catch is more than 3% of the SNE/MA YT sub-ACL the same LA AM area would close to LAGC vessels, but under a different schedule. The LA AM schedule was modified to recognize that LAGC dredge vessels are not as mobile and there are some vessels that would be disproportionally impacted by these measures. Therefore, a schedule was developed that leaves some of the AM area open for parts of the year when traditional fishing has occurred, but closes the areas during higher YT bycatch months. Specifically, area 539 could close all year if the overage is over 16% because that area has the highest bycatch rates historically. Table 93 shows that only 3% of the total scallop pounds were landed by scallop dredges in Area 539 in 2010-2011. Area 537 would never close to LAGC dredge vessels between July-October regardless of the overage, and area 613 would never close June – January. Given that only 3% of all scallop pounds were landed in area 539 and another 2.5% in 613 all year around in 2010-2011, these modifications to the schedule are expected to minimize impacts on smaller dredge vessels, but close the areas during higher YT bycatch months. Although, the amount of effort that could be shifted to other months and areas during the AM closures are not expected to be large, if the scallop abundance in other areas is not sufficiently high enough to cover the extra costs of steaming or fishing longer, there could be some negative impacts on crew income and profits. This increase in costs could be minimized to some extent by leasing of quota to vessels that fish in other areas. Leasing will too involve some costs, however, such as the transaction costs and the margins lessors will require to make fishing the leased quota profitable.

The 3% overage exemption was included to recognize that bycatch from this segment of the fishery is typically very small and these closures could impact some vessels disproportionally. However, 3% was viewed as a level that would still keep this segment of the fishery accountable for YT bycatch and provide incentive to reduce YT bycatch. Table 94 shows, that the scallop landings by those scallop dredge vessels that only had LAGC-IFQ permits comprised about 6.35% of all the scallop landings in areas 537+539 and 613 in 2010-2011. However, yellowtail catch by these vessels comprised a very small proportion (less than to 2%) of the yellowtail ACL in 2011 and 2012 (Table 21). As long as the future catch of yellowtail do not increase from those levels in the previous years, it is highly unlikely that the AMs will be triggered for the LAGC dredge fishery. Therefore, this alternative would likely have negligible economic impacts. However, if the AM was trigger a low negative economic impact on LAGC vessels using dredge gear would be expected.

Table 92 – SNE/MA YT AM schedule for LAGC dredge vessels if scallop fishery AM is triggered and LAGC dredge catch is more than 3% of total catch

	AM closure area and duration		
Overage	539	537	613
2% or less	Mar-Apr	Mar-Apr	Mar-Apr
2.1% - 7%	Mar-May, Feb	Mar-May, Feb	Mar-May, Feb
7.1% - 12%	Mar-May, Dec-Feb	Mar-May, Dec-Feb	Mar-May, Feb
12.1% - 16%	Mar-Jun, Nov-Feb	Mar-Jun, Nov-Feb	Mar-May, Feb
16.1% or greater	All year	Mar-Jun, Nov-Feb	Mar-May, Feb

Table 93. Percentage composition of Scallop landings by scallop dredge vessels (DRS) by month and area (VTR data for 2010-2011, vessels with LAGC-IFQ permits)

Monthlanded	537	539	612	613	Other	Grand Total
1	0.3%	0.3%	0.6%	0.1%	6.6%	7.8%
2	0.1%	0.1%	0.7%	0.1%	2.1%	3.2%
3	0.3%	0.2%	0.8%	0.2%	4.2%	5.7%
4	0.3%	0.4%	0.8%	0.2%	6.1%	7.8%
5	0.6%	0.5%	1.7%	0.4%	7.6%	10.7%
6	0.4%	0.7%	1.9%	0.2%	7.7%	11.0%
7	0.3%	0.7%	2.1%	0.3%	8.6%	11.9%
8	0.3%	0.6%	1.3%	0.4%	8.7%	11.3%
9	0.2%	0.8%	1.3%	0.3%	6.9%	9.4%
10	0.1%	0.5%	0.9%	0.2%	6.4%	8.0%
11	0.1%	0.4%	0.5%	0.1%	5.1%	6.2%
12	0.1%	0.3%	1.4%	0.0%	5.0%	6.8%
Grand Total	3.0%	5.4%	14.0%	2.5%	75.2%	100.0%

Note: The trips with more than 1200lb. of scallop landings are excluded.

Table 94. Scallop landings by LAGC-IFQ vessels by gear code and permit as a % of total landings in areas 537+539+613 (VTR data, including trips (all trips).

LAGC category	GEAR	LA Permit	LAGC Permit	2010	2011	Grand Total
IFQ	**DRC**			0.1%	0.0%	0.07%
	DRS	YES	YES	2.7%	5.0%	3.97%
		NO	YES	5.0%	7.4%	6.35%
	DRS Total			**7.8%**	**12.4%**	**10.31%**
	DSC			0.0%	0.6%	0.36%
	OTC			0.0%	0.1%	0.07%
	OTF			3.5%	4.2%	3.85%
IFQ Total				**11.4%**	**17.3%**	**14.66%**
NGOM				9.2%	13.1%	11.35%
INCIDENTAL				28.4%	13.8%	20.31%
LA Permit only				51.0%	55.8%	53.68%
Grand Total				**100.0%**	**100.0%**	**100.00%**

5.4.7.3.2 Georges Bank YT AM

There is very little LAGC dredge effort in the GB YT stock area, mostly confined to CA1 access area trips. There is essentially no YT bycatch from this segment of the fleet, but if the Council wants to have an AM in place the measure should be the same as the LA fishery. If an AM is triggered, statistical area 562, including all of the access area within CA2, would close to LAGC dredge vessels under the same AM schedule (Table 24). Because the LAGC dredge landings in three-digit area 562 was close to 0% in 2010-2011, these AMs are expected to have negligible impacts on those vessels.

Table 95- GB YT AM Schedule – varies depending on whether CA2 is closed or open

GB YT AM Schedule – CA2 CLOSED		GB YT AM Schedule – CA2 OPEN	
Overage	LA Closure	Overage	LA Closure
1.9% or less	Sept-Nov	3% or less	Oct-Nov
2.0 - 2.9%	Aug-Jan	3.1-14%	Sept-Nov
3.0 – 3.9%	Mar, Aug-Feb	14.1-16%	Sept-Jan
4.0 – 4.9%	Mar, Jul-Feb	16.1-39%	Aug-Jan
5.0 – 5.9%	Mar-May, Jul-Feb	39.1-56%	Jul-Jan
6% or greater	All year	Greater than 56%	All year, Mar-Feb

5.4.8 Timing of AMs for the scallop fishery YT flounder sub-ACL

5.4.8.1 No Action

Under No Action, AMs will trigger in Year 2 after NFMS makes a determination if the scallop fishery is expected to exceed the YT flounder sub-ACLs for that fishing year. This schedule could have negative economic impacts on the scallop fishery if the AMs trigger in next fishing year due to inaccurate data and lack of reliable information resulting in loss of scallop landings and revenue.

5.4.8.2 AMs trigger in Year 2 (if reliable data available mid-year) or Year 3 (after a full year of data available) Preferred Alternative

Alternative is similar to no action if there is reliable information that a YTF sub-ACL has been exceeded during a fishing year. In this case, the respective AM for that YTF stock area would be implemented at the start of the next fishing year (i.e., the No Action approach outlined above; "Year 2" implementation). However, in contrast to no action, under this alternative, if reliable information is not available to make a mid-year determination of the need to implement an AM for the YTF sub-ACL, NMFS would wait until enough information is available (i.e., when the total observer and catch data is available for that FY) before making a decision to implement an AM. AMs would not be implemented mid-year so, under this scenario, the AMs would be implemented in Year 3. Compared to No Action, this alternative would have positive economic impacts on the scallop vessels since the decisions will be made based on more accurate information. In addition, implementation of the AMs in Year 3 instead of Year 2 would provide more flexibility and allow more time to vessels to adjust their fishing activity and would have positive economic impacts compared to no action alternative.

5.4.9 Measures to improve the flexibility and efficient use of LAGC IFQ by allowing transfer of quota mid-year

5.4.9.1 No Action – Sub-leasing and leasing IFQ during the year (if portion fished) is prohibited

Currently if a vessel with a LAGC IFQ permit has landed any scallops during a fishing year, it is prohibited from leasing out quota. In addition, IFQ can only be transferred once during a given fishing year, sub-leasing is not permitted. The economic impacts of no action would be negative because it prevents a vessel from re-leasing its quota even because of a health issue or engine troubles etc. a vessel cannot harvest its quota. The risk of not being able to land scallops due to

such issues discourages vessels from leasing quota. Similarly, a vessel has fished any of its annual quota in a fishing year, it is not permitted to lease out during the same fishing year. This measure could also result in loss of revenue from unused quota if a vessel cannot fish during the rest of the year and lease its quota to another vessel, with negative economic impacts.

5.4.9.2 Allow transfer of LAGC IFQ during the year (Preferred Alternative)

This alternative would allow sub-leasing and transfer of quota after an LAGC IFQ vessel landed scallops and would allow IFQ to be transferred more than once. This alternative, if selected, is composed of two parts that would be implemented separately.

First, an LAGC vessel would be allowed to lease out the remainder of its base allocation after it has fished some of its original IFQ. Compared to No Action, this measure is expected to have positive economic impacts allowing the vessels fully land their quota. The second aspect of this alternative would enable an IFQ vessel to transfer IFQ that it received through a previous transfer (i.e., a sub-lease to another vessel) to or another IFQ vessel or vessels. Although, this alternative provides more flexibility to vessels by allowing sub-leasing with positive economic benefits, it will also add more complexity to IFQ monitoring with a possibility for the cost recovery fees increasing and reducing the net economic benefits for the LAGC vessels.

5.4.10 Measures to expand the current observer set-aside program to include LAGC vessels in open areas

5.4.10.1 No Action – LAGC observed trips in open areas are not under the scallop observer set-aside program – directly funded by NMFS.

Under No Action, LAGC trips in open areas will continue to be funded directly by the Northeast Fisheries Observer Program, and will not be under the observer set-aside program. The vessel will be compensated in either additional pounds in access areas or DAS in open areas to help defray the cost of the observer. Under No Action, LAGC vessels would still be observed in open areas, but a reduced level compared to the preferred alternative for this section that would expand the observer set-aside program to include LAGC vessels in open areas. Therefore, No Action would have no direct impacts on economic benefits because it only relates to how observer coverage is placed on LAGC vessels in open areas. However, not having sufficient coverage of the open area trips could impair effective monitoring and management of sub-ACLs for the scallop fishery with indirect low negative impacts on economic benefits over the long-term.

5.4.10.2 Include open area trips by LAGC vessels under the current observer set aside program (Preferred Alternative)

This measure would help to increase coverage for the open area trips by LAGC vessels. Having more precise bycatch information for all segments of the scallop fishery has indirect positive impacts on economic benefits. Given that the scallop fishery is subject to bycatch sub-ACLs, it would be useful to have more observer data to rely on for monitoring these ACLs more precisely, including the LAGC vessels with lower bycatch rates (LAGC fishing in open areas). If the open area trips by LAGC vessels are included under the current observer program, that vessel would be permitted to land additional poundage of scallops, either on that trip above the possession limit, or on a subsequent trip that fishing year allowing more flexibility for the vessels

to recover the costs of observers with positive economic impacts. The pounds from the compensation trips would be deducted from the set-aside available for open areas, thus the overall impacts will depend on whether the set-asides will be sufficient for the increased coverage.

5.4.10.3 Modify the observer set-aside allocation

5.4.10.3.1 No Action - observer set aside allocation – 1% of ABC/ACL

Under no action, one-percent of the total ACL for the scallop fishery would be set-aside to compensate vessels for the cost of carrying an observer and would to be divided proportionally into access areas and open areas in order to set the compensation and coverage rates and monitor this set-aside harvest by area. If the set-aside for a given area is fully harvested, based on the TACs in the regulations, there would be no mechanism to transfer TAC from one area to another. As a result, any vessel with an observed trip in an area with no remaining observer set-aside would have to pay for the observer without compensation. This would increase costs for vessels and have negative economic impacts.

5.4.10.3.2 Same allocation (1% of ABC/ACL) but not area specific (Preferred Alternative)

With the preferred alternative, set-aside could be transferred from one area to another based on NMFS in-house area-level monitoring that determines whether one area will likely have excess set-aside while another may not. Therefore, this alternative would be more efficient in using the set-asides where it is needed most and as such, they will be more fully utilized for better monitoring the catch, with indirect positive impacts on economic benefits.

5.4.11 Uncertainties and risks

The economic impacts presented in the above sections are analyzed using the estimate of prices, costs, revenues and total net benefits based on the economic model provided in Appendix II. The estimated fishing costs are used in calculating producer surplus for the proposed alternatives, which shows total revenue net of variable costs. The costs and the benefits of the proposed alternatives were analyzed based on the biological projections of landings, DAS and LPUE and the available information about the vessel costs and characteristics, crew shares and prices. The numerical results of these analyses should be interpreted with caution due to uncertainties about the likely changes in:

- factors affecting scallop resource abundance
- fishing behavior
- fixed costs
- variable costs
- import prices
- demand for scallop exports
- bycatch and revenues from other fisheries
- the crew share system
- change in the number of active vessels
- structural changes in ownership
- changes in the composition of fleet in terms of tonnage, HP and crew size of the active vessels

- disposable income and preferences of consumers for scallops.

The estimated values of the economic cost/benefit analysis should be used, however, in comparing preferred action with the other alternatives since the uncertainties related to landings and prices are expected to affect all alternatives in the same direction.

The landings streams, DAS and LPUE were obtained from the biological model, which is based on fishing mortality by area and the inputs are not fishery-based in terms of DAS, etc. The biological simulations do not model individual vessels or trips; it models the fleet as a whole. The output of the biological model and the landings streams were used to estimate the costs and benefits of the preferred action and alternatives. The results for economic impacts would change if the actual landings, size composition of landings and LPUE are different than the forecasted values from the biological model.

The prices are estimated using the ex-vessel price model described in Appendix II. This model takes into account the impacts of changes in meat count, domestic landings, exports, price of imports, income of consumers, and composition of landings by market category (i.e., size of scallops) including a price premium on under count 10 scallops.

The important changes in external factors, i.e., in exports, imports, value of dollar, export and import prices had some unpredictable impacts on scallop prices in recent years, first resulting an increase to over $8 per pound (in terms of 2008 prices) in 2005, then a consequent decline to about $7 per pound (in terms of 2008 prices) in 2006 even though there was not a significant increase in scallop landings in 2006 (about 56 million lb.) compared to 2005 (about 54 million lb.). Since 2010 fishing year, however, the decline in the value of dollar, strong demand for scallops especially from the European countries and a diminished supply from Japan and other competing, scallop-producing nations resulted in much higher prices than anticipated in Framework 21 and Framework 22. Thus, any change in the external factors that affect price, such as in import prices or in the differences between the actual and projected landings will result in differences in the actual and estimated prices.

In addition, the prices were estimated by holding the values of the all the variables that impact prices, such as import prices and disposable income, at the recent levels. For example, disposable income per capita and import prices are assumed to stay constant at the 2011 level. This is because it is not possible to predict accurately the changes in the future values of the explanatory variables and also because our goal is determine the response in prices to the change in landings and the composition in terms of market category given other things held constant. Therefore, future prices could be higher (lower) than predicted depending on the values of the explanatory variables.

For these reasons, the empirical results of the economic analyses should be used to compare alternatives with each other and with no action --rather than to estimate the absolute values-- since a change in the variables listed above will change the numerical results in the same direction. For example, an increase in import prices would lead to a rise in ex-vessel prices and revenues for all alternatives above the levels estimated in the sections above. An increase in the price of oil, on the other hand, would increase the variable costs and reduce the cost savings

under all options. While these changes would affect the absolute values of net economic benefits, the ranking of alternatives in terms of their impacts on revenues, costs, and net benefits are not expected to change.

5.5 SOCIAL IMPACTS

The consideration of the social impacts of the changes made in this framework is required pursuant to the National Environmental Policy Act (NEPA) of 1969 and the Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976. NEPA requires that before any agency of the federal government may take “actions significantly affecting the quality of the human environment,” that agency must prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS) that includes the integrated use of the social sciences (NEPA Section 102(2)(C)). Social science analysis is required by multiple sections of the MSA. Section 303(b)(6) on limited entry requires examination of "(A) present participation in the fishery, (B) historical fishing practices in, and dependence on, the fishery, (C) the economics of the fishery, (D) the capability of fishing vessels used in the fishery to engage in other fisheries, (E) the cultural and social framework relevant to the fishery and any affected fishing communities, and (F) any other relevant considerations." Section 303A provides guidelines for implementing social and economic components of Limited Access Privilege Programs (LAPPs). Section 303(a)(9) on preparation of Fishery Impact Statements notes they "shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on--(A) participants in the fisheries and fishing communities affected by the plan or amendment; and (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants."

Finally, National Standard 8 stipulates that “conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities” (16 U.S.C. § 1851 *et seq*.). A fishing community is then defined as being “substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community” (16 U.S.C. § 1802 (17)).

The need to measure, understand and mitigate the social impacts of fisheries policy is an essential part of the management process. Managers have an obligation to consider how policy changes affect the human context of the fishery, including the direct and indirect impacts on the safety, wellbeing, quality of life, fishery dependence, culture and social structure of communities. These impacts can be felt at the individual, family and community level which can make measuring and considering them difficult as the impact variables are typically differentially distributed. There is general consensus however, as to the types of impact to be considered; the section of the human environment where the impacts may be felt; likely social impacts; and the steps to enhance positive impacts while mitigating negative ones (ICPGSIA, 2003).

Broadly defined, social impacts that need to be considered are the "social and cultural consequences to human populations of any public or private actions that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society" (Burdge and Vanclay 1995). Identifying possible social impact variables is a topic of much debate but the development of standard definitions for a set of the most common and consequential social impacts are underway. The current National Marine Fisheries Service "Guidelines for Social Impact Assessment," provides some assistance in defining relevant social factors/variables. It is suggested that the following five social factors/variables should be considered when comparing the preferred management alternative to the alternatives not selected:

1. The *Size and Demographic Characteristics* of the fishery-related work force residing in the area; these determine demographic, income, and employment effects in relation to the work force as a whole, by community and region.
2. The *Attitudes, Beliefs and Values* of fishermen, fishery-related workers, other stakeholders and their communities; these are central to understanding behavior of fishermen on the fishing grounds and in their communities.
3. The effects of proposed actions on *Social Structure and Organization*; that is, changes in the fishery's ability to provide necessary social support and services to families and communities.
4. The *Non-Economic Social Aspects* of the proposed action or policy; these include life-style issues, health and safety issues, and the non-consumptive and recreational uses of living marine resources and their habitats.
5. The *Historical Dependence on and Participation* in the fishery by fishermen and communities, reflected in the structure of fishing practices, income distribution and rights. (NMFS, 2007)

Longitudinal data describing these social factors region-wide and in comparable terms is limited; though the new cost and crew surveys currently being implemented by the NEFSC will begin to alleviate this. For this framework the "guidelines" document provides a range of variables to consider when predicting potential social impacts. It should also be noted that the academic literature on the subject has provided multiple lists of potential social variables, but it also cautions that such lists should not be considered "exhaustive" or "a checklist" (ICGPSIA, 1994; Vanclay, 2002; Burdge, 2004). Ultimately judgment must be used in choosing which variables are salient in any particular case.

Yet another source of information regarding potential social factors specific to fishing communities in the Northeast can be gleaned from a series of ten "social impact informational meetings" sponsored by the NEFMC during the preparation of Amendment 13 to the (NE) Multispecies FMP. Based on comments provided by local stakeholders during these meetings five social impact factors were developed to describe the level of impact felt by fishing communities and families because of management changes: 1) regulatory discarding; 2) safety; 3) disruption in daily living; 4) changes in occupational opportunities and community infrastructure; and 5) formation of attitudes. These factors, while initially developed for the

multispecies fishery, overlap with those variables suggested by NMFS guidelines and have the added benefit of reflecting specific concerns of fishermen in the Northeast.

In the preparation of this document, qualitative and quantitative methods have been used to assess the relative impact of the proposed management measures. Ports most closely involved with the scallop fishery, and likely to be affected by the proposed measures, have been identified in the updated scallop SAFE reports. While some management measures tend to produce certain types of social impacts it is not always possible to predict precise effects when there are multiple overlaying management measures such as in this proposed action. Also changes to the human environment often occur in small, incremental amounts and the character of a particular impact can be hidden by the gradual nature with which it occurs. Such impacts will be noted where they are possible to discern or where the potential for cumulative impacts seems likely. Therefore the discussion of social impacts for alternatives will indicate the likely directional impacts of specific measures e.g., positive, negative, or neutral.

5.5.1 Acceptable biological catch

5.5.1.1 No Action ABC

Adopting Alternative 1, the No Action alternative, would set the acceptable biological catch (ABC) for FY2013 and FY2014 identical to that of the default FY2013 ABC. The current default ABC is 63.3 million pounds (28,700 mt), after accounting for discards, which is higher than the ABCs recommended by the SSC for this action (Table 7 section 2.1.1.2). If Alternative 1 is adopted there will likely be no near-term social impacts felt by the individuals and communities involved in the scallop fishery. However, in the long-term, if the default ABCs set by Alternative 1 are achieved, they could affect the sustainability of the catch because they exceed the SSC recommended catch levels based on an overall fishing mortality of 0.32. Long-term sustained catches that exceed the recommended ABC could translate into negative social impacts threatening the *Historical Dependence on and Participation* in the fishery. It is also possible that the adoption of the default ABC for FY2013 – FY2015 could have a small but negative impact on the formation of *Attitudes and Beliefs* regarding government and management because these ABCs would not be based on the best available science.

5.5.1.2 ABC for 2013 and default 2014 (Preferred Alternative)

If Alternative 2 of this measure is adopted the ABC for FY2013, and the default ABC for 2014 would be set based on an overall fishing mortality of 0.32. The ABCs proposed in Alternative 2 are found in Table 7 (section 2.1.1.2) and are based on the best available science while conforming to standard control rules. Compared to Alternative 1, the No Action alternative, the ABCs set by Alternative 2 are smaller and would reduce catches of scallops for the years specified.

If Alternative 2 is adopted a near-term, negative impact should be expected on the *Size and Demographic Characteristics* of the fishery-related work force as reduced catch and revenue would affect income, and employment opportunities. It is expected that near-term reductions in catch will have long-term benefits for the scallop resource. Therefore, the long-term effects of adopting Alternative 2 would likely have a positive impact on both the *Size and Demographic Characteristics* of and the *Historical Dependence on and Participation* in the fishery. It is also

possible that the adoption of new ABCs for FY2013 and 2014 based on the best available science, could have a small but positive impact on the formation of *Attitudes and Beliefs* regarding management and government.

5.5.2 Specifications for limited access vessels

Including the No Action alternative, the council is presented with five alternative specifications for the limited access scallop fishery which set the allocation of DAS and access area trips. Each alternative offers a range of allocations and a summary of the various allocations for the LA fishery are described in Table 9 and Table 10 (section 2.1.2.5.2). The major differences between the alternatives are the number and location of the access area trips as well as the possession limit on those trips. All alternatives besides the No Action alternative have the same number of open area DAS allocated. Because of these similarities, estimating the relative social impacts of each alternative is difficult and will ultimately be reflective of the economic impacts of each.

The economic section of this document describes the expected losses and gains in revenue by year and alternative. Again, the social impacts of one specification alternative compared to another will, for the most part, reflect the differences between the expected revenue of the access area trips under each alternative. Changes in revenue tend to have a social impact on the *Size and Demographic Characteristics* of the fishery in the form of crew income and employment opportunities, as well as to boat owner income. In this Framework, because the expected revenues derived from trips specified by each alternative are relatively consistent across alternatives, it is also expected that the social impacts would be similar across alternatives.

It should be noted that the access area trips will be allocated by lottery and one vessel cannot receive more than one trip to the same area. Vessels will still be permitted to trade trips and the lottery for the first year of the framework will be included in the framework submission document so that vessels have more time to plan their business for FY2013. Because a lottery system would likely be seen as a fair and impartial way of allocating access area trips, this provision would elicit a small, but positive social impact on the *Attitudes and Beliefs* of those involved in the fishery. By limiting trip allocations to one trip per area per vessel, the benefits or costs associated with potentially uneven catch rates would be minimized.

5.5.2.1 No Action specifications for LA vessels

If the No Action alternative is adopted, vessels operating in the LA scallop fishery would be allocated the default number of DAS and access area trips prescribed in FW22 (Table 4, section 1.5). In total the No Action alternative would allocate four access area trips at 18,000 pounds, to each full time LA vessel and 26/10 FT/PT DAS. All other Alternatives set only one or two access area trips usually at a lower trip limit, but they initially allocate more DAS (FY2013 33/13 FT/PT, FY2014 23/9 FT/PT). The relative number of allocated access area trips is important because these trips provide a level of certainty in the expected returns from each trip that can help facilitate business planning. Under the No Action alternative, the four access area trips per FT vessel would provide an additional sense of security in an individual's future planning of fishery operations which would have a positive effect on the *Life-style/Non-economic social aspects* of the fishery.

Compared to the other specification alternatives in this Framework, the No Action alternative is expected to have the highest near-term revenues but it is also expected to have the lowest long-term revenues and the greatest (negative) impact on the ecosystem. The social impacts to *Size and Demographic Characteristics* of the fishery would be expected to be positive in the near-term but negative in the long term, compared to the other specification alternatives. However, since these access area allocations are above the projected biomass levels it is possible that trips would be longer, increasing costs and associated social impacts in terms of attitudes, beliefs, and values of fishermen.

5.5.2.2 Alternative 1

If the specification Alternative 1 is adopted LA scallop vessels would be allocated two access area trips at 13,000 pounds in FY2013 as well as DAS resulting in an open area F = 0.38. Compared to the specifications under the No Action alternative, Alternative 1 is expected to have lower near-term revenues but it is also expected to have the higher long-term revenues and a lower (negative) impact on the ecosystem. The social impacts to *Size and Demographic Characteristics* of the fishery would be expected to be negative in the near-term but positive in the long term, compared to the No Action alternative. Alternative 1 would be more constraining than the No Action alternative and Alternative 2 because access area trips would be confined to just three areas which can limit operational flexibility. However, Alternative 1 would be more flexible than Alternatives 3 and 4. Because access area trips are tradable, limiting the number of potential trip locations can have a negative impact on an individual's ability to plan fishing operations and the *Life-style/Non-economic social aspects* of the fishery.

5.5.2.3 Alternative 2 (Preferred Alternative)

Adopting the specifications under Alternative 2 would allocate LA scallop vessels two access area trips at 13,000 pounds in FY2013 as well as DAS resulting in an open area F = 0.38. Compared to the specifications under the No Action alternative, Alternative 2 is expected to have lower near-term revenues but it is also expected to have the higher long-term revenues and a lower (negative) impact on the ecosystem. The social impacts to *Size and Demographic Characteristics* of the fishery would be expected to be negative in the near-term but positive in the long term, compared to the No Action alternative. This alternative enables each full-time vessel to fishing in up to two of four access areas and thus provides more flexibility than Alternatives 1, 3 and 4.

5.5.2.3.1 Option 1 – No restriction on RSA catch from NL (Preferred Alternative)

If Option 1 of this alternative is adopted, there would be no restriction of RSA catch from the NL area. For operators of vessels taking compensation trips, this option is expected to limit potential disruptions to fishing practices having a positive impact on the *Historical Dependence on and Participation* in the fishery (or RSA program). This option could also reduce future scallop yield and revenues specific to this area which could result in a negative impact on the *Size and Demographic Characteristics* of the fishery.

5.5.2.3.2 Option 2 – Prohibit RSA compensation fishing in NL in 2013

If Option 2 of this alternative is adopted, there would be a restriction of RSA catch form the NL area. For operators of vessels taking compensation trips, this option is expected to cause a small disruption to fishing practices and a small negative impact on the *Historical Dependence on and*

Participation in the fishery and RSA program. These potential impacts are considered small because vessels participating in RSA compensation fishing would still be permitted to fish in all open areas, as well as CA1, HC, and CA2. This option is being considered as a means to protect future scallop yield and revenues from excessive effort in the NL area. Potential gains in future yield and revenue would be area dependent and prohibiting RSA effort in the NL area would redistribute that effort to other areas.

5.5.2.4 Alternative 3

If the specifications set by Alternative 3 are adopted LA scallop vessels would be allocated one access area trip at 18,000 pounds in FY2013 as well as DAS resulting in an open area F = 0.38. Compared to the specifications under the No Action alternative, Alternative 3 is expected to have lower near-term revenues but it is also expected to have the higher long-term revenues and a lower (negative) impact on the ecosystem. The social impacts to *Size and Demographic Characteristics* of the fishery would be expected to be negative in the near-term but positive in the long term, compared to the No Action alternative. Under Alternative 3, FT vessels would be constrained with respect to the number, and possible location, of access area trips in FY2013.

Unlike Alternatives 1, 2, and 4 only two access areas will be open in FY2013 which could have a negative impact on an individual's ability to plan fishing operations and the *Life-style/Non-economic social aspects* of the fishery. This Alternative, as well as Alternative 4, would set allocations lower than all the other alternatives due to the decrease in the trip possession limit (1 trip at 18,000 pounds, compared to 2 trips at 13,000 pounds). However by limiting overall access area yield and effort to two areas in 2013, specifically prohibiting access in CA1 and NL, future scallop yields in those areas may be higher with potential positive impacts on S*ize and Demographic Characteristics* of the fishery longer term. Furthermore, having more areas open per year adds increased risk of uneven benefits per trip. Catch rates will vary per area and the more areas open the higher the chance for uneven impacts. However, the random trip allocation lottery system is designed to minimize those potential impacts to the greatest extent possible.

5.5.2.5 Alternative 4

Adopting the specifications under Alternative 4 would allocate LA scallop vessels a single access area trip at 18,000 pounds in FY2013 as well as DAS resulting in an open area F = 0.38. Compared to the specifications under the No Action alternative, Alternative 4 is expected to have lower near-term revenues but it is also expected to have the higher long-term revenues and a lower (negative) impact on the ecosystem. The social impacts to *Size and Demographic Characteristics* of the fishery would be expected to be negative in the near-term but positive in the long term, compared to the No Action alternative.

This Alternative, as well as Alternative 3, would set allocations lower than all other alternatives due to the decrease in the trip possession limit (1 trip at 18,000 pounds, compared to 2 trips at 13,000 pounds). However, compared to Alternative 3, this alternative offers access to more access areas (trips would be assigned across four access areas, rather than two). Alternative 4 is being considered by the council as a means to further reduce the potential bycatch of GB yellowtail flounder which will likely have a limiting ABC. If Alternative 4 is seen as overly restrictive by operators of scallop vessels, this alternative could exacerbate existing conflict between the scallop and groundfish fisheries over the issue of the scallop fisheries' groundfish

takes, negatively affecting the *Social Structures and Organizations* of the larger fishing community.

5.5.2.5.1 Option 1 – No restriction on RSA catch from NL

The expected social impacts associated with Option 1 of this alternative and their rationale would be the same as those under Option 1 of Alternative 2. Option 1 is expected to minimize disruptions to fishing practices having a positive impact on the *Historical Dependence on and Participation* in the fishery but it could also result in a negative impact on the *Size and Demographic Characteristics* of the fishery over the long-term because of a loss of future revenue.

5.5.2.5.2 Option 2 – Prohibit RSA compensation fishing in NL in 2013

The expected social impacts associated with Option 2 of this alternative and their rationale would be the same as those under Option 2 of Alternative 2. Option 2 is expected to cause a disruption to fishing practices having a negative impact on the *Historical Dependence on and Participation* in the fishery but it may also protect future catch and revenue in the NL resulting in a positive impact on the *Size and Demographic Characteristics* of the fishery over the long-term.

5.5.3 Specifications for limited access general category (LAGC) IFQ vessels

The economic section of this document describes the expected losses and gains in revenue by year and specification for the General Category (LAGC) IFQ vessels. Without any substantial differences between how the specifications will be implemented, the social impacts of one specification alternative compared to another will reflect the differences between the expected revenue under each alternative. Changes in revenue tend to have a social impact on the *Size and Demographic Characteristics* of the fishery in the form of crew income and employment opportunities, as well as to boat owner income.

5.5.3.1 No Action specifications for LAGC IFQ vessels

If the No Action alternative is adopted, general category IFQ-only vessels would be allocated about 3.2 million pounds while limited access full-time, part-time, and occasional vessels with LAGC IFQ permits would be allocated about 300,000 pounds. This is the same level of catch currently allocated to the general category fishery in 2012, thus No Action would have same impacts as baseline conditions. Compared to the other LAGC specification alternatives in this Framework, the No Action alternative is expected to have the highest near-term revenues but it is also expected to have the lowest long-term revenues. Therefore, the social impacts to *Size and Demographic Characteristics* of the fishery would be expected to be positive in the near-term but negative in the long term, compared to the other specification alternatives.

5.5.3.2 FW24 specification alternatives for LAGC vessels (Preferred Alternative)

If any of the FW24 specification allocation scenarios are adopted in place of the No Action allocation alternative the TAC and LAGC sub-ACL would be lower. In FY2013, under any of the alternative allocation scenarios the LAGC IFQ-only vessels would be allocated about 2.2 million pounds while limited access full-time, part-time, and occasional vessels with LAGC IFQ permits would be allocated about 223,000 pounds. Based solely on the TAC, which will be the same regardless of alternative, the specifications in all of the alternatives in this Framework are expected to have the lower near-term revenues but to have the higher long-term revenues

compared to the No Action alternative. The social impacts to *Size and Demographic Characteristics* of the fishery would then be expected to be negative in the near-term but positive in the long term for the alternatives being considered. There are two options being considered for the allocation of LAGC access area trips in this Framework.

5.5.3.2.1 Option 1 - Allocate 5.5% of each access area TAC to the LAGC IFQ fishery

If Option 1 is selected LAGC vessels will be allocated a number of trips for each all access areas that are designated as open for a given alternative. The number of trips will be equivalent to 5.5% of the TAC with a LAGC trip limit of 600 pounds. Option 1 would not restrict access to any of the available access areas and it is likely that there will be no significant social impact from this method of allocation. However, it is not likely that LAGC vessels will fish trips in CA2 because of the long distance to the fishing grounds for 600 pounds per trip. Therefore, these trips will probably not be used, reducing the level of potential access for LAGC vessels in access areas overall. This could have negative impacts on *Attitudes and Beliefs* of the individuals involved in the LAGC fishery.

5.5.3.2.2 Option 2 - Allocate 5.5% of the total access area TAC available and prorate LAGC IFQ trips proportionally in all areas open that year excluding CA2 (Preferred Alternative)

If Option 2 is selected LAGC vessels will be allocated a number of trips for each access area that are designated as open for a given alternative, excluding the access area portion of Closed Area 2. The number of trips will be equivalent to 5.5% of the TAC with a LAGC trip limit of 600 pounds, but the trips from CA2 would be prorated to the other access areas open in 2013. Option 2 would limit LAGC access to access areas closer to shore, which could have a positive social impact on individuals and communities involved in the scallop fishery. On average LAGC vessels are smaller than their LA counterparts, and the tendency of the LAGC fleet is to fish closer to shore. CA2 is the farthest from shore of all the access areas and by redirecting LAGC access area trips from that area to areas closer to shore increases the likelihood that LAGC vessels will utilize their full fleetwide access area trip allocations, which would have a positive effect on *Size and Demographic Characteristics* of the LAGC fishery. By directing effort away from a more remote, offshore area there would also be potential safety gains from fishing closer to shore that would have a positive impact on the fisheries' *Non-Economic Social Aspects*.

5.5.4 Northern Gulf of Maine hard-TAC

5.5.4.1 No Action NGOM TAC – 70,000 pounds (Preferred Alternative)

Adopting the No Action alternative of this measure would maintain the current TAC of 70,000 pounds for the NGOM scallop fishery. Updated surveys suggest lowering the TAC to 58,000 pounds but because recent catches have been much lower, neither TAC is expected to be limiting. On average, LAGC vessels with a NGOM permit (and not LA permit) have earned less than 1% of their total revenue from scallops during the last four years (Table 40 in SAFE report-Appendix I). Social impacts from the adoption of the No Action Alternative are not likely in part because the scallop catch of vessels with a NGOM permit is so low but also because it represents a very small proportion of their revenue. It is possible that adopting the No Action alternative that does not use the most recent survey results would be seen as not using the best available

science. This could lower the public opinion about the management process having a small negative social impact on the *Attitudes and Beliefs* of those involved in the fishery.

5.5.4.2 FW24 NGOM TAC alternative based on new survey results

If this Alternative is adopted over the No Action alternative, the TAC for the NGOM scallop fishery would be lowered to 58,000 pounds. The recommendation to lower the TAC for the NGOM is based on a 2012 scallop resource survey and calculated using the same set of assumptions developed in Framework 22. Because this alternative is based on the best available science it could raise the public opinion about the management process having a small positive social impact on the *Attitudes and Beliefs* of those involved in the fishery. However, due to the relatively low catch of scallops in the NGOM, neither this Alternative, nor the No Action alternative is expected to have any substantial social impacts.

5.5.5 Measures to address delayed implementation of Framework 24

Because of a change in the timing of when FW24 will be implemented, vessels will be permitted to fish under 2013 default allocations from FW22 until FW24 is implemented to replace them, scheduled for May 2013. For LA vessels the default 2013 allocations include 26 open area DAS and 4 access area trips while the default 2013 LAGC allocation is about 3.4 million pounds. The default allocation of access area trips are substantially greater than those proposed as alternative specifications in FW24. It is possible that because of the change in implementation date, LA vessels would be able to take more access area trips than what will eventually be allocated under FW24 and in areas that may be closed.

5.5.5.1 No Action – No specific payback measures to address negative impacts of delayed implementation of FW24

If the No Action alternative is adopted for this measure there would be no payback or management repercussions for vessels taking access area trips in excess of the FW24 allocations. The FW22 allocated access area trips could be considered additional opportunities to earn revenue which if taken could have a positive social impact on the *Size and Demographic Characteristics* of the fishery in the near-term. In the long-term, additional effort to the access areas in the form of the FW22 default trips could threaten future catches of scallops in those areas having a negative impact on revenues, income and employment.

Under the No Action alternative there would be no future regulatory penalty for taking a FW22 default trip before FW24 is implemented which would incentivize making those trips. The incentive to make these access area trips without penalty could encourage risky behavior on the part of vessel operators and crew as they rush to land catch before FW24 would be implemented. The adoption of risky behavior that threatens safety in the pursuit of additional fishing opportunities would be a negative social impact affecting the *Non-Economic Social Aspects* of the fishery.

5.5.5.2 Payback measures for limited access vessels (Preferred Alternative)

If this Alternative is adopted, LA vessels that take any access area trips allocated under the default FW22 will forfeit all access area trips allocated under FW24 and possibly an additional 12 DAS in 2013. This alternative is meant to act as a disincentive to vessel operators considering making any of the default FW22 access area trips in 2013.

Compared to the No Action alternative this alternative will have some near-term negative social impacts relating primarily to the *Size and Demographic Characteristics* of the fishery. Under this alternative, LA vessel operators will either opt not to make any of the default FW22 access area trips or if they do, they will be penalized future fishing opportunities. Either outcome will reduce near-term fishing effort, catch and revenue compared to the No Action alternative. Also, by reducing near-term fishing effort this alternative would support greater scallop catches in the future which would have long-term positive social impact on the *Size and Demographic Characteristics* of the fishery. It is possible that penalties incurred by vessel operators fishing default FW22 access area trips could be seen as the result of a failure on the part of management to get FW24 implemented before the start of FY2013. This perceived failure could have a negative social impact on the formation of *Attitudes and Beliefs* regarding government and the management process.

5.5.5.3 Payback measures for LAGC IFQ vessels (Preferred Alternative)

If this Alternative is adopted, LAGC vessels that land any scallops in excess of the final sub-ACL allocation under FW24 will have a pound for pound deduction from the subsequent year's LAGC allocation. This alternative is meant to act as a disincentive to vessel operators considering landing all of the default FW22 scallop allocation prior to the implementation of FW24.

By virtue of the FW24 LAGC allocations being smaller than the default FW22 allocations, this action would lower near-term revenues which would have a negative social impact on the *Size and Demographic Characteristics* of the fishery. Compared to the No Action alternative where vessel operators would have no penalty for fishing FW22 allocations, this alternative would includes a payback measure. Under this alternative, LAGC vessel operators will either opt not to catch scallops in excess of the FW24 allocation or if they do, they will be penalized future fishing opportunities pound for pound. Either outcome will reduce near-term fishing effort, catch and revenue compared to the No Action alternative. Also, by reducing near-term fishing effort this alternative would support greater scallop catches in the future which would have long-term positive social impact on the *Size and Demographic Characteristics* of the fishery. It is possible that penalties incurred by vessel operators fishing excessive allocation under FW22 could be seen as the result of a failure on the part of management to get FW24 implemented before the start of FY2013. This perceived failure could have a negative social impact on the formation of *Attitudes and Beliefs* regarding government and the management process.

5.5.6 Measures to refine the management of the YT flounder bycatch in the scallop fishery

5.5.6.1 Modification of Georges Bank access area seasonal restrictions

5.5.6.1.1 No Action GB access area seasonal restrictions – closure from Feb. 1 – June 14

If the No Action alternative of this measure is adopted there would be no change to the current seasonal restrictions for the Georges Bank access area. The current seasonal restriction closes the GB access area from February 1st to June 14th, making the area available for fishing June 15th

until January 31st. It is unlikely that not changing or modifying the seasonal restrictions on GB access areas would lead to any substantial social impact.

Because FW24 includes this alternative to modify the GB access area seasonal restrictions, this action is also a joint framework with the NE Multispecies FMP (Framework 49). Groundfish vessels currently do not have access to these areas and should that change, the impacts would be fully analyzed in GF Framework 48. However, by allowing scallop vessels more flexibility to these GF closed areas, this measure may contribute to groundfishers perceptions that the scallop fishery is not as accountable for yellowtail flounder catch, if catches increase as a result of these modifications.

5.5.6.1.2 Modify GB access area seasonal restrictions

5.5.6.1.2.1 Option 1 - Closure period would be modified to provide access during months with highest scallop meat weights to reduce fishing time and scallop fishing mortality

Adopting Option 1 of the alternative to modify GB access area seasonal restrictions would limit fishing in the GB access area to a period of the highest meat weights. Under this option the GB access area would be open for four months from May to August.

Option 1 of this alternative is intended to minimize fishing mortality and decrease the number of individual scallops taken by only allowing fishing during a time of maxim meat weight per scallop. Limiting fishing mortality in the near-term without sacrificing yield will have long-term positive social benefits on the *Size and Demographic Characteristics* of the fishery from higher future catches. In addition to the potential social impacts derived from the future changes in revenue outlined in the economic impacts section of this document, Option 1 of this alternative would constitute a disruption to fishing practices. By disrupting the traditional fishing practices of when and where people fish, Option 1 would have a small negative social impact on the *Historical Dependence on and Participation* in the fishery compared to No Action.

5.5.6.1.2.2 Option 2 - Closure period would be modified to only the months with highest yellowtail flounder bycatch

Adopting Option 2 of the alternative to modify GB access area seasonal restrictions would limit fishing in the GB access area to a period of the lowest yellowtail bycatch. Under this option the GB access area would be open for eight months from January through August.

Option 2 of this alternative would employ area closures during the months of highest YT bycatch which could reduce the likelihood of exceeding the scallop fishery's YT sub-ACL. The perceived security against exceeding the YT sub-ACL and triggering an AM provided by the closure, would allow vessel owners and operators greater confidence in planning their fishing activities having a positive effect on the *Life-style/Non-economic social aspects* of the fishery. Although this Option is primarily intended to reduce the bycatch of YT flounder it also offers fishermen a greater amount of freedom in choosing when to fish in the GB access areas compared to the No Action alternative (three month closure compared to 4.5 month closure under No Action). Some fishermen may feel an improved sense of job satisfaction as an increase in flexibility when choosing when to fish allows them greater control over their fishing

operations. Regardless of any gains to operational flexibility, Option 2 of this alternative could still constitute a disruption to fishing practices. By disrupting the traditional fishing practices of when and where people operate, Option 2 could have a small negative social impact on the *Historical Dependence on and Participation* in the fishery.

5.5.6.1.2.3 Option 3 – Advisory Panel recommendation (Preferred Alternative)

If Option 3 of the alternative is adopted it would only exclude fishing in the CA2 access area during the period of highest yellowtail bycatch. Under this option the CA2 access area would be open for nine months from November 15th through August 14th. CA1 and NL would not have seasonal closures.

This Option is based on the most compelling results from recent observer and RSA monthly bycatch data combined with times of traditional scallop fishing. Compared to the no action alternative, this Option offers much greater flexibility to vessel operators in planning their fishing operations. Some fishermen may feel an improved sense of job satisfaction or wellbeing as the increase of flexibility in choosing when to fish allows them greater control over their fishing operations. Regardless of any gains to operational flexibility, Option 3 of this alternative would still constitute a disruption to fishing practices. By disrupting the traditional fishing practices of when and where people fish, Option 3 could have a small negative social impact on the *Historical Dependence on and Participation* in the fishery.

5.5.6.1.2.4 Eliminate GB access area seasonal restrictions

If this Alternative is adopted all seasonal restrictions would be removed for the GB access areas.

Compared to the No Action alternative and the alternative to modify the seasonal restrictions, this alternative offers the greatest flexibility for vessel operators to plan their fishing operations. The improved flexibility of being able to choose when to fish, free of management control, would have a small positive impact on the *Non-Economic Social Aspects* of the fishery. Removing the GB access area seasonal restrictions may have some negative impacts as well due to vessels operating during periods of high YT bycatch and low meat weights. A temporal shift in effort to these periods could have a negative social impact on the *Size and Demographic Characteristics* of the fishery because of reduced net revenues. The possible increase in YT bycatch could exacerbate conflict with other fisheries, like groundfish, having a negative social impact on the collective fishing community's *Social Structure and Organization*.

5.5.6.2 Measures to address YT flounder bycatch in the LAGC fishery

5.5.6.2.1 No Action YT bycatch in the LAGC fishery – catch under the scallop fishery sub-ACL with no AMs

If the No Action alternative of this measure is adopted there would be no change to the way the current YT bycatch accountability measure is implemented. Currently, catch of YT flounder by both the LA and the LAGC fleet count against the scallop fishery sub-ACL but if an AM is triggered due to excessive YT bycatch, the LAGC fishery is exempt from AMs.

Under the No Action alternative the status quo administration of the YT bycatch AM would have a negative social impact on the scallop fishery's *Social Structure and Organization*. In years

where the scallop sub-ACL for YT is low conflict could arise between the LA and LAGC fleets because only the LA fishery is affected by the AM. Under the No Action alternative the LAGC fleet is without incentive to avoid YT flounder and modify the way in which they fish, which could cause feelings of resentment among operators of LA vessels. In addition, if YT bycatch is higher as a result of no accountability for the LAGC fishery, that could exacerbate conflict with other fishers as well, like groundfish vessels etc.

5.5.6.2.2 YT AMs for LAGC vessels using trawl gear

5.5.6.2.2.1 Southern New England / Mid-Atlantic YT AM

5.5.6.2.2.1.1 LAGC trawl AM for SNE/MA YT Option 1, Area restriction

If Option 1 of this alternative is adopted an area based AM for SNE/MA YT flounder would be developed for LAGC vessels using trawl gear. The AM would cause a prohibition on fishing in statistical areas 612 and 613 by LAGC vessels that use trawl gear and for a period of time designated by the level of the bycatch overage (Table 20, section 2.2.2.2.1.1).

Option 1, in and of itself is an administrative measure that could influence a change in behavior among LAGC vessel operators using trawl gear to avoid the catch of YT flounder. This change in behavior would constitute a small disruption to fishing practices and would have a small negative social impact on the *Historical Dependence on and Participation* in the fishery. If an AM is triggered under Option 1 however, there would be a much greater disruption to fishing practices and a negative social impact on the *Historical Dependence on and Participation* in the fishery compared to No Action. This option may have a greater perceived social impact than Option 2 because it is not as flexible in terms of switching gear types, but it is more flexible than Option 3, thus lower potential social impacts than Option 3.

This AM could also cause a reduction in revenue for these vessels, the magnitude of which would be dependent on what season stat areas 612 and 613 would be closed. The reduction in revenue would lead to a negative social impact to the *Size and Demographic Characteristics* of this portion of the fishery. LAGC vessels operating in statistical areas 612 and 613 that use trawl gear almost exclusively hail from ports in New York and New Jersey, and the social impacts associated with Option 1 would be concentrated in these ports.

5.5.6.2.2.1.2 LAGC trawl AM for SNE/MA YT Option 2, Gear restriction in 612 and 613 (Preferred Alternative)

If Option 2 of this alternative is adopted a gear restriction AM for SNE/MA YT flounder would be developed for LAGC vessels using trawl gear. This AM would be triggered if either the trawl segment of the fishery exceeds 10% of the scallop sub-ACL or if the total scallop fishing sub – ACL is exceeded. If triggered, the AM would cause a prohibition on the use of trawl gear by LAGC vessels fishing in statistical areas 612 and 613 and for a period of time designated by the level of the bycatch overage (Table 20, section 2.2.2.2.1.1). LAGC vessels using trawl gear would be able to change gears and continue fishing these areas.

Option 2, provides a real incentive for LAGC trawl vessels to modify their behavior to avoid the catch of YT flounder as 10% of the scallop sub-ACL is significantly less than what that segment of the fishery has caught in recent years. The expected change in behavior could constitute a

substantial disruption to fishing practices that would have a negative social impact on the *Historical Dependence on and Participation* in the fishery. If an AM is triggered under Option 2 however, there would also be a large disruption to fishing practices and a negative social impact on the *Historical Dependence on and Participation* in the fishery compared to No Action. The potential social impact may not be as great as Option 3 since that would close all of the SNE/MA YT stock. Furthermore, the perceived social impact may not be as great as Option 1 either since with this option a vessel can switch to dredge gear and fish in the AM area if it does not want to be constrained by the AM schedule for trawl vessels.

This AM could also cause a reduction in revenue for these vessels, the magnitude of which would be dependent on what season stat areas 612 and 613 would be closed. The reduction in revenue would lead to a negative social impact to the *Size and Demographic Characteristics* of this portion of the fishery. Vessels would be able to continue fishing if they changed gear but the cost of this change maybe prohibitive for many and some of these vessels may not be suitable to fish with dredge gear. Again LAGC vessels operating in statistical areas 612 and 613 that use trawl gear almost exclusively hail from ports in New York and New Jersey, and the social impacts associated with Option 2 would be concentrated in these ports.

5.5.6.2.2.1.3 LAGC trawl AM for SNE/MA YT Option 3, Gear restriction

Adopting Option 3 of this alternative would develop a gear restriction AM for SNE/MA YT flounder that applies to the entire YT stock area. This AM would be triggered if the total sub – ACL for the scallop fishery is exceeded. If triggered, the AM would cause a prohibition on the use of trawl gear by LAGC vessels fishing in any part of the YT stock area for the entirety of the following fishing year. LAGC vessels using trawl gear would be able to change gears and continue fishing this area.

Option 3, provides considerable incentive for LAGC trawl vessels to modify their behavior to avoid the catch of YT flounder. This change in behavior would constitute a small disruption to fishing practices and would have a small negative social impact on the *Historical Dependence on and Participation* in the fishery. If an AM is triggered under Option 3 however, there would be a much greater disruption to fishing practices and a negative social impact on the *Historical Dependence on and Participation* in the fishery compared to No Action and all other options considered. Almost 99% the fishing by LAGC-IFQ vessels using trawl gear takes place in the SNE-YT stock area, so closing this area to fishing will have considerable negative impact on fishing opportunity for these vessels. The reduction or elimination of fishing opportunity would lead to a negative social impact to the *Size and Demographic Characteristics* of this portion of the fishery. Vessels would be able to continue fishing if they changed gear but the cost of this change may be prohibitive for many.

5.5.6.2.3 YT AMs for LAGC vessels using dredge gear

5.5.6.2.3.1 Southern New England / Mid-Atlantic YT AM (Preferred Alternative)

If this Alternative is adopted an area based AM for SNE/MA YT flounder would be developed for LAGC vessels using dredge gear. This AM would be triggered if the LAGC dredge segment of the fishery exceeds 3% of the scallop sub-ACL and the total sub-ACL is exceeded. If triggered, the AM area for the LAGC dredge fishery would be the same as the AM for the LA

fleet but would be implemented under a different schedule according to Table 21(section 2.2.2.3.1).

The segment of the LAGC scallop fishery using dredge gear catches a relatively small portion (about 1-2%) of the total scallop GB YT sub-ACL. This alternative provides a small incentive for LAGC dredge vessels to continue to modify their behavior to avoid the catch of YT flounder, as 3% of the scallop sub-ACL is larger than what that segment of the fishery has caught in recent years. The potential change in behavior, if any, would constitute a small disruption to fishing practices that would have a negative social impact on the *Historical Dependence on and Participation* in the fishery. If an AM is triggered however, under this alternative there would be a disruption to fishing practices and a negative social impact on the *Historical Dependence on and Participation* in the fishery. In particular for vessels that are homeported near the AM closure area. Most LAGC vessels fish near their homeport, so vessels that would be the most affected are from Long Island, NY, and ports in CT and RI (Table 63 in Appendix I).

5.5.6.2.3.2 Georges Bank YT AM

If this Alternative is adopted the Georges Bank YT AM that now applies to the LA fleet (Table 22, section 2.2.2.3.2) would also apply to the LAGC fleet. Very little LAGC dredge effort occurs in the GB stock area, and none in the GB YT AM area, so it is likely that this alternative would not have any social impact on this fleet, even if an AM was triggered.

Note that the Council selected No Action (2.2.2.1) for a GB YT AM for the LAGC dredge fishery.

5.5.6.3 Timing of AMs for the scallop fishery YT flounder sub-ACL

5.5.6.3.1 No Action timing of YT AMs – AMs trigger in subsequent year (Year 2)

If the No Action alternative is adopted for this measure, there would be no change in the timing of when YT AMs are implemented. Currently YT AMs are triggered in the subsequent year (year 2) but they can be modified once the previous year's yearend YT catch is calculated. Not knowing if an AM will be triggered makes it difficult for vessel owners and operators to plan their fishing activity for the subsequent year. The perceived uncertainty in whether an AM will be triggered and the inability of vessel owners and operators to then plan their fishing activities has a negative effect on the *Life-style/Non-economic social aspects* of the fishery.

5.5.6.3.2 AMs trigger in Year 2 (if reliable data available mid-year) or Year 3 (after a full year of data available) (Preferred Alternative)

If this Alternative is adopted a yellowtail flounder AM could still be triggered in year 2, but only if reliable information indicated that the YTF sub-ACL had been exceeded. If reliable information was not available to make a mid-year determination, the implementation of an AM would be postponed a year so as to allow for a year end determination based on a full year's data.

Compared to the No Action alternative, this Alternative offers vessel operators and owners a greater level of certainty about whether an AM will be implemented in the following year. The additional perceived security provided by a delayed AM implementation in the case of incomplete data, would reduce uncertainty in an individual's future planning of fishery

operations which will have a positive effect on the *Life-style/Non-economic social aspects* of the fishery.

5.5.7 Measures to improve the flexibility and efficient use of LAGC IFQ by allowing transfer of quota mid-year

5.5.7.1 No Action – Sub-leasing and leasing IFQ during the year (if portion fished) is prohibited

Adopting the No Action alternative of this measure would maintain the current prohibition on leasing and sub-leasing IFQ during the fishing year if any portion of the allocation has been fished.

Maintaining the restrictions on leasing and sub-leasing quota devalues a LAGC permit by reducing its transferability. The No Action alternative promotes uncertainty among lessors because it offers permit owners only one opportunity a year to transfer their fishing rights. The No Action alternative also promotes uncertainty among lessees as once they lease quota they will be unable to sub-lease any unused quota. This alternative stifles the trade of quota causing uncertainty about trade that can then affect a permit owners' ability to plan their fishing operations. Uncertainty in the planning of fishing operations will have a negative effect on the *Life-style/Non-economic social aspects* of the fishery.

5.5.7.2 Allow transfer of LAGC IFQ during the year (Preferred Alternative)

If this Alternative is adopted there would be no prohibition on leasing and sub-leasing IFQ during the fishing year if any portion of the allocation has been fished. Removing the restrictions on leasing and sub-leasing quota would increase the tradability of quota in the LAGC fishery. Compared to the No Action alternative, this alternative would reduce uncertainty among both lessors and lessees because it removes the limits on further trading quota. By reducing the uncertainty surrounding the decision to lease quota this action facilitates the planning of fishing operations which will have a positive effect on the *Life-style/Non-economic social aspects* of the fishery.

5.5.8 Measures to expand the current observer set-aside program to include LAGC vessels in open areas

5.5.8.1 No Action – LAGC observed trips in open areas are not under the scallop observer set-aside program – directly funded by NMFS

If the No Action alternative is adopted observed LAGC trips in open areas will continue to be funded by the NMFS observer program. Because there is a finite amount of federal funding for observer coverage, maintaining NMFS funding would continue to limit the amount of information that could be gained from observed LAGC open area trips which would in turn limit the accuracy of estimated discards. Maintaining this method of funding for LAGC open area trips would also retain the differential status of the LAGC fleet. The perceived inequity could cause resentment or conflict between fishing groups, another negative social impact in the form of changes to *Social Structures and Organizations*.

5.5.8.2 Include open area trips by LAGC vessels under the current observer set aside program (Preferred Alternative)

Adopting this Alternative would change the current industry-funded observer set aside program to include observed LAGC open area trips. Under this alternative, observed LAGC trips in open areas would be funded by the individual vessels carrying an observer. The vessels would then be compensated from the observer set-aside program, by either additional pounds of quota or DAS in open areas to help defray costs.

Compared to the No Action alternative, this alternative would increase the amount of observer coverage available on LAGC trips in open areas which would increase data quality and possibly management. Increasing the observer coverage would allow for more accurate monitoring of catch and discards which would provide some small positive social impacts with regard to the formation of *Attitudes and Beliefs* about government/management. It is also possible that increased observer coverage could lead to negative social impacts with respect to fishermen's *Historic and Present* participation and *Life-style/Non-economic social aspects* of the fishery. Although attitudes regarding observers vary, carrying an observer on a fishing trip is generally thought of as an inconvenience, causing a disruption in fishing practices and creating a social environment in which fishermen feel spied upon and ill at ease. If the set-aside program is insufficient to off-set the cost of carrying an observer, an LAGC vessel with an observed trip in an open area would have to pay for the observer without compensation. This would increase costs for vessels and have negative social impact to the *Size and Demographic Characteristics* of the fishery due to reduced revenues, crew and owner share.

5.5.8.3 Modify the observer set-aside allocation

5.5.8.3.1 No Action observer set aside allocation – 1% of ABC/ACL

If the No Action alternative of this measure is adopted, the observer set-aside allocation would remain 1% of the ABC/ACL divided proportionally among the access areas and open areas. Under this action any observed trips in an area where the observer set-aside compensation had been exhausted, the cost of the observer coverage would be borne by the vessel. Without compensation to defray observer costs a vessels operating costs would increase having a negative social impact to the *Size and Demographic Characteristics* of the fishery due to reduced revenues, crew and owner share.

5.5.8.3.2 Same allocation (1% of ABC/ACL) but not area specific (Preferred Alternative)

If this Alternative is adopted the observer set-aside allocation would remain 1% of the ABC/ACL divided proportionally among the access areas and open areas, but there would also be a mechanism to transfer set-aside between areas. Compared to the No Action alternative, this alternative would provide greater assurance that the cost of observed trips would be covered by set-aside resources because they can be transferred between areas. The assurance that vessel owners will not be responsible for observer costs would likely have a positive social impact on the formation of *Attitudes and Beliefs* regarding government and the management process.

5.6 IMPACTS ON NON-TARGET SPECIES AND OTHER FISHERIES

5.6.1 Acceptable Biological Catch

Under "No Action" for FY 2013, the overall ABC for each year would be identical to that of the default FY 2013 ABC for the fishery of 63.3 million pounds (28,700 mt), after accounting for discards. Under the preferred alternative, the ABC would be 21,004 mt for FY 2013 and 23,697 mt for FY 2014. This action is setting the ABC for the scallop fishery for FY2013, and default ABC for FY2014.

Although it is the foundation upon which the ACL values are based, the specification of the ABC itself is largely administrative in nature, and any change in impacts to bycatch and other fisheries are instead attributable to the ACL specifications, including how the ACLs are distributed among vessels and areas. Therefore, neither the No Action ABC, nor the preferred alternative ABC, are expected to have impacts on bycatch and other fisheries.

5.6.2 Summary of impacts from LA specification alternatives under consideration

The Council considered a total of 5 allocation alternatives: Four alternatives proposed the same number of DAS, but differed on the number of access area trips and which areas would be open in FY 2013. One alternative (Alternative 1) proposed that full-time vessels would receive two access area trips at 13,000 lb into three access areas (i.e., HC, CA1, and CA2); another alternative (Alternative 2; the proposed alternative) offered the identical number of access area trips as Alternative 1, but included access into NLS as well as HC, CA1, and CA2. The remaining two alternatives offered full-time vessels one trip at 18,000 lb, which would be randomly assigned to one of two access areas (Alternative 3) or one of four areas (Alterative 4). The fifth alternative considered by the Council was the No Action alternative, which would allow full-time vessels 4 access area trips at 18,000 lb per trip and offers lower DAS allocations than the other alternatives (26 DAS, compared to 33 DAS).

The biological projections the Scallop PDT prepares for specification packages includes an estimate of area swept and DAS used. Area swept is a calculation of the square nautical miles expected to be covered by scallop fishing gear under the various allocation scenarios. Similarly, DAS fished is an estimate of the total "days fished" by the fleet under the various scenarios. These elements can be used to assess the potential impacts on bycatch from the measures under consideration compared to No Action (Section 5.1.2.3 of bio impacts section). Overall, all alternatives under consideration have substantially lower estimates of area swept and total DAS fished compared to No Action, which means fewer impacts to bycatch and other fisheries.

Currently the scallop fishery is estimated to have an area swept of about 5,000 square nautical miles, and all of the alternatives under consideration are well below that value between 3,800 and 4,500 square nautical miles (**Figure 37**). However, the allocations under No Action would actually increase the projection of area swept to over 6,000 square nautical miles. Increased area swept translates into more time fishing gear is in the water, increasing potential impacts on bycatch. All the allocation alternatives under consideration, especially Alternative 4, have lower estimates of area swept and DAS fished, thus potential beneficial impacts on bycatch compared to No Action and current fishing levels.

The total projected catch for the preferred alternative (Alternative 2) is about 30% lower than recent levels in 2011 and 2010. Effort levels under the preferred alternative are about the same as status quo in open areas, 33 DAS proposed for 2013 compared to 32 DAS allocated in 2012. The reduction in overall allocations is from access area effort, not open area effort. In 2012 each vessel was allocated 4 trips at 18,000 pounds per trip (this is the same as under No Action), and under the preferred alternative each vessel would be allocated 2 trips at 13,000 pounds. Therefore, substantially less fishing will occur in access areas in 2013 compared to recent levels and compared to No Action, about 15.5 million pounds less harvest overall.

In addition, under the preferred alternative, the reduced level of access area effort will be spread out over four access areas with lower possession limits. Allocating effort into four areas (Alternative 2 and 4), is expected to help keep scallop catch rates higher compared to spreading similar amounts of effort into only two areas (Alternative 3), or three areas (Alternative 1). Since access area biomass levels are lower than usual, spreading effort out and reducing the possession limit is expected to reduce trip length and overall time fishing gear is in the water, thus potentially reducing associated impacts on bycatch.

There are some differences between the scenarios in terms of potential impacts on specific species because the allocation scenarios vary in terms of where access area effort will occur. In general, all four scenarios have potentially fewer impacts on bycatch compared to current levels and No Action, but there are some differences spatially. For example, the Scallop PDT estimates the catch of GB and SNE/MA YT catch from the various scenarios.

Table 96 summarizes the estimate of GB YT catch including a "medium" estimate, as well as a "low" and "high" estimate to capture the uncertainty in these estimates. The range of 2013 GB YT estimated catch is broad (55.1 mt – 132.0 mt), and is primarily driven by the level of access in Closed Area II. Therefore, the potential negative impacts on GB YT from the scallop fishery would be greater under No Action (132.0 mt) compared to Alternative 4 (55.1 mt) (at the medium estimate). The estimated catch for the preferred alternative, Alternative 2, is about in the middle of this range (85.3 mt). It should be noted that all the alternatives, including No Action, have projected catch levels lower than the current (2012) sub-ACL of GB YT for the scallop fishery (157 mt).

The estimate of SNE/MA YT catch is similar for all the alternatives under consideration (62-66 mt). This level is about half of the 2012 sub-ACL (127 mt) for that area.

Table 96 – Estimate of GB YT catch for the FW24 specification alternatives for 2013 and 2014

	Scallop FW 24 Management Alternative									
	No Action		Alt1		Alt2		Alt3		Alt4	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
LOW	62.4	96.5	46.9	42.6	40.7	65.9	43.4	56.2	26.4	38.1
MEDIUM	132.0	186.0	106.6	123.0	85.3	127.0	90.0	108.0	55.1	71.0
HIGH	237.8	325.2	194.3	234.4	152.8	220.1	161.4	186.7	97.4	121.5

Table 97 – Estimate of SNE/MA YT catch for the FW24 specification alternatives for 2013 and 2014

	Scallop FW 24 Management Alternative									
	No Action		Alt 1		Alt 2		Alt 3		Alt 4	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Low	59.4	61.2	55.8	64.8	59.4	64.8	55.8	64.8	59.4	65.7
Medium	66	68	62	72	66	72	62	72	66	73
High	72.6	74.8	68.2	79.2	72.6	79.2	68.2	79.2	72.6	80.3

- ***2013 RSA fishing in Nantucket Lightship (Section 2.1.2.3.1 and 2.1.2.3.2)***

Alternatives 2.1.2.3.2 and 2.1.2.5.2 contain options to restrict RSA catch in Nantucket Lightship. Option 1 (the preferred option) would place no restriction on RSA catch from NL in 2013. Option 2 would allow RSA compensation fishing in any area open to fishing in 2013 except NL. Overall these measures will not impact bycatch directly since RSA compensation fishing is a set amount (1.25 million pounds) for the fishery overall and that level of effort is a small portion of total scallop catch. It could be argued that prohibiting effort in NL (option 2) would have potential benefits for bycatch species within NL in the short term because that effort would have to be fished in another area. But that effort will shift somewhere, and it is possible some of the RSA compensation fishing will be fished in open areas just outside of NL since many vessels are homeported from New Bedford. Therefore, the overall impacts on bycatch may be similar for options 1 and 2. Overall, RSA compensation fishing is a small percent of the total scallop fishery, so the impacts of option 1 and option 2 on bycatch and other fisheries would be negligible..

5.6.3 Specifications for limited access general category IFQ vessels

The LAGC IFQ allocation under all specification alternatives (Alternatives 1-4) -- are 1010 mt for LAGC vessels and 101 mt for LA vessels with a LAGC permit in FY 2013 and 1,144 mt for LAGC vessels and 114 mt for LA vessels with a LAGC permit in FY 2014 . Compared to No Action, which allocates 1,391 mt for LAGC vessels and 139 mt for LA vessels with an LAGC permit, the overall preferred IFQ allocation is lower. Effort levels in 2013 need to reduce compared to default 2013 levels because updated biomass surveys indicate that overall biomass is lower, especially in access areas. Less effort is potentially beneficial for bycatch since fishing gear would be fishing less. However, some LAGC vessels may increase effort in other fisheries to make up some of the revenue lost from lower scallop quotas.

There are a number of tables in Appendix 1 that summarize information about the LAGC IFQ fishery and their dependence on scallop revenue, and fishing activity in other fisheries. These tables are an indicator of how easily the LAGC fishery could shift effort into other fisheries. In 2011, less than half (43%) of IFQ permitted vessels earned greater than 50% of their revenue from scallops (Table 40 in Appendix I). However, scallops comprised the largest proportion of the revenue for IFQ general category vessels, accounting for 38.6% of these vessels revenue (Table 40 in Appendix I). Table 42 and Table 45 in Appendix 1 both show that a large percentage of vessels in the LAGC fishery have permits in other fisheries and landings of corresponding species. Therefore, there is potential that reduced scallop quotas for the LAGC fishery could increase effort in other fisheries.

It is difficult to predict which fisheries could experience more effort, but over 80% of active LAGC IFQ vessels in 2011 also had permits for bluefish, dogfish, herring, monkfish, multispecies, skate, squid/mackerel/butterfish, and/or tilefish (Table 42 in Appendix I). These fisheries may be at a higher risk for increased fishing effort, but in most cases those plans have separate limits on the amount an individual vessel can harvest or the fishery overall, so impacts would not increase above individual allocations or fishery wide TACs as a result of reduced LAGC quota. Overall, most catch of other species from LAGC vessels is from 50 or less vessels (not necessarily unique vessels for each species)(Table 45 of Appendix I). The species with the highest number of LAGC vessels with landings are: angler, bluefish, and summer flounder (over 75 vessels). About 30-50 vessels landed some amount of one or more species of groundfish (i.e. cod, winter flounder, YT flounder, haddock, Pollock, and redfish).

5.6.3.1 Allocation of fleetwide access area trips to the LAGC IFQ fishery

This action is considering two different alternatives for the allocation of fleetwide maximum trip allocations for LAGC vessels by area. Option 1 (No Action) would allocate 5.5% of each access area's TAC that is available to LAGC vessels and convert that amount to fleetwide trips. Option 2 would take the CA2 trips and prorate them to other access areas open that year because CA2 is too far away for LAGC vessels to access. Option 2 would have negligible impacts on bycatch or other fisheries because very little LAGC effort is currently spent in access areas. Similarly, the No Action would have negligible impacts on bycatch and other fisheries. The level of potential access shifting from Closed Area II to other access areas is very small and if LAGC vessels fish more in access areas they will fish less in open areas.

5.6.4 Northern Gulf of Maine Hard-TAC

This action considered two NGOM TAC alternatives, the No Action alternative (70,000 pound TAC; preferred alternative) and an alternative to reduce the NGOM TAC to 58,000 pounds, based on results of the recent scallop survey of that area. Both of the alternatives considered for the NGOM TAC are expected to have negligible impacts on bycatch or other fisheries. Current fishing levels in the NGOM are well below the current TAC of 70,000 pounds. Therefore, the current TAC or a lower TAC would be unlikely to change fishing effort or impacts to bycatch and other fisheries.

5.6.5 Measure to address delayed implementation of Framework 24

Because of a change in the timing of when FW24 will be implemented, vessels will be permitted to fish under 2013 default allocations from FW22 until FW24 is implemented to replace them, scheduled for in May 2013. For LA vessels the default 2013 allocations include 26 open area DAS and 4 access area trips while the default 2013 LAGC allocation is about 3.4 million pounds. The default allocation of access area trips are substantially greater than those proposed as alternative specifications in FW24 so the Council considered payback measures to account for this discrepancy.

The payback measures under consideration are expected to have negligible impacts on bycatch or other fisheries. They are designed to reduce incentive for vessels to fish above FW24 allocation levels due to the delayed implementation of FW24, after March 1 the start of the fishing year. If the Council decided not to include any payback measures (No Action), catch of

non-target species could increase due to higher area swept (e.g., more fishing in access areas than allocated under Framework 24 allocations).

5.6.6 Measures to refine management of YT flounder bycatch in the scallop fishery

5.6.6.1 Modification of GB access area seasonal restrictions

The No Action would continue to seasonally close GB access areas from February 1 through June 14. The other alternative considered would adjust the GB closure schedule so that it more correctly correlates with when yellowtail catch rates are highest. This alternative includes five options: No Action, Options 1-3, and elimination of the seasonal restrictions (Option 4). Option 1 would close all three access areas from Sept 1 – April 30, Option 2 would close all three areas from September – November and Option 3 would only close CA2 from August 15-November 15; neither CA1 nor NL would have a seasonal restriction. Finally, Option 4 would simply eliminate the GB access area seasonal restrictions.

Because Framework 24 includes alternatives to modify the GB access area (CA1, CA2, and NL) seasonal restrictions (Section 2.2.1), this action is also a joint framework with the NE Multispecies FMP (Framework 49). Appendix III is a more detailed description of the analyses used to develop and assess the impacts of the alternatives considered for modifying the GB access area seasonal restriction. Included at the end of that appendix are two separate documents prepared by the Groundfish PDT that assess the potential seasonal patterns of GB YT and northern windowpane flounder in portions of CA1 and CA2 scallop access areas.

The Groundfish PDT met on October 12, 2012 and reviewed the alternatives under consideration. They used several sources of information when considering the potential impacts of the alternatives. The GF PDT discussion focused on two issues: 1) the likely effects of changing the access dates on catches of yellowtail and windowpane flounder; and 2) the likely effects of changing the access dates on the effects of scallop fishing on yellowtail flounder spawning activity.

Catches of YT and Windowpane

The main source for information on seasonal differences in scallop dredge catches of yellowtail and windowpane flounder are the two papers prepared by Steve Correia on the GF PDT (Included at the end of Appendix III). These papers analyze data from an ongoing experiment that uses commercial scallop dredges to sample stations in CAI and CAII (Smolowitz et al, 2012). The conclusions are comparable to a different analytic approach used by the Scallop PDT. Because of inconsistent sampling of stations in CAI, the GF PDT does not believe that conclusions can be drawn about seasonal changes in catch rates. Only some of the stations in this area were sampled each month and they cover only part of the area fished by the scallop industry. In CAII, most of the stations were sampled each month and generally the stations not sampled were in areas that are not typically fished by scallop vessels. The stations used for the analyses are shown in Figure 1 from the PDT report. The results cited below are only applicable for the consistently sampled stations.

- Closed Area II - The experimental results indicate that yellowtail flounder catch rates per tow are lowest in the May – July period, and are highest in the August – October period.

Pairwise comparisons of catch by month indicate that catch rates in August – October are significantly different (higher) than catch rates from March through July. Catch rates in May/June/July are not significantly lower than catch rates in March and April (**Figure 6**). In CAII, windowpane flounder catch rates peaked in March. Other months where catches wee high included April and December. Windowpane flounder catches were lowest from June through September (**Figure 41**).

- Closed Area I - The months with the highest discard rates are May, June, July, and December; months with lower rate are April, August, and September. Because of small sample sizes and inconsistent sampling, the GF PDT does not believe that statistical inferences are sound for this area.

- Nantucket Lightship - There is no new information for the seasonal trends of yellowtail flounder catches in the NLCA. Analyses in FW 11 (1999) concluded that catch rates were highest in the spring and early summer.

Spawning impacts

Numerous sources document that yellowtail flounder spawning on GB peaks in May and June on Georges Bank (Johnson DL, et al, 1999). However, there is little detailed information on the location of spawning aggregations. There is no information on whether fishing activity – including scallop dredges - interferes with spawning behavior of yellowtail flounder. This is different than the case for cod, where some studies suggest that fishing activity disrupts spawning activity. Therefore, it is not possible to assess the direct impacts of scallop fishing on GB on YT flounder spawning.

Since the mid-1990's, the NMFS surveys have indicated that yellowtail flounder is primarily located in survey stratum 16, which overlaps CAII. In the last four or five years there has been some expansion into stratum 13. If yellowtail flounder aggregated in CAII during spawning season, though, the expectation would be that the catch rates in the ongoing scallop dredge experiment would peak in May and June. This was not the case in 2010 and 2011; as shown in Figure 2 of the PDT report, catches in May and June were lower than in other months. While a high percentage of fish in these months were developing or ripe and running, the lower bycatch rates observed in CA2 suggests that spawning aggregations may be located elsewhere.

Figure 40 - Boxplots of yellowtail catch (lb) +1 per two in closed area II by month for 2011. Y-axis scale is logarithmic. Black dots are medians and non-overlapping notches indicate approximately 95% confidence interval for differences in median. Folded notch for July indicates that notch for that month may not be reliable. Red line is median yellowtail catch rate for all months pooled. No sampling occurred in January, February or November in 2011.

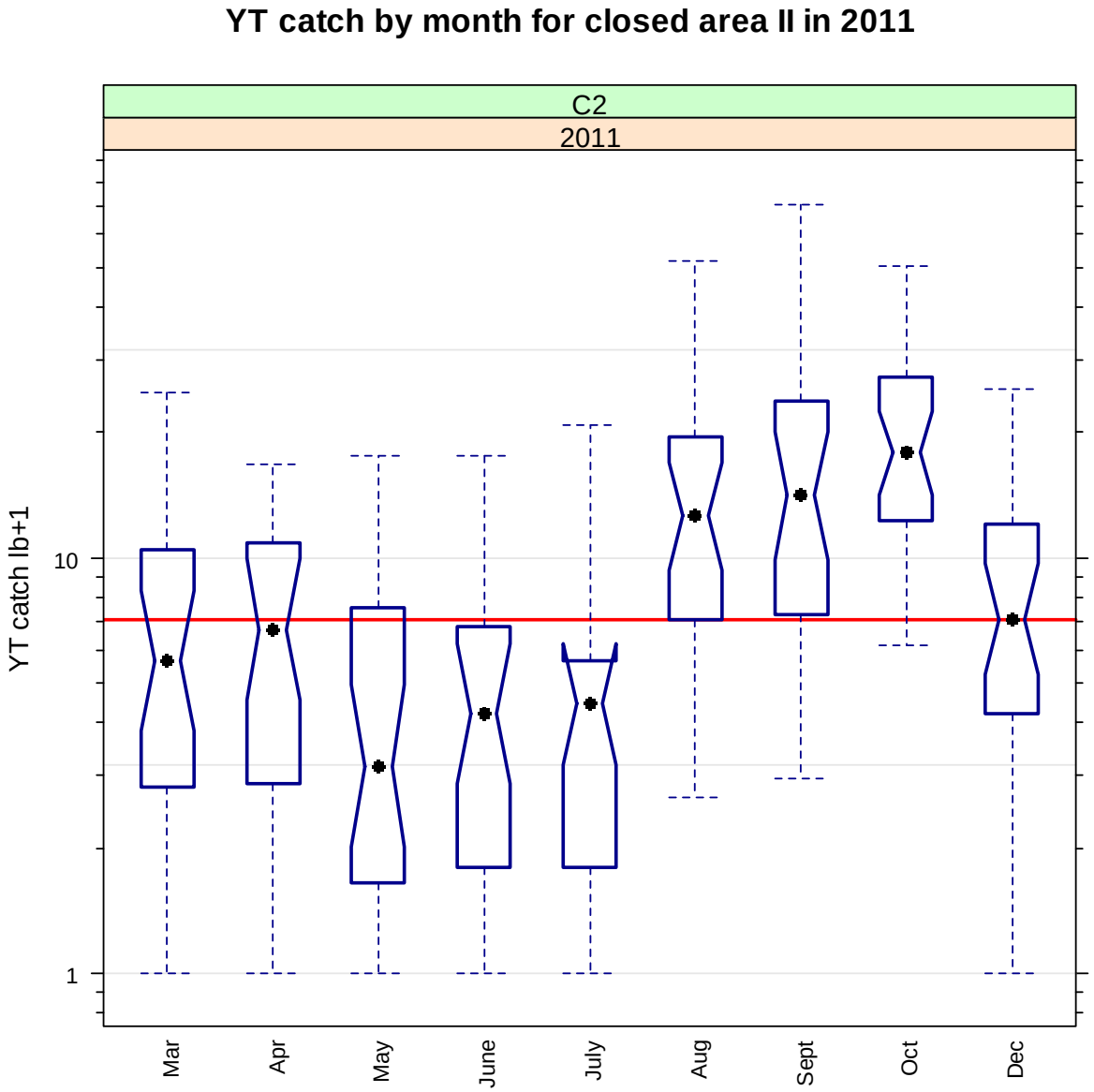
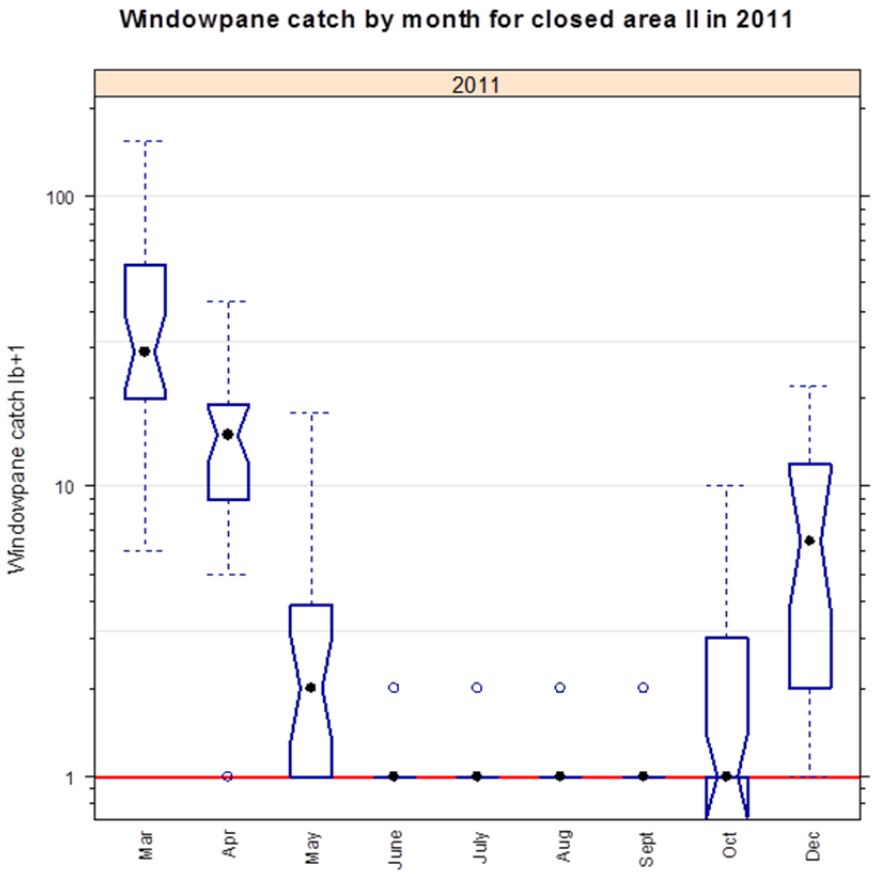


Figure 41 - Boxplots of windowpane catch (lb) +1 per two in closed area II by month for 2011. Y-axis scale is logarithmic. Black dots are medians and non-overlapping notches indicate approximately 95% confidence interval for differences in median. Folded notch for October indicates that notch for that month may not be reliable. Red line is median windowpane catch rate for all months pooled. No sampling occurred in January, February or November in 2011.



Summary of GF PDT input

1. For CAII - From the standpoint of groundfish bycatch, the months of May, June, and July appear to be those most likely to minimize catches of YTF and windowpane flounder. For YTF, the months of August – November should be avoided to reduce catches of YTF. For WINP, the months of March and April should be avoided.

2. At present, scallop fishery catches of GOM/GB windowpane flounder are small but not inconsequential. In FY 2011, catches were estimated as 33 mt out of the total catch of 161 mt, or 20 pct. The scallop experiment catch per tow in CAII increased by a factor of ten in March and April when compared to June and July. This is a concern as the ACL

was exceeded in FY 2011 and the stock is overfished. It is possible that allowing dredge activity in CAII in March and April could accelerate the need to allocate a sub-ACL for this stock to the scallop fishery.

3. From the standpoint of avoiding any possible interference with YTF spawning, the months to avoid fishing in GB access areas are May/June. However, to date the PDT has not found research on the impacts of fishing activity on YTF spawning and no research is available that identifies specific spawning locations within the CAI or CAII scallop access areas. The PDT also notes that FW 48 will consider allowing groundfish sectors to request access to parts of CAI, CAII, and the NLCA between May 1 and February 15; the PDT is doubtful that scallop dredges will have greater impacts on spawning activity than groundfish trawls.

4. Options 1 and 3 address concerns over GOM/GB windowpane flounder to some extent. Options 2, 3, and 3B would reduce activity in CAII during the period when yellowtail flounder catch rates would be expected to be highest.

5. In the context of a system that allocates a sub-ACL to the scallop fishery, it can be argued that the seasonal differences in catch rates are unimportant as long as the scallop fishery is held to the sub-ACL through effective AMs. The PDT notes, however, that the Council may base the allocation on the amount the scallop fishery is expected to catch. In this case, then, moving the fishery to periods of lower catches may benefit the groundfish fishery by reducing the expected catch. More problematic is the difference in accountability between the two fisheries. If the scallop fishery exceeds its sub-ACL, and this leads to an overage of the overall ACL, the provisions of the US/CA Understanding require a 1 for 1 reduction in the quota the following year. This immediately results in a reduction in the quota available to the groundfish fleet, even if that fleet stayed within its sub-ACL. The scallop fishery AM, on the other hand, does not get implemented until the following year and while it may limit access to certain areas it does not necessarily reduce overall scallop fishing effort.

5.6.6.1.1 No Action

The No Action would have mixed impacts on bycatch and other fisheries. This season allows scallop fishing in the early fall when YT catch rates are highest, having potentially negative impacts on YT bycatch. It also keeps the area closed in May and early June when scallop meats are larger, so the same possession limit could be fished faster, having less potential impacts on YT bycatch. However, impacts of No Action for windowpane flounder may be beneficial because it keeps GB access areas closed during the months with highest windowpane bycatch rates (March and April).

5.6.6.1.2 Modify GB Access area seasonal restrictions (Options 1, 2, and 3(Preferred Alternative)

Overall, the preferred alternative (Option 3) closes the access area with the highest YT impacts (Closed Area 2) during the months with the highest YT catch rates (August 15 – November 15). However, the preferred alternative opens the GB access areas during the months when

windowpane catch rates are highest (March and April). Compared to No Action, the preferred alternative may increase scallop fishery catches of GOM/GB windowpane flounder because the area will be open in March and April. Whether catches of this stock increase will depend on how much scallop fishing activity shifts into March and April. This stock is currently overfished and subject to a rebuilding plan. The ACL has been exceeded for two years; the groundfish fishery AM for this stock was recently modified to improve its effectiveness. Increased catches of windowpane flounder by the scallop fishery could exacerbate overfishing on this stock and may lead to a requirement to adopt a scallop fishery sub-ACL and AMs for GOM/GB windowpane flounder.

This change in seasons under the preferred alternative, however, could lead to reduced catches of GB YTF from CA2 compared to No Action because the area will be closed in August-November, a period when catch rates of this species are higher. Similar to the case for windowpane flounder, whether catches of yellowtail flounder actually decline will depend on how much effort shifts away from the periods of higher catch rates and into the spring when catch rates are lower. Prior to 2012, there was usually little scallop fishing effort in CA2 during the fall. This may have been due to vessels completing closed area access trips as early as possible to avoid losing the trips due to a closure caused by the yellowtail flounder access area cap. This cap was removed, and in FY 2012 additional effort occurred in the area in the early fall. This recent experience suggests that under current regulations, closing the area may reduce yellowtail flounder catches.

Compared to the No Action alternative, this option would be expected to reduce yellowtail flounder catches by the scallop fishery because the closures correlate with times of known highest YTF catch rates, but would be expected to increase GOM/GB windowpane flounder catches. Both stocks are overfished and are in rebuilding plans.

Option 1 address concerns over GOM/GB windowpane flounder to some extent, therefore has beneficial impacts for the bycatch of that species compared to other options considered (2, 3, and elimination of seasonal restrictions). The No Action alternative also closes the areas in March and April, so impacts of Option 1 are similar in terms of potential impacts on windowpane flounder. Options 1, 2 and 3 would reduce activity in CAII during the period when yellowtail flounder catch rates would be expected to be highest, having potentially positive impacts on that species compared to No Action, which is open to the scallop fishery in late Aug-November. Therefore, Options 1-3 may have beneficial impacts on YT compared to No Action, again depending on how much fishing activity shifts away from periods of higher catch rates.

5.6.6.1.3 Eliminate the seasonal closure restriction

Completely eliminating the seasonal restrictions could have negative impacts on bycatch compared to No Action, and the other options considered (Options 1-3). Scallop vessels may fish during highest scallop meat weight periods (May-August), which is not the time of year with higher catches of YT (late Aug-early Nov) or windowpane (March and April), but they may not. If vessels decide to fish during higher bycatch periods impacts on groundfish bycatch could increase under this option.

5.6.6.2 Measures to address YT flounder bycatch in the LAGC fishery

This action considered several alternatives to implement AMs for the LAGC fishery. Overall, the GF PDT has commented in the past that having a segment of a fishery without an AM potentially increases the risk of a sub-ACL being exceeded.

5.6.6.2.1 No Action

Under No Action, the LA scallop fishery is the only segment of the scallop fishery subject to YT AMs. If LAGC vessels are not subject to AMs, there is less incentive for those vessels to reduce YT bycatch. Therefore, the No Action would potentially result in negative impacts on YT catches and associated fisheries.

5.6.6.2.2 YT AM for LAGC vessels using trawl gear

Allocation of a sub-ACL and associated AMs should help reduce bycatch of YT overall. As such, the inclusion of AMs for the LAGC trawl fishery (preferred alternative) in SNE/MA would further improve accountability of YTF catch in the scallop fishery and could result in decreases in YTF catch compared to No Action. AMs could cause effort shifts that impact other bycatch species, but it is difficult to predict when and where these shifts would occur .

This action considered three options for a SNE/MA YT AM for the LAGC trawl fishery. Option 1 is an area restriction that would not allow a vessel to switch gear type. Option 2 is the preferred alternative and it is a gear restriction in the same area as Option 1 – but it would allow a vessel to switch gear types and fish in the AM area. Finally, Option 3 is a gear restriction for the entire SNE/MA YT stock area if an AM is triggered. All of these options improve accountability for the LAGC trawl fishery and would have positive impacts on bycatch by providing incentives to reduce YT bycatch. The AM area in Option 1 and 2 is in the area with the highest YT bycatch rates for vessels with trawl gear, and the season is focused on the months with the highest bycatch rates. Option 3 would also reduce SNE/MA YT bycatch; it would actually eliminate it from LAGC trawl vessels since it would close the entire stock area to that gear type.,

5.6.6.2.3 YT AMs for LAGC vessels using dredge gear

This action also considered a SNE/MA YT AM for the LAGC dredge fishery, as well as an AM for GB YT; both are preferred alternatives. The AM area for this segment would be the same as the LA dredge fishery (statistical areas 613, 537, and 539), but the schedule would be different and it would only be triggered for this fleet if their catch was more than 3% of the sub-ACL. In general, having an AM should make this fleet more accountable and provide incentive to reduce bycatch, having positive impacts on YT bycatch. However, impacts are small since this segment of the fishery to date has very low catches of GB and SNE/MA YT.

5.6.6.3 Timing of AMs for the scallop fishery YT flounder sub-ACL

5.6.6.3.1 No Action

The No Action would continue to have YT AMs trigger in Year 2, the year after an overage, which has beneficial impacts on bycatch. From a purely YT biological perspective, the impacts of No Action are similar to the preferred alternative described below – bycatch should reduce if AMs are triggered in Year 2 or Year 3.

5.6.6.3.2 AMs trigger in Year 2 (if reliable data available mid-year) or Year 3 (after a full year of data available) (Preferred Alternative)

The preferred alternative, would push the AM to Year 3 if reliable information is not available to implement AMs in Year 2 (if sufficient information is available, the AM would continue to be implemented in Year 2). This approach is consistent with how AMs trigger in the Groundfish plan for non-allocated stocks. However, it does complicate the process for GB YT.

GB YT is a stock that is part of the US/Canada resource sharing agreement. Under the terms if the US/CA Resource Sharing Understanding, an overage of the U.S. quota in one fishing year requires a 1:1 reduction in the quota in the immediately following year. The only regulatory mechanism to reduce the quota is to reduce allocations to the groundfish fishery as both sectors and common pool vessels are now subject to quotas. As a result, whether the overage is caused by groundfish fishing vessels or not, the groundfish fishery will be subject to reduced quotas for any overage that occurs. If the overage in year one is caused by the scallop fishery exceeding its sub-ACL, and AMs are not implemented until year three because reliable catch information is not available as proposed by this option, then there may be an increased chance of the scallop fishery exceeding their sub-ACL in the second year. If that were to occur, then the groundfish fishery would again be subject to reduced quotas in year three. By potentially delaying any AM for the scallop fishery until two years after an overage, this option increases the risk that the ACL (as reduced for any overage, if necessary) will be exceeded in successive years, and places the burden of the quota reductions that follow on the groundfish fishery. This would be the case even if the overage is due to scallop fishing.

This would not be the case to the same extent if a measure in Framework 48 is adopted. The Council approved a measure in FW48 at the December 2012 Council meeting that would align any accountability measure (AM) in the case of an overage of the US/CA Georges Bank yellowtail flounder TAC, to adjust the sub-ACL of the component of the fishery that caused the overage. Specifically, if the scallop fishery caused the total US YT TAC to be exceeded, the AM would be adopted for that fishery when reliable information is available, but the sub-ACL of the scallop fishery would be reduced in the subsequent year, not the other components. If this measure is approved it will reduce the potential inequity that currently exists in the regulations that hold the groundfish fishery responsible for any overage of the GB YT stock.

This change, however, may result in less control over catches of GB yellowtail flounder in the year after an overage that is caused by the scallop fishery, unless the scallop fishery AM is implemented in the year immediately following the overage. Reducing the scallop fishery sub-ACL due to an overage without implementing the AM does not impose additional constraints on scallop fishery catches of GB yellowtail flounder. As an illustration, if scallop fishing activity on GB in the second year was planned to be identical to that in the year that resulted in an overage, then the expectation is that catches would be similar and because the sub-ACL for the fishery was reduced the overage would be even larger in the second year. While if this were to occur the implementation of the AMs in year 3 and year 4 would address the issue in the future, the fact that the U.S. might exceed its GB yellowtail flounder allocation for two years in a row may cause difficulty with the U.S./Canada Resource Sharing Understanding.

From a biological and U.S./Canada Understanding perspective, however, as long as an overage leads to AMs that reduce catch in the following year, the specific fishery that is modified to achieve the reduction is immaterial. While it may be an equity concern if one fishery is constrained due to an overage by another fishery, the biological results should be similar under either alternative..

5.6.7 Measures to improve the flexibility and efficient use of LAGC IFQ

5.6.7.1 No Action

Currently, if a vessel with a LAGC IFQ permit has landed any scallops during a fishing year, it is prohibited from leasing out quota. In addition, IFQ can only be transferred once during a given fishing year, i.e., sub-leasing is not permitted. Applications for IFQ transfers must be submitted 30 days before the date on which the applicants desire to have the IFQ effective. These provisions do not apply to vessels that have both a LAGC IFQ and LA scallop permit, as these vessels are prohibited from leasing LAGC IFQ altogether. These measures are administrative and do not have direct impacts bycatch and other fisheries, positive or negative.

5.6.7.2 Allow transfer of LAGC IFQ during the year (preferred alternative)

This alternative would allow sub-leasing and transfer of quota after an LAGC IFQ vessel landed scallops (implementation with other framework measures) and would allow IFQ to be transferred more than once (implementation delayed until March 2014). IFQ ownership and vessel caps would still apply. This measure is administrative in nature and would not be expected to have any direct effects on bycatch and other fisheries compared to the No Action.

5.6.8 Measure to expand the current observer set-aside program to include LAGC vessels in open areas

5.6.8.1 No Action

Currently, LAGC vessels are not covered under the observer set aside program when fishing in open areas, and coverage is paid for by NMFS. Under the observer set aside, the vessel pays for the coverage if selected to be observed, but they are given additional pounds of catch or DAS to offset the cost. The No Action would have negligible impacts on bycatch and other fisheries, but potentially indirect negative impacts due to limited observer coverage of the LAGC fishery. The LAGC fishery may have more or less bycatch that current estimates suggest, and increased coverage would help define bycatch from this segment of the fishery more precisely.

5.6.8.2 Include open area trips by LAGC vessels under the current observer set aside program (preferred alternative)

This alternative would include LAGC vessels fishing in open areas in the observer set aside program. Vessels would receive additional quota on a per-trip basis that could not be transferred to another vessel, but could be used on a subsequent trip. This measure is expected to increase observer coverage for this segment of the fishery compared to current levels under the regular observer program funded by NMFS. In the past, the level of observer coverage for this segment of the fishery has been lower than coverage rates under the scallop industry observer set-aside program. More coverage will hopefully provide more precise estimates of bycatch, which is important for monitoring sub-ACLs. Therefore, positive impacts are expected on bycatch and

other fisheries as a result of improved data collection and monitoring of bycatch through the observer set-aside program under the preferred alternative.

5.6.8.3 Modify the observer set-aside allocation

5.6.8.3.1 No Action

Currently under the No Action the compensation for observer coverage is 1% of the TAC per area available to the fishery (access areas and open areas). The observer set-aside is monitored per area and when it expires, vessels are required to pay for observers if fishing in that area and required to carry an observer. Because this measure is administrative in nature, the No Action is not expected to have any direct impacts on bycatch or other fisheries.

5.6.8.3.2 Same 1% allocation, but not area specific (preferred alternative)

The preferred alternative would enable that set-aside to be shifted around, and all observer set-aside would be under one overall TAC. This measure does not have any direct impacts on bycatch, but could improve the overall observer set-aside program compared to No Action by enabling set-aside to be more flexible by area.

Because this measure is administrative in nature, the No Action and preferred alternative are both expected to have any direct impacts on bycatch or other fisheries. However, the preferred alternative could improve the overall observer set-aside program (thereby improving data collection on non-target species caught in scallop gear) by enabling set-aside to be more flexible by area.

5.7 CUMULATIVE EFFECTS

5.7.1 Introduction

The term "cumulative effects" is defined in the Council of Environmental Quality's (CEQ) regulations in 40 CFR Part 1508.7 as:
"The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

In 1997, the CEQ published a handbook titled, *Considering Cumulative Effects Under the National Environmental Policy Act*. The CEQ identified the following eight principles of cumulative effects analysis, which should be considered in the discussion of the cumulative effects of the Preferred Alternative:

1. Cumulative effects are caused by the aggregate of past, present, and reasonably foreseeable future actions.
2. Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, non-federal, or private) has taken the actions.
3. Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected.

4. It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.
5. Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries.
6. Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.
7. Cumulative effects may last for many years beyond the life of the action that caused the effects.
8. Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accumulate additional effects, based on its own time and space parameters.

The following analysis will identify and characterize the impact on the environment by the Preferred Alternative and alternatives considered in Framework 24/Framework 49 when analyzed in the context of other past, present, and reasonably foreseeable future actions. Summary tables can be found following each of the text sections describing impacts. These tables contain brief summaries intended to distill the more detailed descriptions found in this section, and in Section 4.0 (Affected Environment), and Section 5.0 (Environmental Impacts). To enhance clarity and maintain consistency, the terms in Table 98 are used to summarize impacts.

Table 98 - Terms used in cumulative effects tables to summarize cumulative impacts

Impacts Are Known	Impacts Are Somewhat Uncertain
High Negative/Positive	Potentially High Negative/Positive
Negative/Positive	Potentially Negative/Positive
Low Negative/Positive	Potentially Low Negative/Positive
Neutral	Potentially Neutral
No Impact	

**In some cases, terms like "more" and "most" are used for the purposes of comparing management alternatives to each other.*

5.7.2 Valued Ecosystem Components

This document was structured such that the cumulative effects can be readily identified by analyzing the impacts on valued ecosystem components (VECs). The affected environment is described in this document based on VECs that were identified specifically for Amendment 15. The VECs identified for consideration in Framework 24/Framework 49 include: **Atlantic sea scallop resource; physical environment and essential fish habitat (EFH); protected resources; fishery-related businesses and communities, and non-target species/other fisheries**.

VECs represent the resources, areas, and human communities that may be affected by a Preferred Alternative or alternatives and by other actions that have occurred or will occur outside the Preferred Alternative. VECs are the focus of an EA since they are the "place" where the impacts of management actions are exhibited. An analysis of impacts is performed on each VEC to assess whether the direct/indirect effects of an alternative adds to or subtracts from the effects that are already affecting the VEC from past, present and future actions outside the Preferred Alternative (i.e., cumulative effects).

Changes to the Scallop FMP have the potential to directly affect the sea scallop resource. Similarly, management actions that would alter the distribution and magnitude of fishing effort for scallops could directly or indirectly affect other species and their corresponding fisheries. The physical environment and EFH VEC focuses on habitat types vulnerable to activities related to general category scallop fishing. The protected resources VEC focuses on those protected species with a history of encounters with the scallop fishery, primarily sea turtles. The fishery-related businesses and communities VEC could be affected directly or indirectly through a variety of complex economic and social relationships associated with either the scallop fishery or any of the other VECs. Finally, the non-target species and other fisheries VEC includes impacts on bycatch species and fisheries, primarily flatfish species that are caught in the scallop fishery as bycatch.

The descriptive and analytic components of this document are constructed in a consistent manner. The Affected Environment (Section 4.0) traces the history of each VEC and consequently addresses the impacts of past actions. The Affected Environment section is designed to enhance the reader's understanding of the historical, current, and near-future conditions (baselines and trends) to fully understand the anticipated environmental impacts of the management action proposed in this amendment. The direct/indirect and cumulative impacts of the Preferred Alternative and other alternatives are then assessed in Section 5.0 of this document using a very similar structure to that found in the Affected Environment section. This EA, therefore, is intended to follow each VEC through each management alternative.

5.7.3 Spatial and temporal boundaries

The geographic area that encompasses the biological, physical, and human community impacts to be considered in the following cumulative effects analysis is described in detail in Section 4.0 of this document. The physical range of the Atlantic sea scallop resource in the northeast region of the US is from Maine to North Carolina. The physical environment, including habitat and EFH, is bounded by the range of the Atlantic sea scallop fishery in the northeast region from Maine to North Carolina and includes adjacent upland areas (from which non-fishing impacts may originate). For Protected Species and non-target species, the geographic range is the total range of the Atlantic sea scallop fishery. The geographic range for human communities is defined to be those fishing communities bordering the range of the scallop fishery.

Overall, the temporal scope of past and present actions for scallops, the physical environment and EFH, protected species, non-target species, fishery-related businesses and communities, and other fisheries is focused principally on actions that have occurred since 1996, when the Magnuson-Stevens Fishery Conservation and Management Act was enacted and implemented new fisheries management and EFH requirements. In 1996, the Magnuson-Stevens Act identified sustained participation of fishing communities as a new National Standard (#8), so consideration of fishery-related businesses and communities is consistent within this temporal scope. The temporal scope for marine mammals begins in the mid-1990s, when NMFS was required to generate stock assessments for marine mammals that inhabit waters of the U.S. EEZ creating the baseline against which current stock assessments are evaluated. For turtle species, the temporal scope begins in the 1970s, when populations were noticed to be in decline.

The temporal scope for scallops is focused more on the time since the Council first submitted the Scallop FMP in 1982, and particularly since 1994 when Amendment 4 to the FMP implemented the general category scallop permit. The Scallop FMP was developed with comprehensive analysis as part of a complete EIS, which this document serves to supplement and update. The FMP has been adjusted a number of times since 1982, and many elements of the management plan that are not specifically addressed in this amendment will continue to influence the status of the sea scallop resource.

The Atlantic sea scallop fishery has a long history dating back to the late 1800s. Section 1.3 summarizes the major changes in the scallop fishery and management program since the FMP was approved in 1982. Landings information for the scallop fishery date back to the early 1900s (Serchuck et al, 1979), but the temporal scope for fishery-related businesses and communities extends back to 1994 to consider impacts from the date the general category permit was first issued.

The temporal scope of future actions for all VECs extends several years into the future, the next 1-2 years. This period was chosen because of the dynamic nature of resource management and lack of specific information on projects that may occur in the future, which make it difficult to predict impacts beyond this time frame with any certainty.

5.7.4 Past, present and reasonably foreseeable future actions

Section 4.0 and Appendix I of this document summarizes the current state of the scallop resource and the limited access and general category scallop fisheries, and it provides additional information about habitat protected resources and other fisheries that may be affected by the Preferred Alternative.

5.7.5 Past and Present actions

A summary of the impacts of past and present actions have been considered relative to the VECs in this action and are described below and presented in Table 100.

Scallop Resource

The Council established the Scallop FMP in 1982 and later implemented several Amendments and Framework Adjustments to modify the original plan. See Section 5.6.4 for a detailed description of past and present actions. One major action in the past (1994) includes Amendment 4, which implemented limited access for the directed scallop fishery that is primarily managed by DAS and other controls such as crew limits and gear restrictions. During that same year, large areas on Georges Bank were closed to scallop fishing because of concerns over finfish bycatch and disruption of spawning aggregations.

The Council established the Scallop FMP in 1982. A number of Amendments and Framework Adjustments have been implemented since that time to adjust the original plan, and some Amendments and Framework Adjustments in other plans have impacted the fishery. This section will briefly summarize the major actions that have been taken to shape the current scallop resource and fishery.

Amendment 4 was implemented in 1994 and introduced major changes in scallop management, including a limited access program to stop the influx of new vessels. Qualifying vessels were assigned different day-at-sea (DAS) limits according to which permit category they qualified for: full-time, part-time or occasional. Some of the more notable measures included new gear regulations to improve size selection and reduce bycatch, a vessel monitoring system to track a vessel's fishing effort, and an open access general category scallop permit was created for vessels that did not qualify for a limited access permit. Also in 1994, Amendment 5 to the Northeast Multispecies FMP closed large areas on Georges Bank to scallop fishing over concerns of finfish bycatch and disruption of spawning aggregations (Closed Area I, Closed Area II, and the Nantucket Lightship Area - See Figure 1).

In 1998, the Council developed Amendment 7 to the Scallop FMP, which was needed to change the overfishing definition, the day-at-sea schedule, and measures to meet new lower mortality targets to comply with new requirement under the Magnuson-Stevens Act. In addition, Amendment 7 established two new scallop closed areas (Hudson Canyon and VA/NC Areas) in the Mid-Atlantic to protect concentrations of small scallops until they reached a larger size.

In 1999, Framework Adjustment 11 to the Scallop FMP allowed the first scallop fishing within portions of the Georges Bank groundfish closed areas since 1994 after resource surveys and experimental fishing activities had identified areas where scallop biomass was very high due to no fishing in the intervening years. This successful "experiment" with closing an area and reopening it for controlled scallop fishing further motivated the Council to shift overall scallop management to an area rotational system that would close areas and reopen them several years later to prevent overfishing and optimize yield.

In 2004, Amendment 10 to the Scallop FMP formally introduced rotational area management and changed the way that the FMP allocates fishing effort for limited access scallop vessels. Instead of allocating an annual pool of DAS for limited vessels to fish in any area, vessels had to use a portion of their total DAS allocation in the controlled access areas defined by the plan, or exchange them with another vessel to fish in a different controlled access area. The amendment also adopted several alternatives to minimize impacts on EFH, including designating EFH closed areas, which included portions of the groundfish mortality closed areas.

As the scallop resource rebuilt under area rotation biomass increased inshore and fishing pressure increased by open access general category vessels starting in 2001. Landings went from an average of about 200,000 pounds from 1994-2000 to over one million pounds consistently from 2001-2003 and 3-7 million pounds each year from 2004-2006 (NEFMC, 2007). In June 2007 the Council approved Amendment 11 to the Scallop FMP and it was effective on June 1, 2008. The main objective of the action was to control capacity and mortality in the general category scallop fishery. Amendment 11 implemented a limited entry program for the general category fishery where each qualifying vessel received an individual allocation in pounds of scallop meat with a possession limit of 400 pounds. The fleet of qualifying vessels receives a total allocation of 5% of the total projected (LA and LAGC) scallop catch each fishing year. This action also established separate limited entry programs for general category fishing in the Northern Gulf of Maine, limited access scallop fleet fishing under general category rules, and an

incidental catch permit category that permits vessels to land and sell up to 40 pounds of scallop meat per trip while fishing for other species.

More recently Amendment 15 to the Scallop FMP was implemented in 2011. This action was developed to bring the FMP in compliance with new requirements of the re-authorized MSA (namely ACLs and AMs). The action also considered measures to allow limited access vessels to voluntarily stack or combine permits on one vessel, or lease DAS or trips from each other, but these measures were primarily rejected due to concerns about the potential negative impacts on vessels that do not stack or lease.

Frameworks 21 and 22 primarily set fishery specifications for fishing years 2010-2012. Finally, Framework 23 adopted several measures, most notably requirement of a turtle deflector dredge to minimize impacts of the scallop fishery on sea turtles.

Several actions under the Multispecies FMP have had indirect impacts on the scallop resource. According to Amendment 16 to the Multispecies FMP, a specific portion of the total ABC for YT will be allocated to the scallop fishery as bycatch. Framework 44 allocated 100% of the yellowtail that was projected to be caught to harvest the projected scallop catch for 2010. That action had neutral impacts on the scallop resource for 2010 since the fishery caught less than the YT allocation for both GB and SNE YT, so AMs were not triggered and the scallop fishery was able to harvest all projected scallop catch in 2010 without triggering YT AMs. Framework 44 also set allocations for 2011 and 2012, but at 90% of the projected catch levels. It is not known yet if the YT allocations for 2011 and 2012 will have impacts on the scallop resource and fishery. In Framework 22, the action that set specifications for 2011 and 2012 scallop allocations were set within these YT limits, except the projected catch of GB YT in 2012 is greater than the sub-ACL allocated to the scallop fishery. If AMs are triggered as a result in 2013, there could be impacts on the resource and fishery from effort shifts out of the GB AM area or to different seasons.

Framework 45 to the Multispecies FMP changed the catch cap provisions for haddock so that they would only apply to midwater trawl vessels with a herring permit to maximize the chance for Georges Bank (Area 3) herring TAC to be caught. Overall, this action had no impacts on scallop resource. Amendment 16 modified the rebuilding mortality targets and status determinations criteria. That action also adopted ACL/AM requirements, modified effort controls, expanded sector policies, implemented 17 additional sectors, modified SAPs, and changed DAS and leasing and transferring polices. Overall this action reduced effort so indirect benefits on the scallop resource from reduced discard mortality.

The cumulative impacts of past and present management actions have resulted in substantial effort reductions in the scallop fishery. Sea scallop biomass has mostly increased since 1999, and the resource has not been overfished. It is estimated that area rotation management and allocating effort using ACL management will end overfishing permanently and provide a healthy resource for scallop fishermen to harvest for the long-term. Overall, the realized reductions in effort from past management actions have been positive for the scallop resource.

Physical Environment and EFH

The effects of mobile bottom-tending gear (trawls and dredges) on fish habitat have been recently reviewed by the National Research Council (NRC 2002). This study determined that repeated use of trawls/dredges reduce the bottom habitat complexity by the loss of erect and sessile epifauna and smoothing sedimentary bedforms and bottom roughness. This activity, when repeated over the long term also results in discernible changes in benthic communities, which involve a shift from larger bodied long-lived benthic organisms for smaller shorter-lived ones. This shift also can result in loss of benthic productivity and thus biomass available for fish. Therefore, such changes in bottom structure and loss of productivity can reduce the value of the bottom habitat for demersal fish, such as haddock and cod. These effects varied with sediment type, with lower level of impact to sandy communities, where there is higher natural disturbance to a high degree of impact to hard-bottom areas such as bedrock, cobble and coarse gravel, where the substrate and attached epifauna are more stable. Use of trawls and dredges are common in inshore and offshore areas.

The primary gear used in the scallop fishery is dredge gear; however, there is some otter trawl gear used in the scallop fishery. It is assumed for this analysis that the effects of bottom tending mobile gear, particularly dredge gear, are generally moderate to high, depending upon the type of bottom and the frequency of fishing activities to demersal species affected by this action. These activities, which cause impacts to essential fish habitat for a number of federally managed species in a manner that is more than minimal and less than temporary in nature, have been mitigated by the measures in Amendment 10 and by other actions described in Table 44.

Amendment 10 implemented a series of year-round closed areas to scallop gear to protect EFH in those areas. Furthermore, a gear modification (4-inch ring size) was implemented to reduce mortality on small scallops and reduce contact with the bottom. Total DAS allocated under Amendment 10 were reduced, which had indirect benefits to EFH by reducing overall scallop fishing effort and thus reducing area swept by dredge gear. It should be noted that sea scallop EFH is not considered adversely affected by dredge or otter trawl fishing effort.

Table 99 includes a description of measures implemented by the Council in last major FMP amendments to minimize, mitigate or avoid adverse impacts on EFH.

In Amendment 13 to the Multispecies FMP the New England Council implemented a range of measures to minimize the impacts of bottom trawling in the Gulf of Maine, Georges Bank and Southern New England. In addition to the substantial reductions in days-at-sea and some gear modifications (implemented through Scallop Amendment 10), the Council closed 2,811 square nautical miles (Habitat Closed Areas) to all bottom-tending mobile fishing gear, including scallop dredges. Framework 16 to the Scallop FMP/Framework 39 to the Multispecies FMP updated the Habitat Closed Area boundaries established by Amendment 10 to be consistent with those established by Amendment 13. On August 2, 2005, the portions of Framework 16/39 that modified the habitat closures to be consistent with A13 habitat closed areas were vacated by a court order. As a result, both the Amendment 10 and the Amendment 13 closures remain in effect. Table 44 includes a description of measures implemented by the Council in last major FMP amendments to minimize, mitigate or avoid adverse impacts on EFH, including measures established under other FMPs.

Amendment 15 to the Scallop FMP did modify the EFH boundaries so that habitat closures to the scallop fishery are now consistent with A13 habitat closures. This alternative was chosen to create more consistency between management plans and allow greater access to areas with high concentration of the scallop resource as originally intended in Amendment 10 to the Scallop FMP and Framework 16/39 to the Scallop/NE Multispecies FMPs. The impacts of that change were evaluated in Amendment 15, as well as Framework 16, and overall making the habitat areas consistent is not expected to have impacts on EFH.

The cumulative impacts of past and present EFH related actions have resulted in reduced positive impacts on habitat and EFH, primarily within EFH closed areas.

Table 99 - Description of measures implemented by Council in last major FMP amendments to minimize, mitigate or avoid adverse impacts on EFH.

Measure	Source FMP (implemented by)	Description	Description of Habitat Impacts	Overall Habitat Impact
CLOSED AREA MEASURES				
Mortality Closure	Multispecies	Retention of existing groundfish closed areas in the Gulf of Maine, George's Bank and Southern New England. Addition of Cashes as a year round closure	Year-round closures provide habitat benefits to the areas within the closures. The addition of Cashes Ledge as a year-round closure will benefit EFH. Rare kelp beds are found in that area.	+
Habitat Closed Areas (MPAs)	Multispecies and Scallop	2811 square nautical miles closed to bottom-tending mobile gear indefinitely in five separate closed areas in GOM, GB and SNE.	Significant benefits to EFH by minimizing adverse effects of bottom trawling, scallop dredging and hydraulic clam dredging by prohibiting use.	+
Rotational Area Management (RAM)	Scallop	Amendment 10 implemented a rotational area management strategy which introduced a systematic structure that determines where vessels can fish and for how long. Framework adjustments will consider closure and re-opening criteria.	Expected to have positive effects on habitat because effort on gravelly sand sediment types is expected to decline. In general, swept area is expected to decline in most of the projected alternatives (especially in the Mid-Atlantic region), which could have positive impacts on EFH.	+
Habitat Closed Areas (MPAs)	Monkfish	Amendment 2 closed Oceanographer and Lydonia Canyons to trawls and gillnets on a monkfish DAS.	Precautionary action taken to ensure that any expansion of the monkfish fishery as a result of the other measures in Amendment 2 will not affect sensitive deep-sea canyon habitats for which EFH is designated.	+
EFFORT REDUCTION MEASURES				
Monkfish DAS usage by limited access permit holders in scallops and multispecies fisheries	Monkfish	Retain current requirement for vessels to use both monkfish DAS and scallop or multispecies DAS simultaneously	This alternative relies on the scallop and multispecies management plans to set DAS levels (with the exception of when DAS fall below 40 DAS). As DAS have been reduced by management actions over the past two years, consequent impacts on habitat by the directed monkfish fishery have been reduced proportionally. Further reductions are possible depending on management actions in these two plans.	+
Capacity Control	Multispecies	DAS can be transferred with restrictions and new measures for "reserve days"	Any measure that is intended to reduce the amount of time fishing by mobile gear will likely have benefits to EFH. These measures reduce amount of latent effort as well.	+
DAS Reductions	Multispecies	Mix of adaptive and phased effort reduction strategies. A days (60% of effective effort) B days (40% of effective effort) C days (FY01 allocation).	Reducing DAS will likely benefit EFH by reducing the amount of time vessels can fish.	+

Measure	Source FMP (implemented by)	Description	Description of Habitat Impacts	Overall Habitat Impact
		Provides opportunity to fish on stocks that do not need rebuilding.		
DAS Limits	Scallops	Amendment 10 implemented a new program that allocates specific number of DAS for open areas and controlled access areas.	The total DAS allocation in open areas is significantly less than the Status quo DAS allocation. Less DAS translates into less fishing effort, so positive for EFH. Furthermore, CPUE in controlled access areas is expected to be greater, thus the gear is expected to spend less time on the bottom.	**+**
Possession Limits	Scallops	Reduced possession limit for limited access vessels fishing outside of scallop DAS	Vessels with limited access permits are currently allowed to possess and land up to 400 lbs per trip of shucked scallop meats when not required to use allocated DAS; this measure will reduce possession limit to 40 lbs/trip) and reduce fishing effort by vessels that have been targeting scallops under the higher general category possession limit. Scallops harvested under this provision cannot be sold.	**+**
GEAR MODIFICATION MEASURES				
Minimum mesh size on directed MF DAS	Monkfish	Mobile gear vessels are required to use either 10-inch square or 12-inch diamond mesh in the codend. Gillnets must be at least 10 inches	The mesh size regulations do not have a direct effect on habitat, but may indirectly minimize adverse effects of the fishery on complex bottom types by reducing the ability to catch groundfish, and therefore the incentive to target those fish in hard bottom areas.	**+**
Roller gear restriction	Monkfish	Establishes maximum roller gear diameter size for vessels fishing on a monkfish DAS.	Positive but not significant – sets maximum roller gear diameter equivalent to size currently in use in the area; prevents expansion of trawl effort into complex bottom areas and canyons.	**+**
Four inch rings	Scallop	Increase ring size on scallop dredge rig to 4" everywhere.	Four inch rings will slightly increase dredge efficiency for larger scallops, thus reducing bottom contact time in recently-opened areas where large scallops are abundant, but will reduce catch rates and increase bottom time in areas where medium-small sized scallops are prevalent.	**-/+**
OTHER MEASURES				
Observer Coverage	Multispecies	10% requested by 2006 for each gear type	If observers are able to collect data of interest to EFH management, increased coverage could indirectly benefit habitat.	**+**
TAC Set-Aside for research	Scallop	2% set-aside from TAC and/or DAS allocations to fund scallop and habitat research and surveys	Could indirectly benefit habitat when habitat research is funded and provides better information for future management decisions.	**+**

Protected Species
According to the most recent Biological Opinion (Opinion) issued by NMFS on July 12, 2012, the agency has determined that species not likely to be affected by the Atlantic Sea Scallop FMP or by the operation of the fishery include the shortnose sturgeon, the Gulf of Maine distinct population segment (DPS) of Atlantic salmon, hawksbill sea turtles, and the following whales: North Atlantic right, humpback, fin, sei, blue, and sperm whales, all of which are listed as endangered species under the ESA. NMFS also concluded that the continued authorization of the sea scallop fishery would not have any adverse impacts on cetacean prey, and that it would not affect the oceanographic conditions that are conducive for calving and nursing of large cetaceans. The Opinion determined that the continued operation of the scallop fishery may adversely affect, but is not likely to jeopardize, the continued existence of loggerhead (specifically, the Northwest Atlantic (NWA) DPS), leatherback, Kemp's ridley, and green sea turtles, or the GOM, NYB, CB, Carolina, and South Atlantic DPSs of Atlantic sturgeon.

Because the scallop fishery predominantly uses dredge gear, and dredge gear is not known to pose a bycatch risk for Atlantic sturgeon, it is likely that impacts to Atlantic sturgeon from the fishery will be minor and extremely unlikely that mortalities would result in the event of bycatch in the trawl fishery. As a result, the primary protected species that is potentially impacted by the scallop fishery is sea turtles.

The sea scallop FMP has several measures that minimize impacts on sea turtles. First, a gear modification called a turtle chain designed to minimize impact of takes. This was implemented in 2006. Another major way takes have been reduced is due to general reductions in scallop fishing. In general, scallop effort has declined (e.g., reduced DAS allocations and access area trips) over the years and catch per-unit-of-effort has increased dramatically under area rotation, implemented through Amendment 10 in 2004. Shifts in scallop effort (open area DAS and access area trips) from the Mid-Atlantic region to areas of Georges Bank may have had the effect of reducing potential risks to sea turtles. As the Georges Bank scallop resource is reduced and the Mid-Atlantic areas rebound a reverse shift in effort from an area of low use for turtles to high use areas in the Mid-Atlantic may potentially increase the risk of interactions from current levels. Accordingly, impacts to protected species could shift back and forth over the years under the management scheme implemented under Amendment 10. Since modifications to NEFMC management actions will occur through framework adjustments and plan amendments, they will undergo additional review to assess impacts to protected species. Finally, FW23 to the Scallop FMP required all dredges greater than 10 feet 6 inches fishing in the Mid-Atlantic from May-October to use a turtle deflector dredge (TDD).

There are other sources of human-induced mortality and/or harassment of turtles in the action area. These 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 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.

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 are 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).

Low and Mid-frequency Sonar – See Section 5.6.7.
The factors discussed above, and other factors, potentially have had cumulative adverse effects on most protected species to varying degrees. Because of a lack of cause-effect data, little is known about the magnitude and scope of these factors and how they have contributed to the species' listing.

A number of activities have occurred or are in progress that may ameliorate some of the negative impacts on marine resources, sea turtles in particular, posed by the activities summarized above. Education and outreach are considered one of the primary tools to reduce the risk of collision represented by the operation of federal, private, and commercial vessels.

Other non-scallop fishery actions that have been implemented over the last decade to protect sea turtles include: requiring turtle excluder devices (TEDs) in summer flounder trawls, gillnet mesh-size regulations, prohibitions on the use of pound net leaders, hook and bait requirements for pelagic longline gear, and regulations regarding how to handle sea turtles in such a manner as to prevent injury. Overall, the past and present actions taken in the Scallop FMP as well as other actions have likely had positive impacts on protected resources.

Fishery-related Businesses and Communities
All actions taken under the Scallop FMP have had effects on fishery-related businesses and communities. None have specifically been developed to primarily address elements of fishing related businesses and communities. In general, actions that prevent overfishing have long-term economic benefits on businesses and communities that depend on those resources. Some actions that limit participation, such as the limited entry program that was adopted under Amendment 4 had distributional impacts on individuals and ports that participated in the scallop fishery at that time. While short-term negative impacts may follow an action that reduces effort, past and

present actions had positive cumulative impacts on vessel owners, crew and their families in the scallop fishery by increasing their fishing revenues, incomes and standard of living. The impacts of these past and present actions were also positive for the related sectors including dealers, processors, primary suppliers to the vessels that sell them gear, engines, boats, etc. The increases in gross profits for scallop vessels and in crew incomes have had positive economic benefits on these sectors indirectly through the multiplier impacts. Total landings have increased, catch per unit of effort has increased, and price has steadily increased as well.

The Passamaquoddy Native American Tribe has been awarded licenses in the State of Maine to harvest scallops in state waters since 1998. Since this is a state fishery, the state of Maine monitors these landings. However, the impact of this fishery on the overall scallop resource is minimal because the size of the fleet is small relative to the scallop fleet managed under this FMP.

Non-target Species and Other Fisheries

The non-target species considered for this action are described in Section 4.5. Actions taken by the Council in the Scallop FMP in past and present are mostly positive on non-target species. Specific gear and area restrictions are in place that have reduced bycatch of various non-target species. Effort controls to maintain sustainability in the scallop fishery have reduced effort and increased efficiency of the fleet, which reduces impact on non-target species.

There are also several gear modification in place that have reduced impacts on non-target species. Specifically, since 1999 vessels have been required to use 10” twine top mesh in access areas to reduce finfish bycatch. Under Amendment 10, that requirement was expanded to all areas increasing the benefit of this gear. Amendment 10 also required all vessels to have rings throughout the chain bag that are no less than 4” in diameter. This requirement improves size selectivity and reduces incentive to target small scallops, but it also reduces bottom contact time on DAS because vessels become more shucking limited, so gear is fishing less. This has benefits for non-target species as well since gear is fishing less per DAS.

Amendment 16 to the Multispecies FMP was implemented in May 2010. This action identified a process for setting annual catch limits (ACLs) for all Groundfish species. A sub-ACL will apply to all scallop fishery catches of yellowtail flounder, and is expected to have a positive effect on this and other non-target species.

Framework 44 to the GF plan recognizes the importance of yellowtail flounder to the scallop fishery and provides an incentive for scallop fishermen to reduce their YT bycatch in order to maximize scallop yield. Framework 44 also requires that all limited access vessels be required to land all legal-sized yellowtail flounder, which will improve data quality and thus be beneficial to non-target species.

Multispecies FW45 has had positive impacts on fishery-related businesses and communities in the short term by allowing the LAGC exemption and altering the Georges Bank yellowtail flounder rebuilding schedule.

Amendment 15 is expected to have positive impacts on non-target species, especially YT flounder by establishing AMs in the scallop fishery if the fishery exceeds the sub-ACL of YT. The scallop fishery will be limited to a specific poundage of YT each year, and if it is exceeded, specific areas will be closed the following year to account for the overage.

Framework 21 and Framework 22 to the scallop plan implemented specifications for FY2010-2012, which were similar to FY2009, and these are expected to have a neutral to potentially positive impact on non-target species.

Several modifications have been made under the Multispecies FMP to improve the effectiveness and management of the YT ACL. Framework 47 included several modifications to improve the administration of the YT sub-ACL. First, the cap that limited the catches of yellowtail flounder in the Georges Bank access areas to 10 percent of the ACL was eliminated. This measure had negative impacts on the scallop fishery by causing derby fishing. Because ACLs limit the overall amount of scallops and yellowtail that can be caught, restricting the amount that can be caught in the access areas was viewed to be a redundant rule that is no longer necessary to meet mortality objectives.

Two additional measures were adopted by the Council in Framework 47 to change the administration of the sub-ACL. The first implemented AMs for the scallop fishery only if the overall ACLs for either Georges Bank or SNE/MA are exceeded or, if the total ACL for a given broad stock area is not exceeded but the scallop fishery exceeds its sub-ACL for that area by 50 percent or more. The second uses in-season data, when possible, to recalculate the amount of yellowtail flounder needed in the scallop fishery sub-ACL (Georges Bank only), enabling a transfer to the groundfish fishery, if necessary. Both of these measures are expected to still prevent overfishing of YT flounder by keeping total catch under the overall ACL, but provide flexibility to help optimize yield of both scallops and YT flounder under the constraints of the total ACL.

Table 100 - Summary of effects from past and present actions. (The effects from this action are included in a later table).

Action	Description	Impacts on Scallops	Impacts on Physical Env. and EFH	Impacts on Protected Species and Non-target species	Impacts on Fishery and Communities	Impacts on Other Fisheries
SCALLOP ACTIONS						
Scallop FMP	Restore adult scallop stock and reduce fluctuation in stock abundance	Positive	Positive	Positive	Positive	Positive
Amendment 4	Changed the primary management mechanism from the meat-count standard to an effort control program for all resource areas	Positive	Positive	Positive	Positive	Positive
Amendment 10	Implement area rotation program and other measures to prevent overfishing and minimize impacts on EFH	Positive	Positive	Positive	Positive	Positive
Framework 18	Set management measures for FY2006 and FY2007	Positive	Neutral	Neutral	Positive	Neutral to potentially positive
Amendment 13	Implement the industry funded observer program	Positive	Neutral	Positive	Neutral	Neutral to potentially positive
Framework 20	Implement measure to reduce effort in January and February of 2007	Positive	Neutral	Neutral	Positive	Neutral to potentially positive
SBRM Amendment	Implement a bycatch reporting methodology	Potentially Neutral	No Impact	Potentially Positive	Potentially Neutral	Neutral to potentially positive
Framework 19	Set management measures for FY2008 and 2009, eliminated crew size restriction, LAGC IFQ program, obs and RSA program improvements, and VMS 30-day power down	Positive	Neutral	Neutral	Positive	Neutral to potentially positive
Amendment 11	Limited entry program for the general category fishery	Potentially Positive	Potentially positive	Potentially positive	Potentially positive for some and potentially negative for others	Neutral to potentially positive
Framework 21	Set management measures for FY2010, reduced effort in such a way to minimize sea turtle bycatch as per the BiOp, improvements to LAGC, observer, and RSA programs	Potentially positive	Potentially positive	Potentially positive	Potentially positive	Neutral to potentially positive
Amendment 15	Compliance with ACLs, other measures to make FMP more effective	Positive	Positive	Neutral to Positive	Neutral to Positive	Neutral
Framework 22	Specifications for FY2011 and FY2012	Potentially positive	Potentially positive	Potentially positive	Potentially positive	Neutral to potentially positive
Framework 23	Implementation of turtle deflector dredge and other measures	Slightly positive	Neutral	Positive	Slightly Negative to Slightly Positive	Neutral
SUMMARY OF IMPACTS FROM SCALLOP ACTIONS-		**Positive**	**Positive**	**Positive**	**Positive**	**Positive**
PHYSICAL ENVIRONMENT AND EFH ACTIONS						
EFH Omnibus Amendment	Comply with 1996 SFA to describe and identify EFH and minimize impacts of fishing on EFH	Positive	Positive	Neutral	Neutral	Positive

Action	Description	Impacts on Scallops	Impacts on Physical Env. and EFH	Impacts on Protected Species and Non-target species	Impacts on Fishery and Communities	Impacts on Other Fisheries
(1998)						
A13/A10	Gear effects evaluation, minimize adverse impacts	Positive	Positive	Neutral to Positive	Negative	Positive
A15	Modify EFH boundaries to be consistent	Potentially positive	Neutral	Positive	Positive	Potentially neutral
SUMMARY OF IMPACTS FROM PHYSICAL ENV/EFH ACTIONS –		**Positive**	**Positive**	**Neutral**	**Neutral/Negative**	**Positive**
PROTECTED RESOURCES and NON-TARGET ACTIONS						
Chain mat rule	Gear modification to address turtle bycatch in the Mid-Atlantic	Neutral	Neutral	Positive	Low Negative	Neutral
Gear modifications	Twine top and other gear modifications to reduce finfish bycatch	Neutral	Neutral	Positive	Positive	Potentially positive
GF FMP Actions	A16, FW44, and FW45 have all addressed ACLs and scallop fishery catch of YT flounder	Neutral	Neutral	Neutral to Positive	Negative to Positive	Positive
SUMMARY OF IMPACTS OF PROTECTED SPECIES AND NON-TARGET ACTIONS		Neutral	Neutral	Positive	Neutral to positive	Neutral to potentially positive
FISHERY AND COMMUNITY ACTIONS						
None Specific	N/A	N/A	N/A	N/A	N/A	N/A
OTHER FISHERY ACTIONS						
FMPs and associated actions for Monkfish, Summer flounder, Multispecies, etc.		Neutral to Positive	Positive	Positive	Negative to Positive	Positive
SUMMARY OF IMPACTS OF ALL PAST AND PRESENT ACTIONS ON EACH VEC		**Positive**	**Positive**	**Positive/Neutral**	**Positive/Neutral**	**Positive/Neutral**

5.7.6 Reasonably Foreseeable Future Actions

The impacts of reasonably foreseeable future actions have been considered relative to the VECs in this amendment and are described below and presented in Table 101. Overall, the impacts associated with reasonably foreseeable future actions to the VECs considered in this assessment are neutral and/or considered to be insignificant, as most impacts cannot be predicted at this time.

Scallop Resource

Several reasonably foreseeable future federal fishery management actions may affect the scallop resource. In general, the actions in the foreseeable future are expected to have positive impacts on the scallop resource overall.

Framework 25 to the Scallop FMP will set specifications for fishing years 2014 and default measures for 2015. The Council added one additional issue to that action; AMs for SNE/MA windowpane flounder. Impacts are uncertain on the resource at this time, but in general specifications are set to optimize yield and prevent overfishing with long term beneficial impacts on the resource.

Physical Environment and EFH

In the spring of 2003, the New England Council initiated a Habitat Omnibus Amendment that will be considered Amendment 14 to the Atlantic Scallop FMP. It will also amend the Northeast Multispecies (Amendment 14), Monkfish (Amendment 4), Herring (Amendment 3) Skate (Amendment 2), Red Crab (Amendment 3) and Atlantic Salmon (Amendment 3) FMPs. This omnibus amendment will fulfill the five year EFH review and revision requirement specified in 50 CFR Section 600.815(a)(10). Although it is not known at this time how the recommendations might change fisheries or fisheries management, the intention is to provide additional habitat and species protection where it is needed.

Phase 1 of the EFH Omnibus has been substantially completed by the Council and includes new EFH designations for all species and life stages under management by the NEFMC, designation (but no management restrictions) of several habitat areas of particular concern (HAPC), an evaluation of the major prey species for species in the NEFMC fishery management units (FMU) and an evaluation of the potential impacts of non-fishing activities on EFH. Although the Council has completed Phase 1, the document and corresponding actions will not be submitted for implementation (and, therefore, no Record of Decision will be filed) until the completion of Phase 2 sometime in 2011. The potential exists for changes to the current suite of management measures to minimize adverse impacts on EFH (see Table 44) and/or additional measures to be implemented. The Council added modification of GF mortality closures under Phase II of the EFH Omnibus action. The public will have the opportunity to comment on a combined Phase 1/Phase 2 document before final decisions are made by the Council. The Council is schedule to approve a DEIS in 2013 and the Amendment is scheduled to be implemented in 2014. Most likely, the action will implement a new suite of measures to reduce impacts on habitat and EFH overall, thus positive impacts are expected from this future action.

Protected Species
NMFS recognizes that the specific nature of the interaction between sea turtles and scallop dredge gear remains unknown. The scallop dredge may strike sea turtles as it is fished, and this interaction would remain undocumented. Sea turtles could be taken when the dredge is being fished on the bottom or during haulback. NMFS does not know how the modified gear interacts with sea turtles on the bottom and in the water column. In order to understand the interaction, research is currently being conducted and is expected to continue. This work may provide more information on the interaction between sea turtles and scallop dredge gear in the water.

Currently there is an EIS in development for an Atlantic Trawl Rule to require the use of TEDs in trawl fisheries off the Northeast coast including the scallop trawl fishery. This rule consists of a series of temporal and spatial requirements for TED use. The scoping period has ended for this EIS and it is not clear when decision on this action will be made at this time. It is difficult to determine if there will be cumulative impacts on each VEC because this action is still early in development.

Fishery-related Businesses and Communities
Framework 25 to the Scallop FMP will set specifications for fishing years 2014 and default measures for 2015. The Council added one additional issue to that action; AMs for SNE/MA windowpane flounder. Impacts are uncertain on the resource at this time, but in general specifications are set to optimize yield and prevent overfishing with long term beneficial impacts on the resource and fishery.

Non-target Species/Other Fisheries
Groundfish Framework 48 is considering measures to implement a sub-ACL for southern windowpane flounder to the scallop fishery. If approved, the allocation would be 36% of the total ACL, which should be sufficient to prevent AMs for the scallop fishery under current resource conditions and bycatch rates. Specific AMs will be developed in a future scallop action (Scallop Framework 25), so the potential impacts of those measures are still uncertain. In general, AMs tend to shift effort, which can have negative impacts on the scallop resource and fishery if effort shifts to less favorable areas or seasons with higher scallop mortality rates.

FW48 is also considering the sub-ACL allocation of GB YT for the scallop fishery: 40% of the US ACL in 2013, and a set allocation of 16% for future years. If approved, this could have constraining impacts on future allocations for the scallop fishery, if the overall GB YT ACL is relatively small, like it has been in recent years. For 2013 however, 40% of the GB YT ACL should be sufficient to cover the expected bycatch by the scallop fishery; thus impacts on the scallop resource and fishery from AMs are not expected. A future action will set the actual 2013 GB YT ACL, the only measures in FW48 to date are to identify what the percent allocation should be for the scallop fishery sub-ACL.

Amendment 6 to the Monkfish Plan is considering implementing a catch share system. The Council has begun scoping for this action but it is not clear yet what specific alternative will ultimately be developed. Overall, the impacts under development for the scallop and multispecies plans are likely to have neutral to positive impacts on other fisheries. The impacts of Monkfish Amendment 6 are too uncertain since alternatives are still not developed.

Table 101 - Summary of effects from reasonably foreseeable future actions

Action	Description	Impacts on Scallops	Impacts on Physical Env. and EFH	Impacts on Protected Species	Impacts on Fishery and Communities	Impacts on Non-target species / Other Fisheries
Scallop Actions						
Framework 25	Specifications for 2014 and 2015	Uncertain but generally positive	Uncertain but generally positive	Uncertain but generally positive	Uncertain but generally positive	Uncertain but generally positive
SUMMARY OF IMPACTS FROM SCALLOP ACTIONS-		**Neutral to potentially positive**	**Neutral to potentially positive**	**Neutral to potentially positive**	**Neutral/ potentially positive**	**Neutral/ potentially positive**
Physical Environment and EFH Actions						
Phase I EFH Omnibus	Review EFH designations, consider HAPC alternatives, describe prey species, evaluate non-fishing impacts	Positive	Positive	Neutral	Neutral	Positive
Phase II EFH Omnibus	Review gear effects and minimize adverse impacts	Potentially neutral	Positive	Potentially Neutral	Potentially positive or negative	Neutral to potentially positive
SUMMARY OF IMPACTS FROM PHYSICAL ENV/EFH ACTIONS –		**Positive**	**Positive**	**Neutral**	**Neutral**	Neutral to potentially positive
Protected Resources Actions						
Sea turtle strategy	NMFS program to address incidental capture of turtles in state and federal fisheries	No Impact	No Impact	Positive	Low Negative	Neutral to positive
Atlantic take reduction team	Requirements to reduce interaction with marine mammals	No Impact	No Impact	Positive	Low Negative	No impact
Use of TEDS in trawl gear	Action under consideration that could require the use of TEDs in trawl fisheries off the Northeast coast including the scallop trawl fishery	No Impact	No Impact	Positive	Potentially negative to potentially positive	Neutral to positive
SUMMARY OF IMPACTS FROM PROTECTED RESOURCES ACTIONS		**No Impact**	**No Impact**	**Positive**	**Low Negative**	**Neutral**
Fishery Community Actions						
N/A						
Non-target species Actions						
Multispecies Framework 48	Modify specifications for the fishery and consider changes to accountability measures	Positive to Negative depending on final measures	Positive to Negative depending on final measures	Neutral	Positive to Negative depending on final measures	Positive
Summary of RFFA Impacts		**Neutral to Potentially Positive**	**Neutral to Potentially Positive**	**Neutral to Potentially Positive**	**Neutral to Potentially Positive**	**Neutral to Potentially Positive**

5.7.7 Non-fishing impacts

Non-fishing activities were also considered when determining the combined effects from past, present and reasonably foreseeable future actions. Activities that have meaningful effects on the VECs include the introduction of chemical pollutants, sewage, changes in water temperature, salinity, dissolved oxygen, and suspended sediment into the marine environment. These activities pose a risk to the all of the identified VECs in the long term. Human induced non-fishing activities that affect the VECs under consideration in this document are those that tend to be concentrated in near shore areas. Examples of these activities include, but are not limited to

agriculture, port maintenance, beach nourishment, coastal development, marine transportation, marine mining, dredging and the disposal of dredged material.

Wherever these activities co-occur, they are likely to work additively or synergistically to decrease habitat quality and, as such, may indirectly constrain the sustainability of the managed resources, non-target species, and protected resources. Decreased habitat suitability would tend to reduce the tolerance of these VECs to the impacts of fishing effort. Mitigation of this outcome through regulations that would reduce fishing effort could then negatively impact human communities. This action is not expected to change the impacts on the VECs described above from non-fishing impacts.

The non-fishing impacts discussed in this section (Table 102) include:

- Dredge and fill activities;
- Pollution/water quality;
- Agricultural and silvicultural/timber harvest runoff;
- Pesticide application;
- Water intake structures/discharge plumes;
- Loss of coastal wetland;
- Road building and maintenance;
- Flood control/shoreline stabilization;
- Utility lines/cables/pipeline installation;
- Oil and gas exploration/development/production;
- Introduction of exotic species;
- Aquaculture operations;
- Marine mining; and
- Other potential sources.

Low and mid-frequency sonar may pose an additional threat to protected species. According to the June 2006 National Marine Fisheries Service's Biological Opinion (BO), issued under Section 7(a)(2) of the Endangered Species Act, regarding the effects of the U.S. Navy's proposed 2006 Rim of the Pacific Naval Exercise and the Permits, Education and Conservation Division's proposal to issue an incidental harassment authorization (IHA) for exercises associated with endangered and threatened species, acoustic systems are becoming increasingly implicated in marine mammal strandings. Citing the Joint Interim Report on the Bahamas Marine Mammal Stranding Event of 15–16 March 2000, DOC and the Department of the Navy (DON), 2001, the document discusses that mass strandings in particular have been linked to mid-frequency sonar.

Summarizing various theories associated with the impacts of low and mid-frequency sonar, the BO states that marine mammals become disoriented or that the sound forces them to surface too quickly, which may cause symptoms similar to decompression sickness, or that they are physically injured by the sound pressure. The biological mechanisms for effects that lead to strandings must be determined through scientific research, according to the NMFS document, which also provides an extensive overview of the issue. The Biological Opinion, the IHA permit issued on July 2006 and other related documents are available through NMFS at http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications.

More recent information on the impacts of low and mid-frequency sonar is provided in a request from the U.S. Navy for an authorization under the Marine Mammal Protection Act (MMPA) to take marine mammals by harassment, incidental to conducting operations of Surveillance Towed Array Sensor System (SURTASS) Low Frequency Active (LFA) sonar over a five-year period (72 FR 37404, July 9, 2007).

Federal legislation being debated in Congress could override a lawsuit settlement agreement and exempt the military from the "harassment" provisions of the MMPA, easing the restrictions that now limit the deployment of low frequency sonar by the U.S. Navy.

The **National Offshore Aquaculture Act** is proposed to provide the necessary authority to the Secretary of Commerce to establish and implement a regulatory system for aquaculture in Federal waters. The bill would: authorize the Secretary to issue offshore aquaculture permits and establish environmental requirements where existing requirements under current law are inadequate; exempt permitted offshore aquaculture from legal definitions of fishing that restrict size, season, and harvest methods; authorize the establishment of a research and development program in support of offshore aquaculture; require the Secretary to work with other Federal agencies to develop and implement a streamlined and coordinated permitting process for aquaculture in the EEZ; authorize to be appropriated "such sums as may be necessary" to carry out this Act; and provide enforcement for the Act.

Other offshore projects that can affect VECs include the construction of **offshore liquefied natural gas** facilities such as the Neptune liquefied natural gas facility approximately 10 miles off the coast of Gloucester, Massachusetts. The liquefied natural gas facility consists of an unloading buoy system where specially designed vessels moor and offload their natural gas into a pipeline, which delivers the product to customers in Massachusetts and throughout New England. As it related to the impacts of the Proposed Action, the Neptune liquefied natural gas facility is expected to have small, localized impacts where the pipelines and buoy anchors contact the bottom. On December 1, 2010, the Obama administration announced there would be at least a seven year moratorium on oil and natural gas exploration on the Atlantic coast.

Although only two offshore wind energy projects have formally been proposed in the northeast region, at least 20 other separate projects may be proposed in the near future. Cape Wind Associates proposes to construct a wind farm on Horseshoe Shoal, located between Cape Cod and Nantucket Island in Nantucket Sound, Massachusetts. The Cape Wind Associates project would have 130 wind turbines located as close as 4.1 miles off the shore of Cape Cod in an area of approximately 24 square miles with the turbines being placed at a minimum of 1/3 of a mile apart. The turbines would be interconnected by cables, which would relay the energy to the shore-based power grid. If constructed, the turbines would preempt other bottom uses in an area similar to oil and natural gas leases. The potential impacts associated with the Cape Wind Associates offshore wind energy project include the construction, operation, and removal of turbine platforms and transmission cables; thermal and vibration impacts; and changes to species assemblages within the area from the introduction of vertical structures.

The Bureau of Ocean Energy Management (BOEM) published Notice of Intent to Prepare an Environmental Impact Statement for Potential Commercial Wind Lease Issuance and Approval

of Construction and Operations Plan Offshore Maine" was published in the Federal Register on August 10, 2012. Statoil NA's proposed project, Hywind Maine, would consist of four 3-megawatt (MW) floating wind turbine generators (WTGs) configured for a total of 12 MW. The project would be located in water depths greater than 100 meters approximately 12 nautical miles off the coast of Maine. Statoil NA's short-term objective is to construct the Hywind Maine project to demonstrate the commercial potential of the existing floating offshore Hywind technology. The company's long-term objective is to construct a full-scale, deepwater floating wind turbine facility that leverages economies of scale as well as technical and operational enhancements developed in the Hywind Maine project. The full-scale project would be subject to a subsequent and separate leasing and environmental review process.

BOEM also prepared an EA in July of 2013 considering the reasonably foreseeable environmental impacts and socioeconomic effects of issuing renewable energy leases and subsequent site characterization activities (geophysical, geotechnical, archaeological, and biological surveys needed to develop specific project proposals on those leases) in an identified Wind Energy Area on the OCS offshore Rhode Island and Massachusetts. This EA also considers the reasonably foreseeable environmental impacts associated with the approval of site assessment activities (including the installation and operation of meteorological towers and buoys) on the leases that may be issued in the Wind Energy Area.

Non-fishing activities pose a risk to EFH for all species as well as to each scallop life stage's EFH. Many of the non-fishing impacts are unquantifiable, but are likely negative. In general, the greatest potential for adverse impacts to scallops and scallop EFH occurs in close proximity to the coast where human-induced disturbances, like pollution and dredging activities, are occurring. Because inshore and coastal areas support essential egg, larval and juvenile scallop habitats, it is likely that the potential threats to inshore and coastal habitats are of greater importance to the species than threats to offshore habitats. It is also likely that these inshore activities will continue to grow in importance in the future. Activities of concern include: chemical threats; sewage; changes in water temperature, salinity and dissolved oxygen; suspended sediment and activities that involve dredging and the disposal of dredged material. There is more and more evidence that changes in water quality resulting from increasing acidification and water temperature could have potentially negative cumulative impacts on the scallop resource and fishery. In addition, researchers have observed tunicate growing over larger portions of Georges Bank. These invasive species may have negative impacts on the resource and fishery if they spread in critical areas for the fishery.

Impacts of non-fishing activities on all the VECs that were considered in this EA were evaluated to be low to moderately negative. This action is not expected to change the impacts on the VECs described above from non-fishing impacts. Therefore, the combined impacts of non-fishing impacts in concert with the impacts of the Preferred Alternative in each VEC is still low to moderately negative.

Table 102 - Summary of effects from non-fishing activities

Action	Description	Impacts on Scallops	Impacts on Physical Env and EFH	Impacts on Protected Species and non-target species	Impacts on Fishery and Communities (including Other Fisheries)
P,Pr,RFFA Vessel operations, marine transportation	Expansion of port facilities, vessel operations and recreational marinas	**No Impact at Site**	**Potentially Negative Inshore** – may lead to destruction of habitat	**Negative at Site** – inshore species impacted by reduced water quality and haul out activity	**Potentially Negative** if loss of fishing opportunities occur
P, Pr, RFFA Beach nourishment, dredge and fill activities	Offshore mining of sand for beaches Placement of sand to nourish beach shorelines	**Negative at Site** – entrainment, sedimentation and turbidity impacts to fish in area in and around borrow site **Negative at Site** – may displace fish, remove benthic prey and increase mortality of early life stages	**Negative at Site** – may lead to destruction of habitat in and around borrow site **Negative at Site** – may result in burial of structures that serve as foraging or shelter sites	**Negative at Site** – mining activity increases noise and reduces water quality **Negative at Site** – turtles susceptible to impacts from beach nourishment	**Negative at Site** – potential loss of fishing opportunities **Positive at Site** – restoration of an eroding shore may protect or restore recreational beaches
P, Pr, RFFA Pollution/water quality	Land runoff, precipitation, atmospheric deposition, seepage, or hydrologic modification Point-source discharges	**Negative at Site** – impacts primarily inshore	**Negative at Site** – impacts primarily inshore, leads to destruction of habitat and EFH	**Negative at Site** – inshore species impacted by impaired biological food chain and poor water quality due to nutrient loading	**Negative at Site** – potential loss of fishing opportunities, human health issues
P, Pr, RFFA Agriculture and timber harvest runoff	Nutrients applied to agriculture land are introduced into aquatic systems	**Negative at Site** – impacts primarily inshore	**Negative at Site** – impacts primarily inshore, leads to destruction of habitat	**Negative at Site** – inshore species impacted by impaired biological food chain and poor water quality due to nutrient loading	**Negative at Site** – potential loss of fishing opportunities
P, Pr, RFFA Pesticide application	Substances that are designed to repel, kill, or regulate the growth of undesirable biological organisms	**Negative at Site** – impacts primarily inshore	**Negative at Site** – impacts primarily inshore, leads to destruction of habitat and EFH	**Negative at Site** – inshore species impacted by impaired biological food chain and poor water quality due to nutrient loading	**Negative at Site** – potential loss of fishing opportunities, human health issues
P, Pr, RFFA Water intake structures/ discharge plumes	Withdrawal of estuarine and marine waters by water intake structures	**No Impact**	**Potentially Low Negative at Site** - discharge plumes may affect local oceanographic conditions	**Negative at Site** – intake structures can entrap protected species	**No Impact**
P, Pr, RFFA Loss of coastal wetland	Urban growth and development Development activities within watersheds and in coastal marine areas	**Potentially Low Negative at Site** – may result in habitat degradation	**Potentially Low Negative at Site** – may result in habitat degradation	**Negative at Site** – results in habitat loss for fish species that represent prey items and may result on habitat degradation potentially affecting nesting sites	**Potentially Low Negative at Site** – may result in biomass declines if spawning, health, or mortality are affected

Action	Description	Impacts on Scallops	Impacts on Physical Env and EFH	Impacts on Protected Species	Impacts on Fishery and Communities (including Other Fisheries)
P, Pr, RFFA Loss of coastal wetland	Urban growth and development Development activities within watersheds and in coastal marine areas	**Potentially Low Negative at Site** – may result in habitat degradation	**Potentially Low Negative at Site** – may result in habitat degradation	**Negative at Site** – results in habitat loss for fish species that represent prey items and may result on habitat degradation potentially affecting nesting sites	**Potentially Low Negative at Site** – may result in biomass declines if spawning, health, or mortality are affected
P, Pr, RFFA Road building and maintenance	Paved and dirt roads Poorly surfaced roads can substantially increase surface erosion	**Potentially negative –** no data	**Potentially negative –** no data	**Potentially negative –** no data	**Potentially negative –** no data
P, Pr, RFFA Flood control/ shoreline stabilization	Protection of riverine and estuarine communities from flooding events Dikes, levees, ditches, or other water controls	**Potentially negative –** no data	**Potentially negative –** no data	**Potentially negative –** no data	**Potentially negative –** no data
P, Pr, RFFA Utility lines/cables/ pipeline installation	Dredging of wetlands, coastal, port and harbor areas for port maintenance	**Negative at Site** – impacts primarily inshore	**Negative at Site** – impacts primarily inshore, leads to destruction of habitat	**Negative at Site** – dredging activity increases noise and may lead to mortality or injury of protected species	**Negative** – potential loss of fishing opportunities
P, Pr, RFFA Oil and gas exploration/ development	General exploration and development, as well as hydrocarbon spills associated with the transportation, loading and offloading of oil and gas products	**Potentially negative –** no data	**Potentially negative –** no data	**Potentially negative –** no data	**Potentially negative –** no data
P, Pr, RFFA Exotic Species	Introduction of non-indigenous and reared species	**Potentially Negative**- while no direct evidence exists, it is likely that invasive species may affect overall ecosystem health and the biomass of marketable species	**Potentially Negative**- exotic species (ex., tunicates) found to adversely impact EFH and displace marketable and forage species	**Potentially Negative**– ecosystem effects of non-native species	**Potentially Negative**- while no direct evidence exists, it is likely that invasive species may affect overall ecosystem health and the biomass of marketable species
P, Pr, RFFA Marine Mining	Offshore mining as well the mining of gravel from beaches	**Potentially negative –** no data	**Potentially negative –** no data	**Potentially negative –** no data	**Potentially negative –** no data
P, Pr, RFFA Low and mid-Frequency Sonar	Used in military exercises; considered a potential source of serious injury and mortality	**Potentially negative** – may negatively impact species in immediate vicinity of exercises using sonar	**No impact**	**Potentially Negative**- literature documents cetacean mortalities in vicinity of exercises using sonar	**Potentially negative** – potential loss of fishing opportunities, but exercises related to national security
RFFA National Offshore Aquaculture Act of 2005 (currently proposed)	Legislation would grant DOC authority to issue permits for offshore aquaculture in federal waters	**Potentially negative**- may negatively impact species by reducing water quality near	**Potentially negative**- may negatively impact habitat by reducing water quality near	**Potentially negative** - may be negative if activities result in interactions with protected species	**Potentially neutral** - may be positive for communities near sites; negative if prices of commercially

Action	Description	Impacts on Scallops	Impacts on Physical Env and EFH	Impacts on Protected Species	Impacts on Fishery and Communities (including Other Fisheries)
		aquaculture sites	aquaculture sites		harvested fish are impacted
RFFA Liquefied Natural Gas (LNG) terminals	Transportation of natural gas via tanker to terminals located offshore and onshore	**Potentially Negative**– short-term disruption of habitat during construction could negatively impact organisms	**Negative** - habitat negatively impacted during construction phase and when vessels anchor to offload gas	**Negative** – may disrupt protected species during construction through increased noise and poor water quality	**Negative** - security zones around LNG facilities restrict access to fishing areas Positive – location of LNG facilities offshore may protect or improve communities
RFFA Offshore Wind Energy Facilities	Construction of wind turbines to harness electrical power	**Potentially Negative**– short-term disruption of habitat during construction could negatively impact organisms	**Negative** – habitat negatively impacted during construction phase	**Potentially Negative**– may disrupt protected species during construction through increased noise and poor water quality	**Negative** – if fishing activity is precluded in area where turbines are located Negative – aesthetic impacts **Positive** – renewable clean energy resource
SUMMARY OF IMPACTS OF NON-FISHING ACTIVITIES – Overall, impacts are variable but greatest on the physical environment and EFH, but found to be low to moderately adverse; lack of data precludes more in-depth analysis of impacts on other VECs		**Potentially Negative**	**Potentially Negative**	**Potentially negative**	**Potentially Negative**

5.7.8 Cumulative Effects Analysis

Below is a description of the expected cumulative effects of the measures under consideration for Framework 24/Framework 49.

First is a summary paragraph related to the direct and indirect impacts of Framework 24/Framework 49 measures on each VEC. This description is based on the information provided in Table 104, a summary of the direct and indirect impacts of the measures under consideration on each VEC. The VECs have been separated into two categories in Table 104: Ecological Impacts (scallop resource, EFH, protected resource, and non-target species/other fisheries) and Economic and Social Impacts (fishery related businesses and communities). **The Preferred Alternative is in boldface,** and the cumulative effects analysis will focus on those measures.

For each VEC, there is also a summary paragraph describing the cumulative effects of the measures under consideration in terms of how the past, present and reasonably foreseeable future actions impact each VEC, as well as non-fishing activities and direct/indirect impacts of Framework 24/Framework 49. This discussion for each VEC is based on information summarized in previous sections and tables on the past, present, and reasonably foreseeable future actions, non-fishing impacts, and direct and indirect impacts of Framework 24/Framework 49.

Lastly, there is a summary of the cumulative effects of the Preferred Alternative only, in terms of the magnitude and extent of cumulative impacts on a VEC-by-VEC basis in combination with

other actions (past, present, and reasonably foreseeable future actions) as well as the effects from non-fishing actions (5.6.8.1).

Scallop Resource

Summary of direct and indirect impacts on the scallop resource

Framework 24/Framework 49 was approved at the November 2012 Council meeting, and implementation is expected May 2013. This action includes specifications for LA and LAGC fisheries as well as a handful of other measures. The majority of Framework 24/Framework 49 measures are expected to have positive or neutral impacts on the resource.

Summary of cumulative effects on the scallop resource

In terms of past and present actions such as the Scallop FMP, Amendment 4, and Amendments 10, 11 and 15, there have been positive effects on the scallop resource. Other past EFH actions and actions in other FMPs have had neutral or positive effects as well. In terms of reasonably foreseeable future actions, Framework 25 is expected to have positive impacts on the scallop resource. There are also several EFH, protected resources and other fishery-related actions that are expected to have either no impact or potentially positive impacts. Therefore, the overall effects of reasonably foreseeable future actions on the scallop resource are potentially positive. In addition, the effects of non-fishing activities on the scallop resource are mostly potentially negative. Lastly, the direct and indirect effects of the measures under consideration in Framework 24/Framework 49 are expected to have positive to neutral impacts on the scallop resource. Thus, when the direct and indirect effects of the alternatives are considered in combination with all other actions (*i.e.*, past, present, and reasonably foreseeable future actions), **the cumulative effects should yield non-significant positive impacts on the scallop resource.**

Physical Environment / EFH

Summary of direct and indirect impacts on EFH

The potential impacts on EFH from each of the measures are described within Section 5.2. Although scallop dredges have been shown to be associated with adverse impacts to some types of bottom habitat (NEFMC 2003), no measure contained in this joint Framework is likely to increase adverse impacts to areas designated EFH relative to the No Action alternative. None of the measures considered in this action are expected to have direct impacts on EFH.

Summary of cumulative effects on EFH

In terms of past and present actions such as the Scallop FMP, Amendment 4, and Amendments 10, 11, and 15 there have been positive effects on EFH. Other past EFH actions and actions in other FMPs have had mostly positive effects as well. In terms of reasonably foreseeable future actions, there are several EFH actions that may have potentially positive effects on EFH. In addition, there are several reasonably foreseeable future scallop and other fishery-related actions that are expected to have no impact on EFH. Therefore, the overall effects of reasonably foreseeable future actions on EFH are neutral to potentially positive. In addition, the effects of non-fishing activities on EFH are negative. Lastly, the direct and indirect effects of the measures under consideration in Framework 24/Framework 49 are expected to have neutral impacts on EFH. Thus, when the direct and indirect effects of the alternatives are considered in combination

with all other actions (*i.e.*, past, present, and reasonably foreseeable future actions), **the cumulative effects should yield non-significant neutral to positive impacts on EFH.**

Protected Resources

Summary of direct and indirect impacts on protected resources

None of the measures included in the preferred alternative are expected to have significant impacts on protected resources. The recent biological opinion determined that the continued operation of the scallop fishery may adversely affect, but is not likely to jeopardize the continued existence of loggerhead, leatherback, Kemp's ridley, or green sea turtles, or any other ESA-listed species under NMFS jurisdiction. No measure contained in this joint Framework is likely to increase adverse impacts to protected resources relative to the No Action alternative; overall this action is expected to have neutral to positive impacts on protected resources.

Summary of cumulative effects on protected resources

Sea turtles, have been, are, and will continue to be, negatively impacted by a variety of past, present, and reasonably foreseeable future activities which may be affecting the recovery of the species. The extent to which this may be happening cannot be quantified at this time but is potentially negative.

In terms of past and present actions, there have been positive to neutral effects on protected resources. In terms of reasonably foreseeable future actions, there are several protected resource related actions that may have positive effects on protected resources. In addition, there are several reasonably foreseeable future scallop and other fishery-related actions that are expected to have potentially positive impacts on protected resources. The activities that are negatively impacting sea turtles will continue to be addressed through fishery management plans as well as by the agency to ensure sea turtles are protected. One of the goals of NMFS's Sea Turtle Strategy is to develop and implement plans to reduce takes of sea turtles in Atlantic Ocean and Gulf of Mexico fisheries. Implementation of these plans will have a net beneficial impact on sea turtle species. NMFS also intends to continue outreach efforts to educate fishermen regarding sea turtles. Future anticipated research will likely enhance knowledge concerning the nature of the interactions between sea turtles and sea scallop dredge gear, potentially leading to the implementation of alternative management measures that may confer benefits to animals in areas where overlap with the fishery occurs. Therefore, the overall effects of reasonably foreseeable future actions on protected resources are neutral to potentially positive. In addition, the effects of non-fishing activities on protected resources are potentially negative.

Lastly, the direct and indirect effects of the measures under consideration in Framework 24/Framework 49 are expected to have neutral impacts on protected resources. Thus, when the direct and indirect effects of the alternatives are considered in combination with other actions (*i.e.*, past, present, and reasonably foreseeable future actions), **the cumulative effects should yield neutral to positive non-significant impacts.**

Fishery-Related Businesses and Communities

Summary of direct and indirect impacts on fishery-related businesses and communities

The economic impacts of Framework 24/Framework 49 proposed measures and alternatives considered by the Council are analyzed in Section 5.4. The following summarizes the economic impacts of each proposed measure on the fishery-related businesses and communities.

The aggregate economic impacts of the preferred alternative and other alternatives, including the open area DAS and access area trip allocations and TAC for the general category fishery, are expected to be negative in the short-term (2013), but positive over the long-term compared to the no action scenario (Section 5.4.3) If no action is taken, open area DAS will be about 75% (26 DAS in 2013) of what it was in 2012 fishing year (34 DAS) and each full-time vessel will be allocated four access area trips (allocations for the part-time vessels would be 40% of the full-time allocation and for the occasional vessels, it will be 8% of the full-time allocation). As a result of fewer open area DAS combined with a lower LPUE because of the decline in estimated of stock abundance in 2013, revenues for no action would be substancially lower ($448 million in 2013) compared to the actual revenues in 2011 ($582 million) and in 2012 (estimated to be about $550 million in inflation adjusted 2011 prices). Because the preferred alternative would allocate only 2 access area trips to full-time vessels each with a possession limit of 13,000 lb., total scallop revenues are estimated to be $393.4 million, that is about $55 million lower than the levels for the no action scenario in 2013. Similarly, the total economic benefits for the preferred action would be $49 million lower than No Action levels in 2013.

In the long-term, present value of the cumulative revenues for the preferred alternative will exceed no action levels by $44.2 million (5.6 million) and the present value of the cumulative economic benefits for the preferred alternative would exceed the total economic benefits for no action by $81.1 ($36.2) million using a 3% (7%) discount rate (Section 5.4.3.2). Thus the preferred alternative would have positive economic impacts on the fishery related businesses and communities over the long-term compared to no action.

In terms of the impacts on fishery related businesses and communities, it would be also useful to examine how the preferred action would change the scallop revenues and economic benefits from the recent levels. The status quo scenario represents a baseline from this perspective and assumes the continuation of the number of DAS and access area trip allocations equivalent to what they were in 2012. Because the number of open area DAS under the SQ scenario (34 days) would be higher than the number of days (29 days) under no action scenario, total revenue ($505 million) would be higher under this scenario. Compared to SQ scenario, the total revenues would decline by $111 under the preferred action in 2013. The status quo scenario is not a true alternative, however, because the fishing mortality in the open areas under this scenario would exceed the upper limit set under Scallop FMP, thus would be legally infeasible. Over the long-term from 2013 to 2016, the total net revenues (i.e., producer surplus) for the preferred alternative (ALT1) is expected to exceed the values for the status quo scenario (by 1.1%, Table 103). Therefore, the preferred alternative will have positive economic impacts on fishery related businesses and communities over the long-term both compared to no action and status quo scenarios.

Table 103. Percentage change in estimated fleet net revenues compared to Status Quo

Fishing year	ALT1	ALT2	ALT3	ALT4
2013	-21.0%	-20.6%	-25.8%	-24.4%
2014	-17.1%	-16.9%	-16.3%	-18.3%
2015	-11.4%	-10.4%	-9.0%	-7.8%
2016	8.0%	8.9%	8.4%	10.7%
2017	10.7%	10.6%	11.4%	12.8%
2018	6.7%	7.9%	6.8%	9.0%
2019	10.2%	13.1%	9.8%	14.0%
2020	8.2%	9.9%	7.2%	10.6%
2021	5.6%	7.0%	4.8%	6.7%
2022	4.0%	4.6%	3.1%	3.7%
2023	2.4%	2.0%	1.3%	1.2%
2024	1.7%	0.5%	0.4%	0.4%
2025	1.5%	0.1%	0.1%	-0.1%
2026	1.3%	0.4%	0.4%	-0.4%
Grand Total	**0.7%**	**1.1%**	**0.1%**	**1.2%**

The economic impacts of the preferred alternative and the alternatives on the general category fishery will be similar to the aggregate impacts summarized above, negative in the short-term and positive in the long-term compared to the no action. The LAGC IFQ fishery is allocated 5.5% of the total ACL for the fishery. The preferred alternative would prorate LAGC IFQ trips proportionally in all areas open that year excluding CA2, with positive economic impacts on the LAGC vessels because they will be able to use CA2 trips in areas closer to the shore with lower trip costs (Section 5.4.3.3).

The preferred alternative will keep the value of incidental catch at (50,000 lb.) and the NGOM TAC at 70,000 lb. Since there is no change in these values from the previous action, preferred alternative will have the same economic impacts on the fishery related businesses and communities as the no action (Section 5.4.4).

The specific measures that are included until this action is implemented will help to reduce the adverse impacts of exceeding the proposed allocations in Framework 24/Framework 49 in 2013 on the scallop resource and would have positive long-term impacts on landings, revenues and net national economic benefits (Section 5.4.5). Framework 24/Framework 49 will modify GB seasonal restrictions to provide access during months with highest scallop meat weights and to minimize yellowtail bycatch. Preferred alternative will provide higher flexibility to scallop vessels compared to no action and other options since CA2 would close for only 3 months (Aug.15-Nov.15) and CA1 and NL would be open all year, resulting in positive economic benefits for the scallop fishery (Section 5.4.6). Modification of the GB seasonal restrictions is not expected to have any direct economic impacts on the groundfish fishery related businesses or communities because groundfish vessels currently have no access to these areas.

In general, the accountability measures to address YT flounder by catch in the LAGC IFQ trawl fishery are expected to reduce incentive to catch YT as by catch and reduce the risks of closing

of the YT flounder areas to scallop fishing with positive long-term economic impacts for the scallop fleet as a whole (Section 5.4.7). Allowing transfer of LAGC IFQ during the year would provide more flexibility to vessels with positive economic benefits. It will also add more complexity to IFQ monitoring with a possibility for the cost recovery fees increasing and reducing the net economic benefits for the LAGC vessels (Section 5.4.9).

Including open area trips by LAGC vessels under the current observer set aside program will improve bycatch information from all segments of the scallop fishery, thus it will have indirect positive impacts on resource, non-target species and economic benefits. Similarly, modification of the observer set-aside program would be more efficient in using the set-asides where it is needed most and as such, they will be more fully utilized for better monitoring the catch with indirect positive economic benefits (Section 5.4.10).

Summary of cumulative effects on fishery-related businesses and communities

The cumulative impacts of the past actions including Amendment 4, Amendment 10, Framework 18 and Amendment 11, Amendment 15, Framework 19, Framework 20 and Framework 21, Framework 22 and Framework 23 to the Scallop FMP, are estimated to be positive over the long-term. Other past EFH actions and actions in other FMPs have had neutral or low negative effects. Adjustment of the open area DAS allocations, implementation of trip limits and allocations for the access areas and rotation area management implemented by the past management actions had positive impacts on the scallop industry by increasing the revenues, producer and consumer surpluses and net benefits in the past. The measures implemented by the recent Framework actions (Framework 22 and Framework 23) are estimated to have positive impacts on consumer, producer and total economic benefits in 2011-2012 exceeding the expected landings in 2011 and 2012 and the estimated values of economic benefits in Framework 22 document.

Although Framework 24/Framework 49 measures are estimated to have negative impacts on consumer, producer and total economic benefits in 2013, this reduction is not expected to offset the level of benefits achieved under the past actions. Due to higher than projected prices in 2011 and 2012, scallop fleet revenues in 2011 ($582 million) and estimated revenues for 2012 ($550 million) will exceed total projected revenues in the previous action, Framework 22, for 2011 ($399 million) and 2012 ($428 million) by a total of $305 million in the last two years alone. Thus the gains in just the last two years alone would more than offset the reduction in estimated revenues as compared to estimated revenues in 2012 ($550-393.4 million =$157 million in 2013). Compared to the estimated revenues for the preferred alternative in Framework 22 for 2012 ($428 million), the decline in the projected fleet revenue in 2013 ($393.4) would only be $36.6 million if the actual landings and prices equaled to what was projected in Framework 22. In short, because the positive impacts of the Framework 22 measures ($305 million in 2011-2012) exceed the negative impacts from Framework 24/Framework 49 measures in 2013 ($48 million compared to no action), the net cumulative impacts of the proposed measures and the past actions would be positive in the 2013. The impacts on total economic benefits are proportional to the impacts on fleet revenues. The actions proposed by Framework 24/Framework 49 are expected to increase fleet revenues, profits and total economic benefits compared to no action over the long-term. As a result, cumulative effects of the past and present

actions including Framework 24/Framework 49 are expected to be positive both in the short and the long-term.

In terms of reasonably foreseeable future actions, there is one scallop related action that is expected to have positive impacts overall, Framework 25. There are also several EFH, protected resources and other fishery-related actions that are expected to have potentially positive or low negative impacts on fishery-related businesses and communities. Therefore, the overall effects of reasonably foreseeable future actions on the fishery-related businesses and communities are neutral, some positive and some negative (Table 101). In addition, the effects of non-fishing activities on the fishery-related businesses and communities are mostly potentially negative (Table 102).

Lastly, the direct and indirect effects of the measures under consideration in Framework 24/Framework 49 are expected to be potentially negative in the short-term and potentially positive over the long-term (Table 117). As a result, cumulative economic benefits, which measure the sum of benefits from previous and proposed actions, are expected to be positive both in the short-term and long-term and the potential impacts of the future actions are not expected to cancel out those positive impacts.

Thus, when the direct and indirect effects of the alternatives are considered in combination with other actions (*i.e.,* past, present, and reasonably foreseeable future actions), **these actions yield potentially positive cumulative impacts on the fishery-related businesses and communities.**

Non-Target Species and Other Fisheries

Summary of direct and indirect impacts on non-target species and other fisheries

The potential impacts on bycatch and other fisheries from each of the measures are described within Section 5.6. The majority of Framework 24/Framework 49 measures are expected to have neutral to potentially positive impacts on bycatch and other fisheries. Because Framework 24/Framework 49 includes alternatives to modify the GB access area (CA1, CA2, and NL) seasonal restrictions (Section 2.2.1), this action is also a joint framework with the NE Multispecies FMP (Framework 49). Consistent with Section 5.6, impacts to the multispecies fishery are assessed under this VEC. The measures to adjust the GB YT AM closure season, the LAGC YT AMs, and the timing of YT AMs are expected to have neutral or positive impacts on YT bycatch overall.

Summary of cumulative effects on non-target species and other fisheries

The combined effects of past actions in the Scallop FMP have decreased effort and improved habitat protection, which benefits non-target species. In addition, current regulations continue to manage for sustainable stocks, thus controlling effort on direct and discard/bycatch species. Finally, future actions are anticipated to continue rebuilding and thus limit the take of discards/bycatch in the scallop fishery, particularly through ACL management with AMs. Overall, continued management of directed stocks will also control catch of non-target species. In addition, the effects of non-fishing activities on bycatch are potentially negative. **Overall, the cumulative effects should yield non-significant neutral to low positive impacts on non-target species and other fisheries (including the multispecies fishery).**

Table 104 - Effects of alternatives under consideration on the five Framework 24/Framework 49 VECs; preferred alternative is in bold

FW24 Section and Alternative Name	Description of options considered	ECOLOGICAL IMPACTS (Scallop resource, EFH., Protected resources and bycatch)	ECONOMIC AND SOCIAL IMPACTS
DECISIONS RELATED TO FISHERY SPECIFICATIONS			
2.1.1 ABC	2.1.1.1 No Action ABC (28,700 mt) **2.1.1.2 FW24 ABC (2013=21,004mt and 2014 = 23,697mt)**	Resource – No Action ABC above recommended levels based on updated science, could lead to overfishing with negative impacts on resource compared to FW24 ABC. EFH, PR, Bycatch – neither No Action nor FW24 ABC have expected impacts	No Action ABC will have negative impacts on the scallop yield, revenues, total economic benefits, and social impacts on communities in the long-term compared to FW24 ABC. Updated ABC values for FW24 are lower than the ABC values under no action. Although, this could have negative impacts in the short-term, the long-term impacts on the scallop yield, landings, revenues and fishery related business and communities will be positive.
2.1.2 Specifications for LA vessels (No Action, ALT 1, **ALT2**, ALT3, ALT4)	FW24 considering 5 overall allocation alternatives. All have the same DAS and LAGC IFQ. But level of LA effort in access areas varies.	Resource - All have similar impacts on biomass. EFH and Bycatch – All FW24 Alts positive compared to No Action, especially Alt 4 since it has the least area swept. PR – All FW24 Alts have fewer MA AA trips compared to No Action, so positive impacts on sea turtles.	NA has short-term positive impacts on fishery compared to other options, but negative impacts in the long term from excess fishing in access areas. Alt 2 smaller negative ST economic impacts compare to Alt 4. Alt 2 and 4 have higher LT net economic benefits compared to no action and other alternatives.
2.1.2.3.1, 2.1.2.3.2, 2.1.2.5.1 and 2.1.2.5.2 Prohibit RSA compensation fishing in NL in 2013 under ALT2 and ALT4	**No Action – no prohibition** Option 2 - prohibit 2013 RSA compensation fishing in NL to reduce potential impacts of increased fishing in that area	Resource – If a substantial portion of total 2013 RSA harvested from NL that would increase scallop mortality and have negative impacts on resource and access in that area in 2014. EFH, PR, Bycatch – Overall neutral impacts on non-target species and physical environment.	NA expected to have positive impacts on fishery but negative impacts on future yield and fishery. Option 2 could have negative indirect impacts on fishery from increased fishing costs, but positive economic impacts overall due to increased future yields.
2.1.4 Specifications for LAGC vessels	No Action – LAGC IFQ = 3.4 million pounds **FW24 LAGC IFQ = 2.4 million pounds for all 4 FW24 Alternatives.**	Resource - All have similar impacts on biomass. EFH and Bycatch – All FW24 Alts positive compared to No Action, especially Alt 4 since it has the least area swept. PR – All FW24 Alts have fewer LAGC MA AA trips compared to No Action, so positive impacts on sea turtles.	NA has short-term positive impacts on LAGC fishery compared to other options, but negative impacts in the long term. All FW24 alternatives have the same impact on LAGC vessels since total IFQ the same under all 4 alternatives.
2.1.4.2.1 and **2.1.4.2.2** Allocation of LAGC trips by area	No Action – 5.5% of each area **Option 2 – 5.5% of all areas but prorate CA2 trips to other areas**	The overall impacts on the environment (scallops, EFH, bycatch, and PR) are negligible because this is a very small amount of effort. The same overall LAGC IFQ will limit this fishery.	Could benefit LAGC IFQ vessels if AAs have higher catch rates than open areas. Increased profits from shorter trips and lower trip costs – overall positive economic impacts.
2.1.5 NGOM hard TAC	**No Action - 70,000 lbs.** Alt 2 - 58,000 lbs.	Current catches very low so either TAC would likely not impact resource, EFH, or non-target species.	No significant economic or social impacts are expected from either measure since current catches are very low.
2.1.7 Measures to address delayed implementation of FW24	No Action – no payback **2.1.7.2 – payback for LA vessels (2013 AA trips and 12 DAS)** **2.1.7.3 – payback for LAGC vessels**	Positive impacts on the resource and other aspects of the environment (EFH, PR and bycatch).	Both payback measures for LA and LAGC expected to have positive impacts overall by reducing the negative impacts of excess fishing in 2013 before FW24 is implemented.

DECISIONS RELATED TO YT BYCATCH MEASURES			
2.2.1 Modify GB AA seasonal closures	No Action – GB AAs closed from Feb1-June14 (4.5 month closure) Option 1- GB AAs closed from Sep1-April30 (8 month closure) Option 2 – GB AAs closed from Sep1-Nov30 (3 month closure) **Option 3- CA2 closed from Aug15-Nov15 (3 month closure). NL and CA1 open all year.** Eliminate closures	Resource - Varying impacts on scallop resource – if areas closed in winter potentially positive impacts on scallop resource. Option 1 most positive. EFH – More flexible options could allow more effort in months with lower scallop yield. Longer tow times for the same poundage could have negative impacts on EFH. Seasonal restrictions could lead to shifts in open area effort. PR – If more effort is on GB in the summer and early fall there are positive impacts on sea turtles if less effort is in the MA during that time period. Option 1 potentially the most positive. Bycatch – All options may increase impacts on WP if areas open in March and April compared to No Action. All FW24 Options have beneficial impacts for YT since CA2 would be closed during high YT bycatch (early fall). If trips are fished in low scallop meat weight periods and take longer, there could be increased impacts on bycatch present in those areas at those times.	NA – Negative economic impacts compared to other options because GB areas closed during part of high meat weight season (May-June14). Option 1 – least flexibility so negative economic impacts, but improved scallop yield per animal, so positive economic impacts LT. But constraining all GB AA harvest to 4 months could have some dampening impact on prices for large scallops which comprise a large proportion of landings during those months. Option 2 – More flexibility than NA and Option 1 so positive for fishery. Closes areas for part of low scallop meat weight season, so positive for fishery. Option 3 – More flexibility so positive for fishery. Lower LT benefits compared to Option 1 and 2 since CA1 and NL open all year. Eliminate season – highest flexibility with some economic benefit, but lower LT economic benefit from potentially higher scallop mortality from fishing in lower scallop meat weight months.
2.2.2.2 Measures to address YT bycatch in LAGC trawl fishery	No Action – no AM for LAGC vessels • SNE - Option 1 – close 612 and 613 based on overage **- Option 2 – gear restriction in 612 and 613. AM triggered two possible ways** - Option 3 – gear restriction in all of SNE/MA YT stock area for following FY • No Option for GB considered	Difficult to assess the impacts since it depends on how vessels will reach (move area fished, switch gear type, or adjust season but fish in the same area). If vessels switch to dredge gear there could be positive impacts on scallop resource because trawl gear is more capable of catching smaller scallops. If vessels adjust season impacts on resource could be positive or negative depending on the shift. Option 3 could be the most beneficial if it causes vessels to switch gear type since it is the most restrictive. EFH and PR – Not possible to estimate the directionality of impacts. Magnitude is very small overall so any impacts would be negligible. Bycatch - In general, the more vessels are accountable it should help reduce incentive to catch YT as bycatch. Some AMs could cause effort shifts, but hopefully to times and areas with lower YT bycatch rates. Option 3 most positive.	The economic impacts of the seasonal closures are unlikely to be significant at low overage rates and as long as areas are open to part of the year. Allowing dredge gear to be used for fishing during closure periods would add to flexibility and have positive economic impacts. However, prohibiting the use of trawl gear (Option 3) in the SNE_YT stock area for extended periods of time would have considerable negative economic impacts on those vessels. Also, longer closure periods could have some distributional impacts on vessels from New York and New Jersey. The provision to allow these vessels to fish with dredge gear in those areas would alleviate some of these impacts but not totally since installing dredge gear will increase fishing costs.
2.2.2.3 Measures to address YT bycatch in LAGC dredge fishery	No Action – no AM for LAGC vessels **SNE/MA – close 537, 539 and 613 based on overage. Includes**	Resource – Minimal and not likely to have adverse impacts. EFH and PR – Not possible to estimate the directionality of impacts. Magnitude is very small overall so any impacts would be negligible.	Effort shifts can have negative economic impacts on fishery by reducing flexibility. But it is unlikely this AM will be triggered as long as future catches of YT by the LAGC dredge

	exemption if LAGC dredge catch under 3% of sub-ACL GB – close 562 based on overage	Bycatch - In general, having an AM should make this fleet more accountable and provide incentive to reduce bycatch, having positive impacts on YT bycatch. However, impacts are small since this segment of the fishery to date has very low catches of GB and SNE/MA YT.	fishery do not increase above current low levels. Thus negligible economic impacts. GB AM would have negligible economic impacts.
2.2.3 Timing of AMs for the scallop fishery YT flounder sub-ACL	No Action – AM subsequent year **AM triggers subsequent year if reliable data available, otherwise following year**	Neutral impacts on the resource, EFH, and PR overall. Bycatch – direct biological impacts for YT similar for both alternatives. As long as an overage leads to AMs that reduce catch in the following year, the specific fishery that is modified to achieve the reduction is immaterial. While it may be an equity concern if one fishery is constrained (GF) due to an overage by another fishery (scallop), the biological results should be similar under either alternative.	Implementation of the AMs in Year 3 instead of Year 2 would provide more flexibility and allow more time for vessels to adjust their fishing activity, positive impacts.
OTHER MEASURES			
2.3 Measures to improve flexibility and efficient use of LAGC IFQ during the year	No Action – subleasing and leasing during the year prohibited **Allow sub-leasing and transfer after vessel has fished**	This measure expected to increase flexibility and mobility of quota, which could increase total percentage of annual quota harvested compared to No Action, but total harvest is still limited by overall sub-ACL, so neutral impacts on the resource, EFH, PR and bycatch.	Positive economic impacts for fishery because of increased opportunities with allowance for sub-leasing and transfer of quota.
2.4 Measures to expand current observer set-aside program to include LAGC vessels in open areas	No Action – LAGC trips in open areas funded by NMFS **Include LAGC open area trips under observer program**	Indirect positive impacts on resource, EFH, PR and non-target species from expected increase in observer coverage rates.	Slightly positive economic impacts or neutral impacts on fishery if increased coverage remains under set-aside.
2.4.2.1 Modify the observer set-aside allocation (p.51)	No Action – 1% of TAC per area **1% per area but set-aside not area specific**	No direct impacts on resource, EFH, PR or non-target species but could improve the overall observer set-aside program compared to No Action be enabling set-aside to be more flexible by area.	Positive impacts compared to No Action. Flexibility to move set-aside around reduces the chance a vessel will have to pay for an observer if the set-aside runs out in a particular area.

5.7.8.1 Summary of Cumulative Effects of the preferred alternative

To determine the magnitude and extent of cumulative impacts of the preferred alternative, the incremental impacts of the direct and indirect impacts should be considered, on a VEC-by-VEC basis, in addition to the effects of all actions (those effects identified and discussed relative to the past, present, and reasonably foreseeable future actions of both fishing and non-fishing actions). In general, while the management measures proposed result in cumulative impacts in some cases, none of the impacts discussed indicate a potentially significant impact. Section 5.6.8 above summarizes the expected cumulative effects of the measures that were considered in this action; this section focuses on the preferred alternative only.

Overall, the cumulative effects of the preferred alternative should yield non-significant neutral to positive impacts. Table 49 summarizes the cumulative effects of the preferred alternative relative to the past, present, and reasonably foreseeable future fishing and non-fishing actions for each of the VECs considered. In general, the impacts of the past, present, and reasonably foreseeable future actions on all of the VECs identified in this action are positive to neutral, but non-significant impacts. There are several future actions that may have potential low negative or positive impacts, but overall the expected impacts are neutral and non-significant. Furthermore, there are potentially negative impacts of non-fishing activities in this region on the various VECs identified. As for the direct and indirect impacts of the preferred alternative on each VEC, the overall impacts are expected to be positive to neutral, and non-significant.

Table 105 - Summary of cumulative effects of the preferred alternative

	Scallop Resource	**Physical Habitat/EFH**	**Protected Resources**	**Fishery-Related Businesses and Communities**	**Non-target species and Other Fisheries**
Direct/Indirect Impacts of Preferred alternative	Potentially Positive to Neutral	Neutral	Neutral	Potentially Positive to Potentially Negative	Neutral to Potentially Positive
Past and Present Fishing Actions Impacts	Positive	Positive	Positive/Neutral	Positive	Positive/Neutral
Reasonably Foreseeable Future Fishing Actions Impacts	Potentially Positive	Neutral to Potentially Positive	Neutral to Potentially Positive	Neutral, some positive some negative	Neutral to Potentially Positive
Non-Fishing Actions Impacts	Potentially negative	Potentially negative	Potentially negative	Potentially negative	Potentially negative
Cumulative Effects	Non-significant Positive	Non-significant Neutral to Positive	Non-significant Neutral to Positive	Non-significant Potentially Positive	Non-significant Neutral to Positive

6.0 COMPLIANCE WITH APPLICABLE LAW

6.1.1 Magnuson-Stevens Fishery Conservation and Management Act

6.1.1.1 National standards

Section 301 of the Magnuson-Stevens Fishery Conservation and Management Act requires that fishery management plans (FMPs) contain conservation and management measures that are consistent with the ten National Standards:

(1) Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

All four FW24 alternatives were developed by the PDT to meet the goals of the FMP to prevent overfishing. All four specification alternatives have the same DAS allocation, IFQ allocation, and only vary in terms of access area allocations for the LA fleet.

In this framework, the new "hybrid" overfishing definition approved under Amendment 15 was used. That means DAS allocations were defined by setting the open area F at 0.38, the *F* rate equivalent to OFL to prevent overfishing; or by setting open area F at a lower level so that overall F (open and access areas combined) does not exceed 0.38. In this case the former principle was the limiting factor in setting open area DAS for FW24.

In access areas, *F* was set no higher than the time-averaging principle per area (so that *F* may be higher than the overfishing threshold in some access areas at certain times to compensate for zero F when the area was closed). The spatially combined target fishing mortality must be no higher than the ABC control rule set in Amendment 15; a fishing mortality rate that gives a 25% probability of exceeding the ABC fishing mortality.

In this action the Council had available updated estimates of fishing mortality from the last benchmark assessment through 2009, as well as updated estimated prepared by the Scallop PDT for 2010, 2011 and preliminary estimates for 2012 (Section 4.1.3). The updated model suggests declining biomass and increasing fishing mortality in the Mid-Atlantic. Total biomass is estimated to be 119,000 mt and overall F is estimated at 0.34. That biomass estimate is well above the overfishing threshold of 62,679 mt, and 0.34 if below the overfished threshold of 0.38 (OFL). **Therefore, overfishing is not occurring and this resource is not overfished**.

In terms of achieving optimum yield, this action is expected to attain maximum catch levels from access areas by allocating variable access levels per area. No area can sustain a typical fleetwide allocation of one 18,000 pound trip per full-time vessel. Therefore, the preferred alternative allocates a reduced possession limit and varies the amount of access per area to match the available harvest per area. Catch rates will likely vary per area, but this strategy is expected to optimize yield available to the fishery by allocating maximum scallop effort in areas with highest scallop concentrations reducing impacts on EFH and bycatch.

(2) Conservation and management measures shall be based upon the best scientific information available.

This document uses information of known quality from sources acceptable to the relevant scientific and technical communities. Several sources of data were used in the development of this document. These data sources include, but are not limited to: permit data, landings data from vessel trip reports, data from the dealer weighout purchase reports, scallop survey data, and data from at-sea observers. Although there are some limitations to the data used in the analysis, these data are considered to be the best available.

In addition, the biological projections are based on the CASA model that is expected to generate more accurate results using a wide variety of data sources. This model uses information from all available sources, including surveys conducted outside of the NMFS federal scallop survey. Specifically, results from three other scallop surveys were integrated into the overall CASA model: optical survey by SMAST, dredge survey from VIMS, and optical survey from HABCAM. The CASA model was reviewed and approved for management use in the 2007 scallop assessment. This in addition to the Scallop Area Management Simulator (SAMS) model and Swept Area Seabed Impact (SASI) model used for habitat analysis are current, peer-reviewed modeling methods.

Lastly, the Council's SSC reviewed and approved the Acceptable Biological Catch (ABC) for this fishery for 2013 and 2014(default) based on updated analyses of biological uncertainty in the parameters used to assess the scallop resource. All of these models were updated for status determination and development of new reference points in June 2010 at the Stock Assessment Workshop in Woods Hole, MA (NEFSC, 2010). Therefore, this is considered the best available science to set MSY in order to prevent overfishing.

(3) To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

Under the Atlantic Sea Scallop FMP, the target fishing mortality rate and stock biomass are applied to the scallop resource from NC to the US/Canada boundary. This encompasses the entire range of scallop stocks under Federal jurisdiction. See Section 4.1 for a description of the scallop resource.

(4) Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The management measures proposed in this action do not discriminate between residents of different states. This action includes allocation measures, but they do not discriminate between vessels from various states. Limited access vessels are relatively mobile and are expected to fish in various access areas. Limited access vessels are permitted to trade access area trips with other vessels; therefore, if an area is far from their homeport and they do not want to fish in that area,

they can trade for a trip closer to their homeport. In 2013 there are access areas in the Mid-Atlantic and Georges Bank. The lottery mechanism used to allocate access area trips has the potential to give Georges Bank trips to vessels homeported in the Mid-Atlantic, but the lottery mechanism is random, and trip trading is allowed. Furthermore, the Council recommends that no vessel receive more than one trip per area to minimize impacts of different biomass levels between access areas keeping the process as fair and equitable as possible.

General category vessels are not allocated individual access into access areas; it is a fleet-wide allocation of trips for that fishery. Thus, general category vessels can decide to participate in an access area program or not. Therefore, if a vessel is relatively small and cannot fish far offshore or travel great distances to fish in an access area, that vessel can fish its allocation in open areas. Furthermore, this action proposes to prorate the potential CA2 access area trips for LAGC vessels into areas closer to shore to maximize access in access areas if LAGC vessels want to take advantage of access area fishing, but do not have the capability to fish farther offshore.

Some of the LAGC YT AM alternatives had the potential to have higher distributional impacts on some vessels homeported from states located near the SNE/MA YT AM areas. The Council decided to limit the AM closure period so that it remains open for some portion of the year to reduce the potential impacts. Furthermore, for the preferred LAGC trawl AM, these vessels can switch to dredge gear if they prefer to continue fishing in the AM area during the time of year it would be closed as an AM.

(5) Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

The Preferred Allocation Alternative should promote efficiency in the utilization of fishery resources by allocating effort in areas with higher catch rates. This action also includes a measure to promote efficient utilization of the LAGC IFQ by allowing sub-leasing and transfer of quota after fishing has begun. Currently, LAGC vessels have to transfer quota before the start of the fishing year, cannot sub-lease, and cannot lease after fishing has begun. As a result some quota is left unused at the end of the year because in some cases vessels are prohibited from transferring it. It is expected that the preferred alternative will improve utilization of the LAGC IFQ. In addition, the measure that would no longer have observer set-aside be area-specific is expected to more efficiently use the observer set-aside annually.

(6) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

The Proposed Action takes into account variations among and contingencies in fisheries, fishery resources, and catches. This action enhances the ability of the FMP to adapt to changing resource conditions. The access program is expected to allow the FMP to stabilize fishing effort in open areas, and potentially allowing the FMP greater flexibility to achieve optimum yield through rotational area management in the future. It was noted that it is desirable for the industry to maintain consistent landings from year to year, and the alternative selected (Alternative 2) allows for the highest catch levels. These catch levels are still substantially lower than 2012

levels, but compared to the other options considered, the preferred alternative minimizes the impacts of reduced catches from 2012. Variations in annual catch and allocations are still to be expected under area rotation, a system that is designed to optimize yield from variable recruitment patterns by area and year.

(7) Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The Council considered the costs and benefits associated with the Proposed Action when developing this action. The proposed action does not introduce any new measures that duplicate measures already in place. Area rotation and DAS controls were implemented in 1994; the full area rotation program was implemented in June 2004. Both these types of measures are necessary components of the FMP to achieve the annual mortality targets and prevent the stock from becoming overfished. The increase in the average size of scallops landed, a primary objective of both the FMP and the proposed action, continues to be a major factor that minimizes harvesting costs. The management measures proposed in this action are not duplicative and were developed in close coordination with NMFS and the Mid-Atlantic Fishery Management Council.

(8) Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of paragraph (2), in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

In the Amendment 10 FSEIS, the characteristics and participation of fishing communities involved in the scallop fishery were discussed in Section 7.1.1.3, and the impacts of rotation area management were discussed in Section 8.8. This document includes an update of fishery and community information in Section 4.4. The economic and social impacts, which affect fishing communities, are analyzed and discussed in Sections 5.4 and 5.5. The proposed action will not change these impacts anticipated under Amendment 10, except that fishing communities near the proposed access areas will benefit from higher landings and economic activity, while fishing communities distant from these areas are likely to experience some adverse social impacts.

The proposed action, however, is not expected to jeopardize the sustained participation of fishing communities that have depended on the scallop resource. The area rotation and DAS adjustments are expected to continue to ensure a healthy resource that will be able to support historical levels of participation by fishing communities.

In the long-term, landings, revenues and economic benefits for the proposed action are slightly higher than landings and economic benefits for the 'No Action' alternative. As a result, revenues, producer and consumer surpluses, and total economic benefits for the proposed action will be higher than the levels for other alternatives as well. Proposed action and the alternatives will allocate, however, fewer access area trips and open area DAS in 2013 compared to he allocations in 2012 to prevent overfishing of the scallop resource and maximize yield and economic benefits from the scallop fishery over the long-term. As a result, the proposed

alternative is expected to have considerable negative impacts on landings, revenues and total economic benefits from the scallop fishery compared to the No Action' alternative in the short term. However, the measures included in the Framework are not expected to wipe out the gains and profits of the scallop industry or to place the sustained participation of fishing communities that have depended on the scallop resource in jeopardy either in the short-term or the long-term especially in a highly profitable industry like the scallop fishery. The record revenues and profits earned by the scallop industry in the last three years since 2010 fishing year are expected to provide the scallop vessels with a considerable cushion to finance their operations until the positive effects of the regulation start paying off in the later years. The proposed action has fewer impacts in 2013 compared to some of the other options considered (Section 5.4.3, Tables 6,7, 8 and 9?). One reason the Council selected the proposed 2013 allocations was to maintain the landings stream as much as possible, thus minimizing short-term adverse economic impacts in these difficult economic times. Finally, the implementation of this action for one year only will provide an opportunity to reassess the future allocations based on the recent data on scallop recruitment levels in the Mid-Atlantic, future GB yellowtail YT catch levels, and the status of the EFH Omnibus action and potential changes in habitat closure boundaries. Any potentially positive change regarding those factors could allow allocations go up in the future years and further offset the short-term negative impacts of this Framework Action.

The economic impacts on the LAGC fishery are the same under all the specification alternatives considered since the IFQ allocation remains the same under all the alternatives, 2.4 million pounds. This is a substantial reduction from 2012, but in the longer term overall impacts on the fishery will be positive under the FW24 alternatives compared to No Action, which would allocate too much effort in access areas.

(9) Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

Bycatch in the scallop fishery has been greatly reduced and minimized by the success of the FMP to increase scallop biomass and reduce the amount of time fished on a DAS. The FMP has also implemented several gear restrictions that have successfully reduced bycatch. These effects are discussed in detail in Section 6.1.9 of the Amendment 10 FSEIS, and in related sections of that document.

The proposed action includes a modification to the seasons for access in GB access areas (CA1, CA2, and NL). Analyses contained in this document (Section 5.6 and Appendix III) supports that the closures should be modified to reduce catches of YT, particularly in CA2. The LAGC YT AM measures adopted should also reduce YT bycatch by these fisheries if the AMs are triggered.

A summary of the impacts of these measures are analyzed and described in Section 5.6. Bycatch of protected species is analyzed in Section **5.3**.

(10) Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

Section 6.1.10 in the Amendment 10 FSEIS discusses the effect of current scallop management and of rotation area management on safety. This action does not propose any new measures that would change the findings in Amendment 10. Fishing is dangerous all times of the year, but some of the more restrictive alternatives would limit when vessels could fish in warmer months. The measure to shift LAGC IFQ trips from CA2 to areas closer to shore is expected to promote safety at sea by prohibiting all LAGC vessels from fishing in CA2, some of which are smaller and not as suitable to fish farther offshore.

6.1.1.2 Other Required Provisions of the M-S Act

Section 303 of the Magnuson-Stevens Fishery Conservation and Management Act contains 14 additional required provisions for FMPs, which are discussed below. Any FMP prepared by any Council, or by the Secretary, with respect to any fishery, shall:

(1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are-- (A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery; (B) described in this subsection or subsection (b), or both; and (C) consistent with the National Standards, the other provisions of this Act, regulations implementing recommendations by international organizations in which the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law;

Since the domestic scallop fishery is capable of catching and processing the allowable biological catch (ABC), there is no total allowable level of foreign fishing (TALFF) and foreign fishing on sea scallops is not permissible at this time.

(2) contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interest in the fishery, and the nature and extent of foreign fishing and Indian treaty fishing rights, if any;

The fishery and fishery participants are described in detail in Section 4.4 of Amendment 15 to the Scallop FMP. Section 4.4 in this document describes the scallop permits by category as well as the active scallop vessels by permit type that could be affected by this action. The number of trips and average scallops landed per category are also included in that section as well.

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification;

The present and probable future condition of the resource and estimates of MSY and OY are given in Section 8.2.2.2 of Amendment 10 to the Scallop FMP.

The SSC reviewed the most recent work on assessing this resource and determined that acceptable biological catch be set at 27,370 mt in 2013 and 30,353 mt in 2014, including an approximate 6,366 mt for non-yield fishing mortality (discards and incidental mortality). Therefore, the overall ABC for the fishery, excluding discards and incidental mortality is 21,004 mt in 2013 and 23,967 mt in 2014. Acceptable Biological Catch (ABC) is defined as the maximum catch that is recommended for harvest, consistent with meeting the biological objectives of the management plan (Section 2.1.1).

This level was recommended by the Science and Statistical Committee (SSC) and various sources of scientific uncertainty were considered when setting this value. ABC calculations were based on the updated hybrid overfishing alternative proposed in Amendment 15. Under this OFD, the overfishing threshold will remain as status quo (spatially averaged $F = 0.38$). The fishing mortality target in the open areas will be set at no higher than the overfishing threshold in the open areas (currently $F = 0.38$). In access areas, it will be set no higher than that given by the time-averaging principle (so that F may be higher than the overfishing threshold in access areas that had been closed). The spatially combined target fishing mortality must be no higher than that which gives a 25% probability of exceeding the ABC fishing mortality. Target fishing mortalities can be set below these limits but not above them. Under these principles, the probable future condition of this fishery is sustainable.

Current domestic landings and processing capabilities are around 57 million lbs. Total landings have been above that level in some years since 2004, and are projected to be close to 38.2 million pounds for 2013 for the proposed action (Section 5.4.3.2.1). However, the actual landings could be higher than this amount depending on the actual recruitment and scallop stock biomass in the open areas. In the past, actual landings of scallops usually exceeded the projected landings in the Frameworks.

(4) assess and specify-- (A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3); (B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing; and (C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States;

The US fishery is expected to harvest 100% of OY and domestic processors are expected to be able to process 100% of OY.

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, charter fishing, and fish processing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, economic information necessary to meet the requirement and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;

The FMP and existing regulations specify the type of reports and information that scallop vessel owners and scallop dealers must submit to NMFS. These data include, but are not limited to, the weight of target species and incidental catch which is landed, characteristics about the vessel and gear in use, the number of crew aboard the vessel, when and where the vessel fished, and other pertinent information about a scallop fishing trip. Dealers must report the weight of species landed by the vessel, the date of landing, and the ex-vessel price for each species and/or size grade. Important information about vessel characteristics, ownership, and location of operation is also required on scallop permit applications. Dealers are also surveyed for information about their processing capabilities.

All limited access scallop vessels and general category vessels are required to operate vessel monitoring system (VMS) equipment to record the location of the vessel for monitoring compliance with DAS regulations. An at-sea observer is also placed on scallop vessels at random to record more detailed information about the catch, including size frequency data, the quantity of discards by species, detailed gear data, and interactions with protected species.

(6) consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery; except that the adjustment shall not adversely affect conservation efforts in other fisheries or discriminate among participants in the affected fishery;

The action proposed in this framework does not alter any adjustments made in the Scallop FMP that address opportunities for vessels that would otherwise be prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fisheries. No consultation with the Coast Guard is required relative to this issue.

(7) describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;

Essential fish habitat was defined in earlier scallop actions. This framework t does not further address or modify those EFH definitions. There are no additional impacts to the physical environment or EFH expected from the action proposed in this framework.

(8) in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan;

Data and research needs relative to the Atlantic sea scallop and its associated fisheries are described in Section 5.1.8 of Amendment 10 and Section 4.1 of Amendment 15. Other data already collected include fishery dependent data described in Section 6.2.4 of Amendment 10 and Section 4.4 of Amendment 15, and fishery-independent resource surveys that provide an index of scallop abundance and biomass.

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on-- (A) participants in the fisheries and fishing communities affected by the plan or amendment; (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants; and (C) the safety of human life at sea, including weather and to what extend such measures may affect the safety of participants in the fishery;

The impacts of the scallop management program in general have been analyzed in previous scallop actions (Amendment 10, Amendment 11, Amendment 15, Framework 16, and Frameworks 18 - 23). Any additional impacts from measures proposed in this action on fishery participants are summarized in Section 5.4. Safety in the scallop fishery was described in Section 8.1.5.6 of Amendment 10 and nothing proposed in this action will affect safety of human life at sea.

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;

Overfishing reference points describing targets and thresholds for biomass and fishing mortality were updated in 2010 and are presented and explained in Section 5.1of this document. Under this OFD, the overfishing threshold will remain as status quo (spatially averaged $F = 0.38$). This action is designed to meet the fishing mortality target that has a 25% chance of exceeding the OFL. For this action that is an F of 0.38 in open areas, and F in access areas will be set based on the time-averaging principle (so that F may be higher than the overfishing threshold in access areas that had been closed).

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority-- (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided;

This action does not include changes to the current SBRM. This methodology is expected to assess the amount and type of bycatch in the scallop fishery and help identify ways the fishery can minimize bycatch and mortality of bycatch which cannot be avoided. The scallop fishery also has an industry funded observer set-aside program that provides additional funding (portion of total scallop catch set-aside) to put observers on scallop vessels. A summary of the extent of observer coverage in this fishery can be found in Section **4.5.2**.

(12) assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and

include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish;

This Proposed Action does not address recreational fishing regulations. There are no substantial recreational or charter fishing sections in the scallop fishery. Any recreational scallop fishing is likely conducted by diving, and harvest is by hand, maximizing the survival of released scallops.

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery, including its economic impact, and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors;

A detailed description of the scallop fishery is included in Section 7.1 of Amendment 10, Section 4.4 in Amendment 11, Section 4.4 of Amendment 15, and Section 4.4 of this action. These sections provide information relative to scallop vessels, processors, and dealers.

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate, taking into consideration the economic impact of the harvest restrictions or recovery benefits on the fishery participants in each sector, any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery; and

This action does propose a reduction in total catch in the scallop fishery compared to recent years. Catch varies based on natural variations in recruitment, and there has been below average recruitment for several years. Over the long term however, the projected catch should be closer to average levels, and is similar to recent years (50-60 million pounds). The measures included in this action are expected to have negative economic impacts in the short-term but positive benefits in the long-term for participating vessels and the economic impacts of these measured on various sectors of the fishery have been considered. The proposed specification measures will affect the vessels with limited access permits participating in the sea scallop fishery in similar proportions since each vessel will receive the same number of open areas DAS and access area trip allocations according to their categories they belong, and the limited access general category IFQ vessels receive 5.5% of the total ACL. As a result, the proposed specification measures will have proportionally similar impacts on revenues and profits of each vessel compared to No Action levels. The lottery mechanism used to allocate access area trips has the potential to give Georges Bank trips to vessels homeported in the Mid-Atlantic, but the lottery mechanism is random, and trip trading is allowed. Furthermore, the Council recommends that no vessel receive more than one trip per area to keep the process as fair and equitable as possible. Section 5.4 is a detailed examination of the expected economic impacts of this action. Harvest from the Atlantic sea scallop fishery will continue to be reviewed, established, and analyzed through the biennial framework process. Recreational fishing for sea scallops is rare and does not affect the success of the FMP.

(15) establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability.

The proposed action includes catch limits for certain sectors of the scallop fishery, as well as effort controls for the rest of the fishery that is not under a direct TAC or quota. This action covers 2013 and 2014 (default) only. Measures have been set at the fishing mortality target of $F = 0.38$ in open areas, so overfishing is not expected to occur.

Amendment 15 was approved in 2011, which brought the Scallop FMP in compliance with new annual catch limits required under the reauthorized Magnuson-Stevens Act of 2007. The ABC was set in this action under the same principles and the respective values are: 27,370 mt in 2013 and 30,353 mt in 2014. Fishery allocations under the proposed action are set at $F = 0.38$ for open areas, and the annual catch from all areas associated with that fishing mortality level is projected to be around 38.2 million pounds in 2013 under the proposed action.

6.1.2 NEPA

NEPA provides a mechanism for identifying and evaluating the full spectrum of environmental issues associated with federal actions, and for considering a reasonable range of alternatives to avoid or minimize adverse environmental impacts. This document is designed to meet the requirements of both the M-S Act and NEPA. The Council on Environmental Quality (CEQ) has issued regulations specifying the requirements for NEPA documents (40 CFR 1500 – 1508). All of those requirements are addressed in this document, as referenced below.

6.1.2.1 Environmental Assessment

The required elements of an Environmental Assessment (EA) are specified in 40 CFR 1508.9(b). They are included in this document as follows:

- The need for this action is described in Section 1.2;
- The alternatives that were considered are described in Section 2.0 (alternatives including the proposed action);
- The environmental impacts of the proposed action are described in Section 5.0;
- A determination of significance is in Section 6.2.2; and,
- The agencies and persons consulted on this action are listed in Section 6.2.3 and 6.2.4.

While not required for the preparation of an EA, this document includes the following additional sections that are based on requirements for an Environmental Impact Statement (EIS).

- An executive summary can be found on page iii;
- A table of contents can be found on page ix;
- Background and purpose are described in Section 1.0;
- A summary of the document can be found in the executive summary, page iii;
- A brief description of the affected environment is in Section 4.0;
- Cumulative impacts of the proposed action are described in Section 5.7;
- A list of preparers is in Section 6.1.2.3.

6.1.2.2 Finding of No Significant Impact

National Oceanic and Atmospheric Administration (NOAA) Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of the impacts of a

proposed action. On July 22, 2005, NOAA published a Policy Directive with guidelines for the preparation of a Finding of No Significant Impact (FONSI). In addition, the Council on Environmental Quality (CEQ) regulations at 40 CFR 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant in making a finding of significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria, the recent Policy Directive from NOAA, and CEQ's context and intensity criteria. These include:

(1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?
Response: No, the proposed action is not reasonably expected to jeopardize the sustainability of the sea scallop resource. This action sets specifications for fishing years 2013 and 2014 (default) by modifying the rotational area management program implemented by Amendment 10. None of the modifications are expected to cause increases in fishing mortality above the overfishing threshold that would jeopardize the sustainability of the scallop resource. The action is designed to be consistent with the mortality targets adopted in Amendment 10 and the overall target has been set at a level less than ABC taking into account sources of biological and management uncertainty, as proposed in Amendment 15.

(2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?
Response: No, the proposed action is not reasonably expected to jeopardize the sustainability of any non-target species. A general description of the non-target species is summarized in Section 4.5, and a complete bycatch analysis of the scallop fishery was completed in Amendment 15. Section 5.5 summarizes the overall impacts of this action on non-target species. In general, this action does not increase overall fishing effort above levels assessed in Amendment 15, thus there is no indication that impacts on non-target species will be different.

Due to the distribution and behavior of yellowtail flounder, bycatch in the scallop fishery has been documented and is expected to continue under this action. This action is a joint framework with the NE Multispecies FMP (Framework 49) because it modifies the access area seasonal closures which may have impacts on YT bycatch. Overall, the proposed seasonal closure is focused on the primary area of YT bycatch (closed Area II access area) and has been shifted to include months with the highest YT bycatch rates (mid-August-mid-November). Therefore, the proposed action is not expected to jeopardize the sustainability of groundfish species.

(3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat (EFH) as defined under the Magnuson-Stevens Act and identified in FMPs?
Response: No, the proposed action is not reasonably expected to cause substantial damage to the ocean and coastal habitats and/or EFH. Relative to the baseline habitat protections established under Amendment 10 to the Atlantic Sea Scallop FMP, those impacts are negligible, and relative to the No Action alternative, those impacts are marginally positive. Specifically, this action does not allow access into the Habitat Closed Areas, and it maintains the requirement for scallop

vessels to use 4-inch rings, which are believed to reduce impacts on benthic environments. Therefore, measures to further mitigate or minimize adverse effects on EFH are not necessary.

(4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?
Response: No, the proposed action is not reasonably expected to have substantial adverse impacts on public health or safety. This action does not modify the primary measures used to manage the fishery and is not expected to change fishing behavior in any substantial way to adversely impact safety.

(5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?
Response: No, the proposed action is not reasonably expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species. Section 4.3 describes the endangered or threatened species that are found in the affected area. Section 5.3 summarizes the impacts of the proposed action on endangered and threatened species; overall, none of the proposed measures are expected to have a significant impact on these species.

(6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?
Response: The proposed action is not expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area. Section 4.2 describes the physical environment of the affected area including the benthic environment and biological parameters of the scallop resource. In general, this action proposes to maintain fishing mortality at levels similar to those established under Framework 22 (2011-2012 fishing years); therefore, no additional impacts on biodiversity and ecosystem function are expected as a result of this action.

(7) Are significant social or economic impacts interrelated with natural or physical environmental effects?
Response: No, this action does not propose any significant social or economic impacts interrelated with significant natural or physical environmental effects. Because the proposed action improves flexibility and performance of the rotational area management program, which has not had significant social or economic impacts interrelated with significant natural or physical environmental effects in the past, none are expected to result from the proposed action.

(8) Are the effects on the quality of the human environment likely to be highly controversial?
Response: No, the effects on the quality of the human environment are not likely to be highly controversial and the proposed specifications are based on the best available science. Section 5.0 assesses the expected impacts of the preferred alternative on the human environment, and Section 5.7 describes the potential cumulative impacts of this action on the human environment.

(9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

Response: It is possible that historic or cultural resources such as shipwrecks could be present in the area where the scallop fishery is prosecuted. However, vessels try to avoid fishing too close to wrecks due to the possible loss or entanglement of fishing gear. Therefore, it is not likely that the proposed action would result in substantial impacts to unique areas.

(10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

Response: Although there are shipwrecks present in areas where fishing occurs, including some registered on the National Register of Historic Places, vessels try to avoid fishing too close to wrecks due to the possible loss or entanglement of fishing gear. Therefore, it is not likely that the proposed action would adversely affect the historic resources.

(11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

Response: No, the proposed action is not related to other actions with individually insignificant but cumulatively significant impacts. Section 5.7 describes fishing and non-fishing past, present and reasonably foreseeable future actions that occurred or are expected to occur in the affected area. Some measures within the proposed action do result in cumulative impacts in some cases, but none of the impacts discussed exceed the threshold that would indicate a significant impact. In summary, the sea scallop resource, EFH, protected species, bycatch, and the human environment have been impacted by past and present actions in the area and are likely to continue to be impacted by these actions in the future. In general, the proposed action will modify the rotational area management program, which will have positive impacts on the long-term success of the program at preventing overfishing and achieving optimum yield on a continuing basis.

(12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

Response: No districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places are located in the affected area; therefore, there are no impacts on these resources from the proposed action.

(13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

Response: No, the proposed action is not reasonably expected to result in the introduction or spread of a nonindigenous species. The only nonindigenous species known to occur in any significant amount within the fishery areas is the colonial sea squirt (*Didemnum sp*.). The tunicate occurs on pebble gravel habitat, and does not occur on moving sand. NMFS and the WHOI HabCam have surveyed the area and studies are underway to monitor *Didemnum*'s growth and effect on scallops and their habitat. At this time, there is no evidence that fishing spreads this species more than it would spread naturally. Furthermore, the proposed action is not expected to spread the species more than regular fishing activity would; however, the spread of invasive tunicates and fishing gear needs to be monitored closely.

(14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about future consideration?
Response: No, the proposed action is not likely to establish a precedent for future action with significant effects, and it does not represent a decision in principle about future consideration. This action modifies an existing rotational area management program that is designed to be reviewed and adjusted every two years. Area rotation was established under Amendment 10, which was an EIS that assessed the long-term impacts of area rotation.

(15) Can the proposed action reasonably be expected to threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment?
Response: No, the proposed action is not reasonably expected to threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment. This action does not propose any changes that would provide incentive for environmental laws to be broken.

(16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?
Response: No, the proposed action is not reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species. Both target and non-target species have been identified and assessed in this document (Section 5.1 and 5.6). In general, this action will modify the rotational area management program, which will have positive impacts on both target and non-target species.

FONSI DETERMINATION:
In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for Framework 24/Framework 49 to the Sea Scallop Fishery Management Plan, it is hereby determined that Framework 24/Framework 49 will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

_____ _____
Regional Administrator, Northeast Region, NMFS Date

6.1.2.3 List of Preparers; Point of Contact

Questions concerning this document may be addressed to:
Mr. Paul Howard, Executive Director
New England Fishery Management Council
50 Water Street, Mill 2
Newburyport, MA 10950
(978) 465-0492

Framework Adjustment 24 was prepared and evaluated in consultation with the National Marine Fisheries Service and the Mid-Atlantic Fishery Management Council. Members of the Scallop

PDT prepared and reviewed portions of analyses and provided technical advice during the development of the Environmental Assessment. The list of Scallop PDT members is included in Table 106.

Table 106 – List of Scallop PDT members (2012)

Scallop Plan Development Team
Deirdre Boelke, PDT Chair, NEFMC
Charles Adams, NMFS FSO
William DuPaul, VIMS
Travis Ford, NMFS SFD
Emily Gilbert, NMFS SFD
Demet Haksever, NEFMC
Dvora Hart, NEFSC
Brian Hooper, NMFS NEPA
Chad Keith, NMFS Observer Program
Kevin Kelly, ME DMR
Lt. Lyle Kessler, USCG
Kimberly Murray, NEFSC
Cate O'Keefe, SMAST
David Rudders, VIMS
Evan Bing Sawyer, NEFSC Social Science Branch

In addition, other individuals contributed data and technical analyses for the document; Tom Nies and Fiona Hogan (NEFMS staff – impacts on bycatch and other fisheries); Michelle Bachman (NEFMC staff – impacts on essential fish habitat); and Woneta Cloutier (NEFMC staff – administrative assistant for Scallop FMP).

6.1.2.4 Agencies Consulted

The following agencies were consulted in the preparation of this document:

New England Fishery Management Council
Mid-Atlantic Fishery Management Council
National Marine Fisheries Service, NOAA, Department of Commerce
United States Coast Guard, Department of Homeland Security

6.1.2.5 Opportunity for Public Comment

The proposed action was developed during the period January 2012 through November 2012 and was discussed at the meetings listed in Table 107, below. Opportunities for public comment were provided at each of these meetings.

Table 107 – Summary of meetings with opportunity for public comment for Framework 24/Framework 49

Meeting	Location	Date
Scallop PDT Meeting	Hilton Garden Inn, Warwick, RI	January 5, 2012
Scallop Committee Meeting	Hotel Providence, Providence RI	January 19, 2012
NEFMC Council Meeting	Sheraton Harborside Hotel, Portsmouth, NH	January 31, 2012
Scallop PDT	Parker River Wildlife Refuge, Newburyport, MA	March 7, 2012
Scallop Advisory Panel Meeting	Hotel Providence, Providence, RI	April 4, 2012
Scallop Committee Meeting	Hotel Providence, Providence, RI	April 5, 2012
Scallop PDT Meeting	Cape Codder Inn, Hyannis, MA	May 2, 2012
Scallop PDT	Conference Call	May 21, 2012
Scallop PDT Meeting	Starboard Galley, Newburyport, MA	July 11, 2012
Scallop PDT	NEFSC, Woods Hole, MA	August 20-21, 2012
Scallop Advisory Panel Meeting	Fairfield Inn & Suites, New Bedford, MA	September 17, 2012
Scallop Committee Meeting	Fairfield Inn & Suites, New Bedford, MA	September 18, 2012
NEFMC Council Meeting	Radisson Hotel, Plymouth, MA	September 26, 2012
Scallop PDT Meeting	US Coast Guard Building, Boston, MA	October 9, 2012
Scallop PDT	Conference Call	October 22, 2012
Scallop Advisory Panel Meeting	Four Points, Revere, MA	November 7, 2012
Scallop Committee Meeting	Four Points, Revere, MA	November 8, 2012
NEFMC Council Meeting	Newport Marriott, Newport, RI	November 15, 2012

6.1.3 Marine Mammal Protection Act (MMPA)

Section 4.3 of this action contains a description of marine mammals potentially affected by the Scallop Fishery and Section 5.3 provides a summary of the impacts of the proposed action as analyzed in Framework 24/Framework 49. A final determination of consistency with the MMPA will be made by the agency when Framework 24/Framework 49 is implemented.

6.1.4 Endangered Species Act (ESA)

Section 4.3 of this action contains a description of marine mammals potentially affected by the Scallop Fishery and Section 5.3 provides a summary of the impacts of the proposed action as analyzed in Framework 24/Framework 49. A final determination of consistency with the ESA will be made by the agency when Framework 24/Framework 49 is implemented.

6.1.5 Administrative Procedure Act (APA)

Sections 551-553 of the Administrative Procedure Act established procedural requirements applicable to informal rulemaking by federal agencies. The purpose is to ensure public access to the federal rulemaking process, and to give public notice and opportunity for comment. The Council did not request relief from notice and comment rule making for this action, and the Council expects that NOAA Fisheries will publish proposed and final rule making for this action.

The Council has held eighteen meetings open to the public on Framework 24/Framework 49 (Table 107). The Council initiated this action at the January 2012 Council meeting and approved

final measures at the November 2012 meeting. After submission to NMFS, a proposed rule and notice of availability for Framework 24/Framework 49 under the M-S Act will be published to provide opportunity for public comment.

6.1.6 Paperwork Reduction Act (PRA)

The purpose of the Paperwork Reduction Act is to minimize paperwork burden for individuals, small businesses, nonprofit institutions, and other persons resulting from the collection of information by or for the Federal Government. It also ensures that the Government is not overly burdening the public with requests for information. Framework 24/Framework 49 does not have any new collection of information requirements subject to the PRA, but the alternative to increase observer set-aside coverage to open area LAGC vessels does expand upon current PRA requirements under the NMFS Northeast Region Observer Providers Family of Forms (OMB Control No. 0648-0546). The amount that the proposed action that would alter the burden hour estimates will be described and evaluated in an updated PRA analysis and public comments will be sought through Framework 24/Framework 49 proposed rulemaking.

6.1.7 Coastal Zone Management Act (CZMA)

Section 307 of the Coastal Zone Management Act (CZMA) is known as the federal consistency provision. Federal Consistency review requires that "federal actions, occurring inside or outside of a state's coastal zone, that have a reasonable potential to affect the coastal resources or uses of that state's coastal zone, to be consistent with that state's enforceable coastal policies, to the maximum extent practicable." The Council previously made determinations that the FMP was consistent with each state's coastal zone management plan and policies, and each coastal state concurred in these consistency determinations (in Scallop FMP). Since the proposed action does not propose any substantive changes from the FMP, the Council has determined that this action is consistent with the coastal zone management plan and policies of the coastal states in this region. Once the Council has adopted final measures and submitted Framework 24/Framework 49 to NMFS, NMFS will request consistency reviews by CZM state agencies directly.

6.1.8 Data Quality Act

Utility of Information Product

The proposed document includes: A description of the management issues, a description of the alternatives considered, and the reasons for selecting the preferred management measures, to the extent that this has been done. These actions propose modifications to the existing FMP. These proposed modifications implement the FMP's conservation and management goals consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as well as all other existing applicable laws.

This proposed framework is being developed as part of a multi-stage process that involves review of the document by affected members of the public. The public has had the opportunity to review and comment on management measures during several meetings.

The Federal Register notice that announces the proposed rule and the implementing regulations will be made available in printed publication and on the website for the Northeast Regional Office. The notice provides metric conversions for all measurements.

Integrity of Information Product
The information product meets the standards for integrity under the following types of documents:

Other/Discussion (e.g., Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics; 50 CFR 229.11, Confidentiality of information collected under the Marine Mammal Protection Act.)

Objectivity of Information Product
The category of information product that applies for this product is "Natural Resource Plans."

In preparing specifications documents, the Council must comply with the requirements of the Magnuson-Stevens Act, the National Environmental Policy Act, the Regulatory Flexibility Act, the Administrative Procedure Act, the Paperwork Reduction Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, the Data Quality Act, and Executive Orders 12630 (Property Rights), 12866 (Regulatory Planning), 13132 (Federalism), and 13158 (Marine Protected Areas).

This framework is being developed to comply with all applicable National Standards, including National Standard 2. National Standard 2 states that the FMP's conservation and management measures shall be based upon the best scientific information available. Despite current data limitations, the conservation and management measures proposed to be implemented under this framework are based upon the best scientific information available. This information includes complete NMFS dealer weighout data through 2011. Dealer data is used to characterize the economic impacts of the management proposals. The specialists who worked with these data are familiar with the most recent analytical techniques and with the available data and information relevant to the scallop fishery.

The policy choices (i.e., management measures) proposed to be implemented by this document are supported by the available information. The management measures contained in the framework document are designed to meet the conservation goals and objectives of the FMP.

The supporting materials and analyses used to develop the measures in the framework are contained in the document and to some degree in previous amendments and/or FMPs as specified in this document.

The review process for this framework involves the New England Fishery Management Council, the Northeast Fisheries Science Center, the Northeast Regional Office, and NOAA Fisheries headquarters. The document was prepared by staff of the Council and Center with expertise in scallop resource issues, habitat issues, economics, and social sciences. The Council review process involves public meetings at which affected stakeholders have opportunity to provide comments on the specifications document. Review by staff at the Regional Office is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of the specifications document

and clearance of the rule is conducted by staff at NOAA Fisheries Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

6.1.9 E.O. 13132 (Federalism)

The E.O. on federalism establishes nine fundamental federalism principles for Federal agencies to follow when developing and implementing actions with federalism implications. Previous scallop actions have already described how the management plan is in compliance with this order. Furthermore, this action does not contain policies with Federalism implications, thus preparation of an assessment under E.O. 13132 is not warranted.

6.1.10 E.O. 12898 (Environmental Justice)

The alternatives in this framework are not expected to cause disproportionately high and adverse human health, environmental or economic effects on minority populations, low-income populations, or Native American peoples.

6.1.11 Executive Order 12866 (Regulatory Impact Review)

6.1.11.1 Introduction

The Regulatory Impact Review (RIR) provides an assessment of the costs and benefits of preferred alternatives and other alternatives in accordance with the guidelines established by Executive Order 12866. The regulatory philosophy of Executive Order 12866 stresses that in deciding whether and how to regulate, agencies should assess all costs and benefits of all regulatory alternatives and choose those approaches that maximize the net benefits to the society.

The RIR also serves as a basis for determining whether any proposed regulations are a "significant regulatory action" under the criteria provided in Executive Order 12866 and whether the proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act of 2180 (RFA).

This RIR summarizes the effects of the proposed observer program and other alternatives considered in this Framework 24/Framework 49. The Framework 24/Framework 49 document contains all the elements of the RIR/RFA, and the relevant sections are identified by reference to the document.

Because Framework 24/Framework 49 includes an alternative to modify the GB access area seasonal restrictions (Section 2.2.1), this action is also a joint framework with the NE Multispecies FMP (Framework 49). However, this alternative is not expected to have economic impacts to the groundfish fishery (see analysis in Section 5.4.6 ; GF vessels currently have no access to these areas) and thus this RIR focuses on the scallop fishery impacts.

The purpose of and the need for action are described in Section 1.2. The description of the each selected alternative including the no action alternative is provided in Section 2.0.

6.1.11.2 Economic Impacts

Section 5.4 evaluated economic impacts of Framework 24/Framework 49 proposed measures and alternatives considered by the Council. Sources of uncertainty are identified in Section 5.4.11.

The aggregate economic impacts of the proposed allocation alternatives are analyzed in Section 5.4.3. The numerical results are presented in the tables included in those sections. The individual measures considered by Framework 24/Framework 49 are discussed in Sections 5.4.4 through 5.2.10 and the relevant subsections shown below:

- Acceptable Biological Catch: Section 5.4.2
- Aggregate Economic Impacts including open area DAS and access area allocations: Section 5.4.3
- Specifications for limited access vessels: Section 5.4.3.2
- Specifications for limited access general category (LAGC) IFQ vessels: Section 5.4.3.3
- Northern Gulf of Maine (NGOM) Hard-TAC: Section 5.4.4.
- Payback measures for limited access vessels: Section 5.4.5.2
- Payback measures for LAGC IFQ vessels: Section 5.4.5.3
- Modification of Georges Bank access area seasonal restrictions: Section 5.4.6
- Measures to address YT flounder bycatch in the LAGC fishery: Section 5.4.7
- Timing of AMs for the scallop fishery YT flounder sub-ACL; Section 5.4.8
- Measures to improve the flexibility and efficient use of LAGC IFQ; Section 5.4.9
- Measures to expand the current observer set-aside program: Section 5.4.10

6.1.11.3 Summary of Regulatory Impacts

The combined impacts of the proposed regulations on scallop fishery, on consumers and total economic benefits to the nation are analyzed in Section 5.4.3 and subsection from 5.4.3.1 to 5.4.3.7. The economic impacts of the individual measures are discussed in Sections of 5.4.4 through 5.4.12 as indicated above. All the values for economic impacts are presented in terms of 2011 dollars except for the determination of the significant impacts, cumulative present value of the net economic benefits to the nation are also estimated in terms of the 1996 dollars.

<u>Summary of the aggregate impacts of the proposed measures</u>

The economic impacts of the proposed measures are estimated relative to the "No Action" levels. The Guidelines for the Economic Analysis of the Fishery Management Action (NMFS, 2007) [8] state that in estimating the costs and benefits of an action "the proper comparison is '*with the action' to 'without the action'* rather than to *'before and after the action,*' since certain changes may occur even without action and should not be attributed to the regulation." Furthermore, the Guidelines indicate that "the baseline is what is likely to occur in the absence of any of the proposed actions" and that "The No Action alternative should be the basis of comparison for other alternatives. However, the No Action alternative does not necessarily mean a continuation of the present situation, but instead is the most likely scenario for the future, in the absence of other alternative actions"[9]. Therefore, the consistency of the Framework 24/Framework 49 analyses with these guidelines require that the biological and economic impacts of the proposed measures compared to the "No Action" scenario as defined in Section 2.2.1 of the document and described below.

[8] Guidelines for Economic Reviews of National Marine Fisheries Service Regulatory Actions, March 2007, http://www.nmfs.noaa.gov/sfa/domes_fish/EconomicGuidelines.pdf
[9] Ibid, p.12

The aggregate economic impacts of the preferred alternative and other alternatives, including the open area DAS and access area trip allocations and TAC for the general category fishery, are expected to be negative in the short-term (2013), but positive over the long-term compared to the no action scenario. If no action is taken, open area DAS will be about 75% (26 DAS in 2013) of what it was in 2012 fishing year (34 DAS) and each full-time vessel will be allocated four access area trips (allocations for the part-time vessels would be 40% of the full-time allocation and for the occasional vessels, it will be 8% of the full-time allocation). As a result of fewer open area DAS combined with a lower LPUE because of the decline in estimated of stock abundance in 2013, revenues for no action would be significantly lower ($448 million in 2013) compared to the actual revenues in 2011 ($582 million) and in 2012 (estimated to be about $550 million in inflation adjusted 2011 prices). Because the preferred alternative would allocate only 2 access area trips to full-time vessels each with a possession limit of 13,000 lb., total scallop revenues are estimated to be $393.4 million, that is about $55 million lower than the levels for the no action scenario in 2013. Similarly, the total economic benefits for the preferred action would be $49 million lower than No Action levels in 2013. Thus, the impacts of the preferred alternative would not exceed $100 million in the short-term.

In the long-term, present value of the cumulative revenues for the preferred alternative will exceed no action levels by $44.2 million (5.6 million) and the present value of the cumulative economic benefits for the preferred alternative would exceed the total economic benefits for no action by $81.1 ($36.2) million using a 3% (7%) discount rate (Table 60 and Table 61 in Section 5.4.3.2). In terms of 1996 prices, the net benefits will increase by $34.9 million (at 7% discount rate) million to $71.3 million (at 3% discount rate) from the no action levels for the long-term period 2013-2026. The actual net benefits would probably exceed these levels, however. Because Framework 24/Framework 49 started as a two –year Framework, in order to determine long-term impacts of the alternatives, the biological model was run assuming that the no action, preferred action and the alternatives would be implemented for 2 years and in the third year default measures would be implemented until a new Framework was approved. However, in its November meeting, the Council voted to implement the measures for this Framework for one year only for the reasons described in Section 3.2.1 of this document. As a result, there will be a new set of alternatives that will be effective for the years 2014 and 2015 and especially, the no action scenario would be entirely different in 2014, resembling more of the projections for the preferred alternative (ALT 2). In other words, the no action open area DAS would be lower and there would be no access area trips instead of four trips in 2014. As a result, the differences in economic benefits between the management alternatives and no action would probably be smaller in 2014 and the long-term benefits for the proposed measures would probably be larger than the numbers presented above. Thus the preferred alternative would have positive economic impacts over the long-term compared to no action and annual impacts on the economy would not exceed $100 million either in the short- or the long-term.

The Guidelines for the Economic Analysis of the Fishery Management Action (NMFS, 2007) require that the analysis to include the economic effects of a range of feasible alternatives to "enable the agency to determine the regulatory alternative that maximizes net benefits to the

nation…" [10]. The following summarizes the economic impacts of the preferred alternative in comparison to the other alternatives considered in this Framework:

- The preferred alternative (ALT2) would result in higher fleet revenues, compared to ALT3, and ALT4, and about the same level of revenues compared to ALT1 in 2013 (Table 7?). The scallop fleet revenue for the preferred alternative would be slightly lower compared to ALT4, but higher than other alternatives over the long-term (2013-2026, Tables 8 and 9 in Section 5.4.3.2).

- The preferred alternative (ALT2) would result in largest total economic benefits compared to ALT2, ALT3 and ALT4 in 2013. Economic benefits include the benefits both to the consumers and to the fishing industry and equal the sum of benefits to the consumers and producers. Over the long-term from 2013 to 2026, the present value of the cumulative economic benefits for the preferred alternative (ALT2) would exceed the benefits for ALT1 and ALT4, but slightly lower than the economic benefits for ALT4. (Table 7? and Table 8? in Section 5.4.3.2). The value of total economic benefits over the long-term will be slightly lower if a 7% discount rate is used to estimate the present value of the benefits but the benefits for the preferred alternative would still be exceed the levels for the alternative options as shown in Section 5.4. 3.2.6 (Table 28?).

- The biological projections also included a status quo (SQ) scenario which assumes continuation of the number of DAS and access area trip allocations equivalent to what they were in 2012. Because the number of open area DAS under the SQ scenario (34 days) would be higher than the number of days (29 days) under no action scenario, total revenue ($505 million) would be higher under this scenario. Compared to SQ scenario, the total revenues would decline by $111 under the preferred action. The status quo scenario is not a true alternative, however, because the fishing mortality in the open areas under this scenario would exceed the upper limit set under Scallop FMP, thus would be legally infeasible. This scenario was included mainly to evaluate the short- to medium-term impacts of the regulations on the cash reserves and financial viability of the small business entities (in comparison to the situation under the present allocations) as a part of the Regulatory Flexibility Act (RFA) analyses (see Section 6.1.12.3.4.1 below). In contrast, the Regulatory Impact Review (RIR) focuses on the impacts of regulations on the net benefits to the society and clearly indicates that the costs and benefits of the alternatives be compared to no action instead of a scenario which assumes a continuation of the present allocations. However, the cost benefit analyses provided in Section 5.4.3 includes SQ scenario and could still be useful in understanding the consequences of continuation of the present situation on the revenues and total benefits from the scallop fishery (see Section 5.4.3.2 for these impacts).

- The overall DAS used will decline by 26% under the preferred alternative (ALT2) compared to No Action in 2013 mainly due to the lower access area allocations (2 trips) compared to 4 trips that would be taken under No Action scenario. This could lead to a

[10] Ibid., p.13

reduction in employment if less crew was employed to maintain DAS spent per crew at the present levels. On the other hand, it is uncertain to what extent the reduction in crew-days will result in a reduction in the number of crew given that this reduction is mostly limited to 2013 and DAS-used could increase in the long-term depending on the future actions (Table 15). Even though, the CREW*DAS could decline under those alternatives, the decline in the trips costs with less effort could help to prevent some of the decline in crew income, however. For the long-term period from 2013 to 2026, total DAS-used (thus crew-days and employment) for the preferred alternative will be slightly higher than the SQ and no action levels after 2018 (For additional discussion of potential impacts on employment please see Social Impacts, Section 5.5).

- The cumulative impacts of the measures from Framework 24/Framework 49 proposed measures, and the past actions including Amendment 10, Amendment 11, Amendment 15, Framework 22 and Framework 23 to the scallop FMP, are estimated to be positive over the long-term. Adjustment of the open area DAS allocations, implementation of trip limits and allocations for the access areas and rotation area management had positive impacts on the scallop industry by increasing the revenues, producer and consumer surpluses and net benefits in the past. The Framework 24/Framework 49 measures are estimated to have negative impacts on consumer, producer and total economic benefits in 2013, however, this reduction is not expected to offset the level of benefits achieved under the past actions. Due to higher than projected prices in 2011 and 2012, scallop fleet revenues in 2011 ($582 million) and estimated revenues for 2012 ($550 million) will exceed total projected revenues in the previous action, Framework 22, for 2011 ($399 million) and 2012 ($428 million) by a total of $305 million in the last two years alone. Thus the gains in just the last two years alone would more than offset the reduction in estimated revenues as compared to estimated revenues in 2012 ($550-393.4 million =$157 million in 2013). Compared to the estimated revenues for the preferred alternative in Framework 22 for 2012 ($428 million), the decline in the projected fleet revenue in 2013 ($393.4) would only be $36.6 million if the actual landings and prices equaled to what was projected in Framework 22. In short, because the positive impacts of the Framework 22 measures ($305 million in 2011-2012) exceed the negative impacts from Framework 24/Framework 49 measures in 2013 ($48 million compared to no action), the net cumulative impacts of the proposed measures and the past actions would be positive in the 2013. The impacts on total economic benefits are proportional to the impacts on fleet revenues. The actions proposed by Framework 24/Framework 49 are expected to increase fleet revenues, profits and total economic benefits compared to both no action and the SQ scenario over the long-term. As a result, cumulative economic benefits, which measure the sum of benefits from previous and preferred alternatives, are expected to be positive.

<u>Summary of the impacts of the individual measures</u>

- Although Framework 24/Framework 49 included an option to prohibit RSA restriction on RSA compensation in NL in 2013 under the preferred alternative as well as under Alternative 4, the Council rejected this alternative. No action on this measure will result

in positive economic impacts on vessels that take compensation trips, but potentially negative impacts on the scallop yield and revenues from this area in 2014.

- Reauthorization of the MSA requires the SSC to set an acceptable biological catch (ABC), or maximum catch level that can be removed from the resource taking into account all sources of biological uncertainty. Because the ABC level for the preferred alternative is lower than the no action ABC, this measure is expected to have negative impacts on the landings and revenues, producer and consumer surpluses and net economic benefits to the nation in the short-term as summarized above in the aggregate impacts of the proposed measures. However, the level of ABC updated in the Framework will help prevent overfishing and optimize yield on a continuous basis. Therefore, this measure is expected to have positive impacts on the landings and revenues, producer and consumer surpluses and net economic benefits to the nation over the long-term.

- The economic impacts of the preferred alternative and the alternatives on the general category fishery will be similar to the aggregate impacts summarized above, negative in the short-term and positive in the long-term compared to the no action. The LAGC IFQ fishery is allocated 5.5% of the total ACL for the fishery, under the default measures (No Action). For FY2013, the total LAGC IFQ is equivalent to about 2.4 million pounds, and 2.8 million lb. for 2014, or about 400,000lb. less than for no action level. The preferred alternative would, however, prorate LAGC IFQ trips proportionally in all areas open that year excluding CA2, with positive economic impacts on the LAGC vessels because they will be able to use CA2 trips in areas closer to the shore with lower trip costs.

- The preferred alternative will keep the value of incidental catch at (50,000 lb.) and the NGOM TAC at 70,000 lb. Since there is no change in these values from the previous action, preferred alternative will have the same economic impacts as the no action. Removal of the incidental catch before making allocations will ensure fishing mortality targets are not exceeded, thus, will continue to have positive impacts on the resource, scallop yield, on the revenues and profits of the scallop vessels.

- The specific measures that are included until this action is implemented will help to reduce the adverse impacts of exceeding the proposed allocations in Framework 24/Framework 49 in 2013 on the scallop resource. The payback measures include reduced open area DAS and no future trips if vessels take access area trips and fish in open areas in excess of the DAS allocations before this framework is implemented. Similarly, if LAGC IFQ vessels exceed final allocations, their overage to be deducted pound by pound from their allocations in 2013 fishing year along with any other incurred overages. These measures would help reduce the negative impacts of overfishing in 2013 on the scallop resource and would have positive long-term impacts on landings, revenues and net national economic benefits.

- Framework 24/Framework 49 will modify GB seasonal restrictions to provide access during months with highest scallop meat weights and to minimize yellowtail bycatch. Preferred alternative will provide higher flexibility to vessels compared to no action and other options since CA2 would close for only 3 months (Aug.15-Nov.15) and CA1 and NL would be open all year, resulting in positive economic benefits for the scallop fishery.

- In general, the accountability measures to address YT flounder by catch in the LAGC IFQ trawl fishery are expected to reduce incentive to catch YT as by catch and reduce the risks of closing of the YT flounder areas to scallop fishing with positive long-term economic impacts for the scallop fleet as a whole. There could be some distributional impacts, however, on the LAGC IFQ trawl vessels. If the YT by catch by the LAGC IFQ trawl fishery remains above 10%, the preferred alternative would close the three-digit statistical areas 612 and 613 for seven months to trawl. The areas would close to fishing during certain months as well if the overall SNE sub-ACL for the scallop fishery is exceeded. In either case, the vessels would have to shift a significant portion of their effort to July to November if they want to fish with trawl gear, which is likely to increase costs of fishing. Allowing dredge gear to be used for fishing during closure periods would add to flexibility for those vessels that have the capacity to use dredge gear. This will alleviate the potential impacts of AM closures, although it would still increase the costs for the LAGC Trawl vessels either because of fishing during sub-optimal periods or because of the costs of installing dredges part of the year.

- YT AMs for LAGC IFQ dredge fishery would close the same LA AM area to to these vessels if their catch is more than 3% of the SNE/MA YT sub-ACL under a different schedule that leaves some of the AM area open for parts of the year when traditional fishing has occurred, but closes the areas during higher YT bycatch months. This should reduce the amount of effort that could be shifted to other months and areas and reduce the negative impacts on crew income and profits. Bycatch from this segment of the fishery is typically very small and as long as the future catch of yellowtail do not increase from those levels in the previous years, it is highly unlikely that the AMs will have any negative economic impacts LAGC dredge fishery.

- With the preferred alternative, if reliable information is not available to make a mid-year determination of the need to implement an AM for the YTF sub-ACL, NMFS would wait until enough information is available before making a decision to implement an AM. This alternative would have positive economic impacts on the scallop vessels since the decisions will be made based on more accurate information.

- Allowing transfer of LAGC IFQ during the year would provide more flexibility to vessels with positive economic benefits. It will also add more complexity to IFQ monitoring with a possibility for the cost recovery fees increasing and reducing the net economic benefits for the LAGC vessels.

- Including open area trips by LAGC vessels under the current observer set aside program will improve bycatch information from all segments of the scallop fishery, thus it will have indirect positive impacts on resource, non-target species and economic benefits. Similarly, modification of the observer set-aside program would be more efficient in using the set-asides where it is needed most and as such, they will be more fully utilized for better monitoring the catch with indirect positive economic benefits.

6.1.11.4 Enforcement Costs

The enforcement costs and benefits of the proposed options for Framework 24/Framework 49 are within the range of impacts addressed in Section 8.9 of Amendment 10 FSEIS and Section 5.4.22

and Section 5.6.3 of Amendment 11. The qualitative analysis included a discussion of the pros and cons of the proposed alternatives from an enforcement perspective. The proposed measures by Framework 24/Framework 49 are very similar to the existing measures in terms of the enforcement requirements, since they include the continuation of the area specific trip allocations, area closures, open area DAS allocations, measures for reducing bycatch, and the continuation of observer coverage program. The costs of implementing and enforcing the preferred alternative are not expected to compromise the effectiveness of implementation and enforcement of this action. Furthermore, there are several mechanisms and systems, such as VMS monitoring and data processing, already in place that will aid in monitoring and enforcement of this action. Therefore, the overall enforcement costs are not expected to change significantly from the levels necessary to enforce measures under the no action regulations.

6.1.11.5 Determination of Significant Regulatory Action

Executive order 12866 defines a "significant regulatory action" as one that is likely to result in: a) an annual effect on the economy of $100 million or more, or one which adversely affects in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; b) a serious inconsistency or interference with an action taken or planned by another agency; c) a budgetary impact on entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; d) novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive order.

The preceding analysis shows that Framework 24/Framework 49 would not constitute a "significant regulatory action" since it will not raise novel legal and policy issues, other than those that were already addressed and analyzed in Amendment 10, Amendment 11 and Amendment 15. The overall cumulative impacts of the preferred alternative on scallop revenues are expected to be positive for the long-term period 2013-2026 compared to the no action levels as summarized above. Present value of the cumulative revenues for the preferred alternative will exceed no action levels by $44.2 million (5.6 million) and the present value of the cumulative economic benefits for the preferred alternative would exceed the total economic benefits for no action by $81.1 ($36.2) million using a 3% (7%) discount rate in the long-term. In terms of 1996 prices, the net benefits will increase by $34.9 million (at 7% discount rate) million to $71.3 million (at 3% discount rate) from the no action levels for the long-term period 2013-2026. Thus the preferred alternative will not have either a short-term or a long-term negative annual impact on the economy by $100 million or more compared to No Action alternative. The proposed alternatives will not adversely affect in a material way the economy, productivity, competition, public health or safety, jobs or state, local, or tribal governments or communities in the long run. The preferred alternative also does not interfere with an action planned by another agency, since no other agency regulates the level of scallop harvest. It does not materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients.

6.1.12 Initial Regulatory Flexibility Analysis

The purpose of the Regulatory Flexibility Analysis (RFA) is to reduce the impacts of burdensome regulations and record-keeping requirements on small businesses. To achieve this goal, the RFA requires government agencies to describe and analyze the effects of regulations

and possible alternatives on small business entities. Based on this information, the Regulatory Flexibility Analysis determines whether the preferred alternative would have a "significant economic impact on a substantial number of small entities."

6.1.12.1 Problem Statement and Objectives

The purpose of the action and need for management is described in Section 1.2 of the Framework 24/Framework 49 document.

6.1.12.2 Management Alternatives and Rationale

The preferred alternative and other alternatives including "no action" are described in several sections in Section 2.0 of the framework document.

6.1.12.3 Determination of Significant Economic Impact on a Substantial Number of Small Entities

6.1.12.3.1 Description of the scallop permits and vessels

The proposed regulations of Framework 24/Framework 49 would affect vessels with limited access scallop and general category permits. Because Framework 24/Framework 49 includes an alternative to modify the GB access area seasonal restrictions (Section 2.2.1), this action is also a joint framework with the NE Multispecies FMP (Framework 49). However, this action is not expected to have economic impacts to the groundfish fishery. There may be some positive or negative impacts on some groundfish stocks as a result of these potential measures, but no direct impacts are expected on the groundfish fishery and overall landings of groundfish and thus impacts of Framework 24/Framework 49 on groundfish small business entities is expected to be negligible (Section 5.6.6.1). Therefore, this RFA focuses on the scallop fishery.

Appendix I to Framework 24/Framework 49 (Economic and Social Trends) provide extensive information on the number, the port, the state, and the size of vessels and small businesses that will be affected by the proposed regulations. The current information on the number of scallop permits for the years 2000 to 2011 are provided in Table 108 and the unique number of permits by right-id is provided in Table 109. According to the recent permit data, there were 313 unique vessels that obtained full-time limited access permits in 2011, including 250 dredge, 52 small-dredge and 11 scallop trawl permits. In the same year, there were also 34 part-time limited access permits in the sea scallop fishery. The number of LAGC-IFQ permits declined from 344 in 2009 to 2888 in 2011. There were 103 applications for NGOM and 279 applications for incidental catch permit Table 110. The number of active general category vessels has declined in recent years to 169 vessels with IFQ permits and 14 vessels with NGOM permits and over 76 vessels with incidental catch permits (up to 40 lb. of scallops per trip) in 2011 as described in Table 114. Especially full-time limited access vessels had a high dependence on scallops as a source of their income and the majority of the full-time (94%) derived more than 90% of their revenue from the scallop fishery during 2008-2011 while 37% of the part-time vessels derived 90% of their revenue from scallops in the same year (Table 111). It should be pointed out, however, that only the vessels with LAGC-IFQ permits would be affected with the Framework 24/Framework 49 measures, since Framework 24/Framework 49 will have no changes to the total TAC for LAGC NGOM or TAC for the LAGC incidental catch fisheries. Therefore, including the vessels with

LA and LA IFQ permits, the proposed alternatives of Framework 24/Framework 49 are expected to have impacts on a substantial number of small entities.

Although the current data on the limited access general category fishery is less than perfect, the available information shows again that the 29% of the limited access general category IFQ derived more than 90% of their revenues from the scallop fishery (Table 112). Therefore, scallop fishing is an important source of income for the majority of the vessels in the scallop fishery. Appendix I to Framework 24/Framework 49 provide detailed information on the composition of revenue and revenues from other species for the LA and the limited access general category vessels.

Table 108. Number of limited access vessels by permit category and gear

Permit category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Full-time	220	224	234	238	242	248	255	256	254	259	252	253
Full-time small dredge	3	13	25	39	48	57	59	63	56	55	54	53
Full-time net boat	17	16	16	16	15	19	14	12	11	11	11	11
Total full-time	240	253	275	293	305	324	328	331	321	326	317	316
Part-time	16	14	14	10	4	3	3	2	2	2	2	2
Part-time small dredge	4	6	8	19	26	30	34	35	32	34	34	32
Part-time trawl	20	18	10	8	3	-	-	-	-	-	-	
Total part-time	40	38	32	37	33	33	37	37	34	37	38	34
Occasional	4	5	4	3	3	1	2	1	1	-	-	-
Occasional trawl	16	19	15	8	5	5	-	-	-	-	-	-
Total occasional	20	24	19	11	8	6	2	1	1	0	0	0
Total Limited access	300	315	326	342	346	363	367	369	356	361	353	351

Note: The permit numbers above include duplicate entries because replacement vessels receive new permit numbers and when a vessel is sold, the new owner would get a new permit number.

Table 109. Scallop Permits by unique right-id and category by application year

Permit category	2008	2009-2011
Full-time	250	250
Full-time small dredge	52	52
Full-time net boat	11	11
Total full-time	**313**	**313**
Part-time	2	2
Part-time small dredge	31	32
Part-time trawl	0	0
Total part-time	**33**	**34**
Occasional	1	0
Total Limited access	347	347

Table 110. General category permit before and after Amendment 11 implementation

AP_YEAR		Number of permits qualify under Amendment 11 program			Grand Total
	General category permit (up to 2008)	Limited access general category (A)	Limited access NGOM permit (B)	Incidental catch permit (C)	
2000	2263				2263
2001	2378				2378
2002	2512				2512
2003	2574				2574
2004	2827				2827
2005	2950				2950
2006	2712				2712
2007	2493				2493
2008		342	99	277	718
2009		344	127	301	772
2010		333	122	285	740
2011		288	103	279	670

Table 111. Dependence on scallop revenue by limited access vessels and fishyear

Permit Category	Scallop Revenue as % of total	2008 Number of Vessels	%	2009 Number of Vessels	%	2010 Number of Vessels	%	2011 Number of Vessels	%
FT Vessels	<75%	6	2%	3	1%	8	3%	9	3%
	75% - 90%	13	4%	19	6%	13	4%	10	3%
	>=90%	287	94%	286	93%	291	93%	294	94%
Total		306	100%	308	100%	312	100%	313	100%
PT Vessels	<75%	7	23%	13	38%	9	26%	13	37%
	75% - 90%	9	29%	4	12%	9	26%	9	26%
	>=90%	15	48%	17	50%	17	49%	13	37%
Total		31	100%	34	100%	35	100%	35	100%

Source: Dealer database

Table 112. Dependence on scallop revenue by general limited access vessels and fishyear

		2008		2009		2010		2011	
Permit Category	Scallop Revenue as % of total	Number of Vessels	%	Number of Vessels	%	Number of Vessels	%	Number of Vessels	%
IFQ	<10%	92	39%	81	32%	103	48%	82	43%
	10% - 49%	29	12%	32	13%	26	12%	27	14%
	50% - 74%	29	12%	37	15%	16	7%	16	8%
	75% - 89%	10	4%	15	6%	11	5%	12	6%
	>=90%	75	32%	87	35%	60	28%	55	29%
	Total	235	100%	252	100%	216	100%	192	100%
NGOM	No scallops landed	61	91%	74	89%	65	89%	53	88%
	>0%	6	9%	9	11%	8	11%	7	12%
	Total	67	100%	85	100%	73	100%	60	100%

Source: Dealer database

6.1.12.3.2 Description of the small business entities based on ownership information

The RFA recognizes three kinds of small entities: small businesses, small organizations, and small governmental jurisdictions. It defines a small business in any fish-harvesting or hatchery business as a firm that is independently owned and operated and not dominant in its field of operation, with receipts of up to $4 million annually. The limited access (LA) and Limited Access General category (LAGC) vessels in the Atlantic sea scallop fishery grossed less than $4 million in scallop revenue according to the dealer's data for 2009 to 2011 fishing years (Table 113, Table 114). In terms of scallop landings and revenue, 2011 was a record year (Table 115). According to the 2011 dealer data, average annual revenue was 1,658,053 per full-time vessel. Average scallop revenue per limited access general category IFQ vessel was $203,814 in 2011 fishing year.

Table 113. Annual scallops landings and revenues per limited access vessel by permit category (including TAC set-aside funds used by individual vessels)

Fishyear	Permit Category	Average scallop lb. per vessel	Average Scallop revenue per vessel
2009	FT	165,779	1,081,875
	FTSD	128,743	791,640
	FTTRW	164,601	1,015,303
	All FT vessels	159,473	1,030,657
	PT	42,196	261,847
	PTSD	43,278	261,803
2009 All vessels		148,266	956,604
2010	FT	168,763	1,369,995
	FTSD	129,806	1,001,990
	FTTRW	161,469	1,231,149
	All FT vessels	162,143	1,305,248
	PT	82,767	621,816
	PTSD	56,951	431,226
2010 Total		152,321	1,223,300
2011	FT	173,537	1,728,577
	FTSD	132,658	1,311,600
	FTTRW	171,958	1,675,367
	All FT vessels	166,738	1,658,053
	PT	45,220	431,273
	PTSD	52,143	510,570
2011 Total		155,792	1,548,329

Table 114. Estimated Average annual revenue per limited access general category vessel (Dealer and Permit Data)

Data	Fishyear	IFQ	INCI	NGOM	Total
Number of active vessels	2009	231	74	12	317
	2010	179	68	12	259
	2011	169	76	14	259
Average scallop lb. per vessel	2009	18,650	2,650	2,038	14,286
	2010	13,319	2,238	595	9,820
	2011	19,717	796	789	13,142
Average scallop revenue per vessel	2009	121,884	16,768	13,551	93,245
	2010	120,782	18,583	4,883	88,580
	2011	203,814	7,735	7,164	135,647

Table 115. Scallop fleet landings, scallop revenue and ex-vessel price (Dollar values are inflation adjusted 2011 values).

Fishyear	Revenue ($ million)	Landings (Million $)	Scallop Ex-vessel Prices
1994	123.5	16.5	7.50
1995	128.3	16.9	7.60
1996	140.8	17.2	8.18
1997	123.8	13.4	9.21
1998	99.5	11.8	8.45
1999	160.6	21.7	7.41
2000	214.3	33.3	6.44
2001	212.9	45.7	4.66
2002	242.8	50.0	4.85
2003	278.6	55.1	5.06
2004	382.7	62.6	6.11
2005	477.5	53.7	8.90
2006	405.8	56.3	7.21
2007	426.5	59.7	7.15
2008	382.3	52.5	7.29
2009	391.6	58.0	6.76
2010	475.0	57.0	8.34
2011	582.1	58.4	9.96
2012*	550.0	57.6	9.55

*Preliminary values

Limited access scallop fishery: Multi-boat owners and affiliation

Although several vessels are owned by a single owner, the majority of the limited access vessels are owned by affiliated entities comprised of several individuals having ownership interest in multiple vessels (Section 1.1.8, Appendix I, Economic and Social Trends). According to the ownership data for 2010, 68 out of 343 LA vessels were owned by one person and/or cooperation (Table 116), while rest of the 275 vessels were owned by multi-boat owners or affiliations. The data for 2011 shows a slight decline in the number of single boat owners to 63, however, that could be due to the data imperfections given that 3 vessels did not have corresponding ownership data in 201111 (Table 116). Therefore, in both years, the majority of the scallop vessels belonged to multi-boat owners and affiliated entities.

Considering that the majority of scallop permit holders hold ownership interest in more than one vessel, the sum of annual gross receipts from all scallop vessels operated by the majority of the multiple boat owners (but not all) would exceed $4 million in 2011 and 2012, qualifying them as

[11] The main reason for this is the inaccuracies s in the dealer data in recording the correct permit numbers for the vessels. When a vessel is upgraded or sold to another person, the permit number usually changes, but sometimes this change in the permit was neglected by the dealers and the vessel's old permit number is used to record scallop landings and revenues.

a “large” entity. Table 117 shows that, in 2010, 190 scallop vessels with both Limited Access (LA) and Limited Access General category (LAGC) permits belonged to 27 large business entities that grossed more than $4 million annually in terms of scallop revenue. The number of scallop vessels owned by these entities ranged from 3 vessels to 17 vessels in 2010. In the same year, 153 vessels belonged to 105 small business entities that grossed less than $4 million a year in scallop revenue. The number of vessels owned of these small business entities ranged from one to four vessels although majority owned one or two vessels.

However, scallop revenues skyrocketed in 2011 as the scallop ex-vessel prices increased by 20% compared to 2010, pushing more entities into the “large” category in 2011 fishing year. As a result, the number of business entities with LA permits that grossed more than $4 million annually increased to 34, and the number of small entities that gross $4 million and less decreased to 97 in 2011. Given that the average prices were slightly lower in 2012, the number of large and small entities should be similar to the number of entities in 2011, i.e., about 97 entities with both LA and LAGC scallop permits, and about could be considered small and about 34 entities could be considered large based on the scallop revenue.

Some of these small entities with close to $4 million gross receipts could also move up to the large entity category if they had revenues from other commercial operations including dealer, processing or retail operations as well. Such an extensive affiliation information tracking of ownership for the other affiliated commercial entities is not readily available at this point, however, if all the revenues from other species were included, three vessels that would be classified as “small” based on scallop revenue alone would qualify as a “large” business entity because their total revenues exceed $4 million annually. In short, if only the scallop revenue was taken into account, the number of large entities (with LA permits) would be about 34, and 97 entities (with LA permits) of them would be small (Table 117). However, if the revenue from other species were also taken into account, 37 entities would be classified as large and 94 entities would be classified as small in 2011 fishing year (Table 118). Majority of the small business entities belonged to individuals who own either one or two boats.

Table 116. Number of vessels by owner groups (determined according to the total number of vessels with owned by each unique entity, i.e., multiple individuals with ownership interest on the same vessel, includes vessels that have both LA and LAGC permits)

Fishyear	Number of vessels owned	Number of owners	Number of vessels	Percent of total number of vessels	Percent of total scallop landings
2010	1	68	68	20%	19%
	2	27	54	16%	16%
	3	11	33	10%	9%
	4	6	24	7%	7%
	5	4	20	6%	6%
	6 to 9	11	76	22%	22%
	10 and more	5	68	20%	21%
	2010 Total	132	343	100%	100%
2011	1	63	63	18%	18%
	2	32	64	19%	17%
	3	10	30	9%	9%
	4	5	20	6%	6%
	5	6	30	9%	10%
	6 to 9	11	81	24%	24%
	10 and more	4	56	16%	17%
2011Total		131	344	100%	100%

Table 117. Annual gross scallop revenue by small and large business entities (includes vessels that have both LA and LAGC IFQ permits, dealer data).

Annual Gross Scallop Revenue	Data	2010	2011
Greater than $4 Million	Number of vessels	190	209
	Number of distinct affiliated business entities	27	34
	Average number of vessels owned (2 to 7 vessels)	7.0	6.1
	Average Scallop revenue per entity	9,232,604	10,151,341
	Total scallop landings	30,567,268	34,692,812
Up to $4 Million	Number of vessels	153	135
	Number of distinct affiliated business entities	105	97
	Average number of vessels owned (1 to 4 vessels)	1.5	1.4
	Average Scallop revenue per entity	1,646,897	2,000,381
	Total scallop landings	21,902,658	19,534,779
Number of vessels		343	344
Number of distinct affiliated business entities		132	131

Table 118. Annual total revenues (from scallops and other species) and the number of small and large entities by permit category (2011 dealer data)

Entity	Permit category	Number of active vessels	Number of entities	Scallop rev. as a % of total revenue (averages)	
Large entities	LA and LAGC permit	217	37	97%	
	LAGC-IFQ permit only	0	0		
	Total	217	37		
Small entities	LA and LAGC permit	126	94	98%	
	LAGC-IFQ permit only	143	122	60%	
	Total	269	216		
All entities	LA and LAGC permit	343	131		
	LAGC-IFQ permit only	143	122		
	Total	486	253		

<u>Limited access general category scallop fishery: Multi-boat owners and affiliations</u>

Table 119 shows the ownership information for all vessels with LAGC permits including the IFQ, NGOM and incidental permits but excluding those with LA permits, showing that majority of the vessels, 242 out of 448 vessels with LAGC permits, were owned by one entity/person in 2011. However, only about 65% these boats were active or landed scallops in 2011 as multi-permit owners often transferred their quota on one vessel to fish for scallops. All of the active single boat owners and ownership affiliations with LAGC IFQ permits only (i.e. excluding entities that have both LA and LAGC IFQ permits) had scallop revenues of less than $4 million in 2011.

It should be pointed out, however, that only the vessels with LAGC-IFQ permits would be affected with the Framework 24/Framework 49 measures, since Framework 24/Framework 49 will have no changes to the total TAC for LAGC NGOM or to TAC for LAGC incidental catch fisheries. Therefore, the RFA analysis will take into account the impacts on those 288 IFQ permit holders and on the active vessels that fished for scallops in 2011 (Table 110). Some of these vessels also has LA permit, thus were already included Table 117 and Table 118 above. According to the dealer data there were only 143 active vessels with LAGC IFQ permits only that also had an ownership information in 2011. These vessels were owned by 122 business entities, all of them could be classified as small because the grossed $4 million or less in 2011 fishing year Table 118. In summary, scallop LA and LAGC fisheries are composed of approximately 216 (269 vessels) small business entities. Therefore, Framework 24/Framework 49 will have economic impacts on a a substantial number of small business entities in the scallop fishery.

Table 119. Unique number of owners according to the number of vessels owned (Vessels with LGC permits including A, B and C categories, excluding vessels that also have LA permits)

Fishyear	Number of vessels owned	All vessels with LGC permits		Active vessels with LGC permits only			
		Total number of owners	Total number of vessels	Total number of owners	Total number of vessels	Average Scallop revenue	Percent of scallop landings
2010	1	269	269	122	122	101,976	65%
	2	43	86	19	38	148,836	16%
	3	13	39	6	18	226,455	7%
	4	2	8	1	4	41,980	0%
	5	2	10	2	10	162,005	2%
	6 and over	6	57	6	57	341,784	10%
2010 Total		335	469	156	249	122,080	100%
2011	1	242	242	118	118	92,486	54%
	2	49	98	29	58	182,294	28%
	3	12	36	4	12	391,603	4%
	4	2	8	1	4	322,741	0%
	5	2	10	2	10	-	2%
	6 and over	5	54	5	54	41,797	10%
2011 Total		312	448	158	255	115,546	100%

6.1.12.3.3 Determination of significant effects

The Office of Advocacy at the SBA suggests two criteria to consider in determining the significance of regulatory impacts, namely, disproportionality and profitability.

The disproportionality criterion compares the effects of the regulatory action on small versus large entities (using the SBA-approved size definition of "small entity”), not the difference between segments of small entities. Framework 24/Framework 49 is not expected to have significant regulatory impacts on the basis of the disproportionality criterion for the following reasons:

- The proposed measures will affect all the vessels with LA and LAGC-IFQ permits participating in the sea scallop fishery. Although these measures could affect some vessels within the scallop fleet differently than others as discussed below, these differential impacts are not relevant for the disproportionality criterion.
- The changes in profits, costs, and net revenues due to Framework 24/Framework 49 are not expected to be disproportional for small versus large entities since each vessel will receive the same number of open areas DAS and access area trips allocations according to their categories they belong (i.e., the allocations for all full-vessels are identical and the allocations for the part-time and occasional vessels are proportional to the full-time allocations, 40% and 1/12th of the full-time allocations, respectively). As a result, the preferred alternative will have proportionally similar impacts on revenues and profits of

each vessel, each multi-vessel owner, and large entities that own multiple vessels compared both to No Action and status quo levels. The impacts of Framework 24/Framework 49 on the gross and net scallop revenues are analyzed below on a vessel basis, then it is described how these impacts when summed over the number of vessels owned by larger affiliated entities would have impacts in the same proportions compared to the impacts on single boat owners and small business entities.

Therefore, the preferred alternative is not expected to have disproportionate impacts or place a substantial number of small entities at a significant competitive disadvantage relative to large entities.

The profitability criterion will apply if the regulation significantly reduces profit for a substantial number of small entities compared to no action scenario. The preferred alternative is expected to have considerable negative impacts on the revenues and profits of all of the small businesses in the scallop industry in 2013, compared to the status quo and no action scenarios. In the short-term (2013-2014), businesses in the scallop industry are expected to experience a reduction in gross revenues of approximately 12% relative to the no action alternative and a reduction in net revenues of 7-11% (Tables 120-121). However, the measures included in the Framework are not expected to wipe out the gains and profits of the scallop industry or to place the financial viability of the scallop vessels in jeopardy either in the short-term or in the medium term for the reasons enumerated in Section 6.1.12.2.1. Scallop industry is a highly profitable industry and despite the reduction in gross revenues with the preferred alternative (and also with other alternatives) from no action and status quo levels, small businesses in this industry are expected to stay profitable in the short-term at the estimated price levels and fixed costs (Section 6.1.12.3.4.3). Note that Tables 120-121 include revenues per full-time vessel and many businesses are composed of multiple vessels or part time vessels. However, the effects of the proposed regulations are expected to aggregate directly to entities which control multiple vessels.

In terms of cumulative impacts over the medium term (2013 to 2017), the preferred alternative is estimated to reduce gross revenue per FT vessel by approximately 6% and net revenue by approximately 5%, relative to the no-action alternative, mostly to due to the considerable decline in revenues in 2013-2014. As discussed in Section 6.1.12.3.4.4, however, comparison of the results for preferred alternative (ALT 2) with the levels for the No action in 2014 and beyond would probably overestimate the negative impacts of the preferred alternative on scallop revenues. In reality, the economic impacts would be considerably lower than these percentages when it is taken into account that this Framework will be implemented for one year only and the allocations for both for no action in 2014 will be much lower in 2014-2015 than the corresponding allocations in 2012 (See Section 6.1.12.3.4.4 for further discussion). Also, as stated above and in Sections 6.1.12.3.4.3 and 6.1.12.3.4.4, the decline in gross and net revenues are not expected to wipe out the gains and profits of the scallop vessels either in the short- or the medium-term. The implementation of the preferred action (ALT2) in 2013 would increase the revenues in the future years and the positive economic impacts of the other individual measures included in this Framework (discussed in the following sections) are expected to offset some of the decline in the revenues from the reductions in DAS and access area allocations.

Although Framework 24 measures are estimated to have substantial negative impacts on gross and net revenues especially in the short-term, these impacts are not expected to be significant over the medium-term because of all the reasons described above and Section 6.1.12.3.4.4. Specifically, this framework is limited to one year, small business entities in the scallop industry are expected to stay highly profitable, and the impacts will be small after 2014 (1-2% in 2015-2016 and positive in 2017) (Table 120). The following section provides a summary of the economic impacts for the preferred alternative and other alternatives and the mitigating factors. The relevant sections of Framework 24, which discusses the rationale and impacts of these measures, are also identified.

6.1.12.3.4 Economic impacts of proposed measures and alternatives

6.1.12.3.4.1 Summary of the aggregate impacts of the specification (DAS and access area allocation) alternatives

Rationale for the proposed specification measures is provided in Section 2.1 of Framework 24/Framework 49 and aggregate economic impacts of these measures including the open area DAS allocations, and access area trip allocations are analyzed in Section 5.4.3. The following sections provide an analysis of the impacts on the individual vessel and small business entities based on the fleet-wide impacts analyzed in the same section.

The economic impacts under E.O. 12866 need not be identified at the vessel or firm level in the RIR, whereas, these levels remains the focus of the RFAA. The aggregate economic impacts of the proposed measures and other alternatives including access area allocations, open area DAS allocations and TAC for the general category fishery are analyzed in Section 5.4.3 both relative to no action and status quo (SQ) scenario from a net national benefit perspective and using a cost-benefit framework. The primary goal of RFAA analysis is to consider, however, the effect of regulations on small businesses and other small entities, recognizing that regulations frequently do not provide for short-term cash reserves to finance operations through several months or years until the positive effects of the regulation start paying off.

The potential economic impacts of the preferred alternative on an average scallop vessel are expected to be proportional to the aggregate economic impacts. The proposed regulations will change the allocations of the scallop vessels in the same proportions. In 2013 fishing year, under the preferred alternative (ALT2), each limited access vessel's open area DAS allocations (33 DAS) will change in exactly the same percentage compared to the no action (26 days) and status quo (34 DAS) levels. The number of access area trips will decline from 4 trips in 2012 to 2 trips in 2013 for each trip per limited access full-time vessel under the same alternative.

This will result in proportional impacts on the single and multi-boats owners, since in both cases the number of access area trips will decline by 50% (from 4 trips to 2 trips for a single boat owner, from 20 trips to 10 trips for a large entity with 5 boats as an example) and the open area DAS will decline by 3% (from 34 days to 33 days for a single boat owner, and from 170 days to 165 days for a large entity with 5 boats for example) compared to the status quo scenario. This proportional decline in open area DAS and access area trips are expected to reduce annual scallop landings and revenues of the large versus and small entities in approximately similar proportions under the preferred alternative (by about 12% compared to No Action and by about 22% in 2013 compared to the status quo scenario, Table 120). In other words, for a large entity

that owns 5 boats, if revenue for each vessel declined by 12%, then total revenue for the five boats would decline approximately by 12% as well. Whether they belong to large or small entities, those vessels that have a higher proportion of revenues from scallops relative to other vessels will be impacted more compared to vessels with a lower dependence on scallop revenue (such as the part-time limited access vessels). The proportional impacts on the total fishing revenues of small versus large business entities (including the income from other fisheries) would probably be comparable given that average percentage revenue from scallop revenue was quite similar for small (average 98%) and large business entities (average 97%) in the LA fishery in 2011 fishing year (Table 118). Therefore, Framework 24/Framework 49 regulations are not expected to have any significant disproportionate impacts or place a substantial number of small entities at a significant competitive disadvantage relative to large entities.

For these reasons, the following discussion will focus only on the small business entities and the analyses will be conducted on an individual vessel level given that majority of the small business entities included ownership of either one or two boats. The analyses below show the impacts on annual scallop revenues for each average individual vessel with a full-time permit in the scallop fishery although the percentage change in scallop revenues would be similar for the part-time vessels and for the small business entities with ownership of one more than one vessel as well.

6.1.12.3.4.2 Impacts of Framework 24 specification alternatives on scallop vessels and small business entities

Because the thrust of the RFA analysis is short- and medium-term in nature, the RFA analyses provided below focused on the medium-term (near-term) impacts from 2013 to 2017 fishing years whereas cost-benefit analyses considered impacts also for the long-term from 2013 to 2026 fishing years. Table 120 and Table 121 provide an analysis of impacts on an average full-time vessel in the scallop fishery based on the economic analyses provided in Section 5.4.3.2, by converting annual fleet revenues and net revenues to a per full-time vessel equivalent level (excluding the research and observer set-asides, the share for the general category fishery). Overall, it is estimated that the limited access fishery would land roughly 93.3% of the total scallop landings (after the set asides, buffer for LA fishery, and LAGC TAC is removed), which in turn, is divided by 327 full-time equivalent vessels to estimate the landings and revenues per FT limited access vessel.

The analysis of the fleet-wide aggregate economic impacts indicated that the preferred alternative will have negative economic impacts compared to the no action levels in the short-term (2013-2016) but positive over the long-term. The estimated gross revenue per vessel and per small business entity (including those small business entities with ownership of multiple vessels) under the preferred alternative (ALT2) would be 12% lower than the no action levels in 2013 because vessels would get fewer access area trips compared to no action scenario (Table 120). Both the revenues and net revenues for the preferred alternative would be lower than no action levels during the medium term from 2014 to 2016 as well, although, the differences would get smaller after 2015. Over the long-term from 2013 to 2026, however, the preferred alternative (ALT2) would have positive impacts on the revenues and net revenues of the scallop vessels and small business entities. The present value of the revenues would exceed the no action values by $44.2 million ($5.6 million) over the long term if the future revenues were discounted at 3% (7%, Table 15 and 16 of section 5.4.3.2.2)

The comparison of results with the no action alternative does not reflect the changes compared to the recent levels of revenues and economic benefits, however. This is because under no action the vessels would be allocated fewer open area DAS (26 days) compared to what they had in 2012 (34 days). As a result of fewer open area DAS combined with a lower LPUE due the decline in estimated of stock abundance in 2013, revenues for no action would be substancially lower ($448 million in 2013) compared to the actual revenues in 2011 ($582 million) and in 2012 (estimated to be about $550 million in inflation adjusted 2011 prices).

For RFA purposes, it would be also insightful to examine how the revenues of the small business entities would change relative to the levels if the vessels were allocated exactly the same number of open area DAS and access area trips. The status quo scenario were run to estimate the impacts assuming that the full-time vessels would receive 34 open area DAS and 4 access area trip allocations in 2013, same as they did in 2012 (similarly the part-time and occasional vessels would receive the same allocations they had in 2012 etc.). Because the recent scallop resource conditions in the open and access areas will be less favorable in 2013 compared to 2012, continuation of the same allocations under the SQ scenario would result in lower landings (50.9 million lb. in 2013 versus an estimated 57.6 million lb. in 2012) and lower revenues in 2013 compared to 2012 ($505 million in 2013 versus an estimated revenue of $550 million, Table) if actual scallop prices equal the estimated prices ($9.92) for 2013. Similarly, in the future years, the landings and revenues for SQ scenario will be lower than 2012 levels. This is because the continuation of the same number of open area DAS and access area trip allocations would increase the fishing mortality above the sustainable levels and reduce scallop yield and revenues in the long-term. Therefore, comparison of the results for the preferred alternative with the results for the SQ and no action scenarios consistently takes into account not only the impact of the changes in regulations but also the changes in scallop resource conditions.

Table 120 compares the gross revenues per FT vessel for the preferred alternative and alternatives both with the no action and the SQ scenarios from 2013 to 2017. Table 121 provides a similar comparison based on the net revenues (gross revenues minus trip costs) per FT vessel. The results show that the preferred alternative will have negative impacts on the revenues and profits of the scallop vessels and the small business entities in 2013-2015 compared to the levels for SQ. The estimated fleet revenues will decline by 22% in 2013 under the preferred alternative compared to the level for revenues for SQ. The reduction in revenues would be greater compared to the estimated levels in 2012 although part of that decline would be due to the reduction in the scallop biomass in the recent year. The decline in net revenues (proxy for profits) would be slightly lower, 21% in 2013 compared to SQ scenario, because the fishing costs would be lower with fewer access area trips and less open area DAS under ALT2 and other alternatives. The decline in net revenue would be less with the preferred alternative (ALT2) compared to both ALT3 and ALT4.

Table 120. Estimated fleet revenues and revenues per limited access vessel (Total scallop revenue in 2010=$475 million, total scallop revenue in 2011=$582 million, estimated revenue in 2012=$550 million)

Fishing year	Scenario	Fleet scallop revenue (*) ($ million)	Revenue per FT vessel	% Change compared to levels in 2013	Change from No Action	% Ch. from SQ levels
2013	No Action	448.4	1,353,718		0%	-11%
	ALT1	393.5	1,187,386		-12%	-22%
	ALT2	393.4	1,187,238		-12%	-22%
	ALT3	368.9	1,112,990		-18%	-27%
	ALT4	373.7	1,127,619		-17%	-26%
	Status quo	505.0	1,525,006		13%	0%
2014	No Action	434.9	1,312,750	-3%	0%	-11%
	ALT1	395.0	1,191,968	0%	-12%	-19%
	ALT2	396.3	1,196,098	1%	-12%	-19%
	ALT3	398.1	1,201,372	8%	-11%	-18%
	ALT4	388.2	1,171,609	4%	-13%	-21%
	Status quo	488.1	1,474,029	-3%	9%	0%
2015	No Action	470.9	1,421,883	5%	0%	-7%
	ALT1	440.5	1,329,781	12%	-2%	-13%
	ALT2	445.5	1,344,944	13%	-1%	-12%
	ALT3	452.6	1,366,502	23%	1%	-11%
	ALT4	458.2	1,383,352	23%	2%	-10%
	Status quo	508.0	1,534,271	4%	13%	0%
2016	No Action	502.2	1,516,651	12%	0%	11%
	ALT1	488.0	1,473,694	24%	-3%	8%
	ALT2	492.2	1,486,228	25%	-2%	9%
	ALT3	489.8	1,479,134	33%	-2%	8%
	ALT4	500.1	1,510,366	34%	0%	11%
	Status quo	452.1	1,365,062	-7%	-10%	0%
2017	No Action	499.5	1,508,547	11%	0%	9%
	ALT1	507.3	1,532,033	29%	2%	10%
	ALT2	506.2	1,528,846	29%	1%	10%
	ALT3	510.3	1,540,984	38%	2%	11%
	ALT4	516.2	1,558,929	38%	3%	12%
	Status quo	460.1	1,388,992	-6%	-8%	0%
2013-2017 Totals	No Action	2,356	7,113,549		0%	-2%
	ALT1	2,224	6,714,862		-6%	-8%
	ALT2	2,234	6,743,354		-5%	-7%
	ALT3	2,220	6,700,982		-6%	-8%
	ALT4	2,236	6,751,875		-5%	-7%
	Status quo	2,413	7,287,360		2%	0%

(*) Includes set asides and general category share
SQ: Status quo allocations
ALT2 : Preferred alternative
ALT1: Alternative 1, ALT3: Alternative 3, ALT4:Alternative 4

Table 121. Estimated net revenues per limited access vessel

Fishing year	Scenario	Net Revenue per FT vessel	% Change compared to levels in 2013	Change from No Action	% Ch. from SQ levels
2013	No Action	1,159,686		0%	-11%
	ALT1	1,029,174		-11%	-21%
	ALT2	1,034,209		-11%	-21%
	ALT3	966,404		-17%	-26%
	ALT4	984,323		-15%	-25%
	Status quo	1,304,225		12%	0%
2014	No Action	1,124,086	-3%	0%	-11%
	ALT1	1,041,908	1%	-7%	-17%
	ALT2	1,044,476	1%	-7%	-17%
	ALT3	1,051,693	9%	-6%	-16%
	ALT4	1,026,983	4%	-9%	-18%
	Status quo	1,258,204	-4%	12%	0%
2015	No Action	1,222,109	5%	0%	-7%
	ALT1	1,160,574	13%	-5%	-12%
	ALT2	1,173,851	14%	-4%	-10%
	ALT3	1,193,200	23%	-2%	-9%
	ALT4	1,208,373	23%	-1%	-8%
	Status quo	1,311,558	1%	7%	0%
2016	No Action	1,325,291	14%	0%	11%
	ALT1	1,284,944	25%	-3%	8%
	ALT2	1,295,704	25%	-2%	9%
	ALT3	1,289,591	33%	-3%	8%
	ALT4	1,317,119	34%	-1%	11%
	Status quo	1,189,359	-9%	-10%	0%
2017	No Action	1,316,949	14%	0%	9%
	ALT1	1,340,550	30%	2%	11%
	ALT2	1,338,748	29%	2%	11%
	ALT3	1,348,713	40%	2%	11%
	ALT4	1,365,353	39%	4%	13%
	Status quo	1,210,238	-7%	-8%	0%
2013-2017 Total	No Action	6,148,121		0%	-2%
	ALT1	5,857,150		-5%	-7%
	ALT2	5,886,988		-4%	-6%
	ALT3	5,849,601		-5%	-7%
	ALT4	5,902,151		-4%	-6%
	Status quo	6,273,584		2%	0%

(*) Includes set asides and general category share

SQ: Status quo allocations

ALT2 : Preferred alternative

ALT1: Alternative 1, ALT3: Alternative 3, ALT4:Alternative 4

6.1.12.3.4.3 Short-term Impacts of the Specification Alternatives and the Mitigating Factors

There is no question, Framework 24/Framework 49 specification measures will have substantial negative impacts on the small business entities over the short-term especially on those businesses which own full-time vessels because they derive most of their revenue from scallop fishery as well as on those LAGC-IFQ with a high dependence on scallop revenue. As mentioned above, in 2011, 94% of the full-time vessels and 29% of the LAGC-IFQ vessels derived more than 90% of their revenue from scallops (Table 111). Although, this decline in net revenue will lower the profits of the scallop vessels and the small business entities in the short-term, the preferred alternative is not expected to wipe out the gains and profits of the scallop industry or to place the financial viability of the scallop vessels in jeopardy in the short-term due to the mitigating factors summarized below:

- The decline in net revenues are not expected to result in a net loss from scallop fishing for the scallop vessels in the short-term. The overall fleet revenue estimated to be $393.4 for the preferred alternative in 2013, which is higher than the (inflation adjusted) scallop revenues either in 2008 ($382.3 million) and in 2009 ($391.6 million) fishing years. In fact, estimated revenues for the preferred alternative and other options are higher than scallop revenues (inflation adjusted 2011 values) in the last 13 out of 19 years (Table 115).
- The net scallop revenue per FT vessel in 2013 is estimated to be over 1.1 million dollars for the preferred alternative and other options, again higher than the actual revenue these vessels received in 2009 (Table 115), a year when the scallop industry was highly profitable.
- Assuming that the vessel share is 48% of the gross revenue and the average fixed costs in 2011 prices would equal to $180,424, any amount of gross revenue equal or greater than $376,313 (in inflation adjusted 2011 values) would generate positive profits for the scallop vessels (See Appendix II – Economic model for the fixed costs estimates). For example, based on this estimate for the average fixed costs and vessel share and total revenues per vessel in Table 120, profits as a percentage of gross revenue per vessel would approximately equal to 35% under no action (0.48*$1,355,718 -$180,424) and equal to 33% of the gross revenue under the preferred alternative. Furthermore, scallop revenues and profits are expected to grow continuously each year due to the management measures to be implemented in 2013 increasing the scallop yield in the future years.
- During the last 3 fishing years, scallop industry revenues increased drastically from $391.6 million in 2009 to over $582 million in 2011 (a 49% increase) and to about $550 million in 2012 (a 40% increase) while the landings stayed stable within a narrow range of 57 million lb. to 58 million lb. The main factor behind this rise was the jump in average ex-vessel scallop prices from $6.76 per pound of scallops in 2009 to $9.95 in 2011 (a 47% increase) and to $9.55 in 2012 (a 41% increase) as the problems with Japanese aquaculture, effects of the nuclear disaster and decline in the value of the dollar declined against the European currency increased the demand for US sea scallops. It is expected that these record revenues and profits, especially during the last two years, will provide the scallop vessels with sufficient short-term cash reserves to finance their operations in the short-term until the positive effects of the regulation start paying off in the later years.

- Finally, it must be pointed out that SQ scenario is not a legally feasible option (nor a true alternative) that could be considered by the Council, since the fishing mortality in the open areas under this scenario would exceed the upper limit set under Scallop FMP. However, no action scenario represents a legally feasible scenario in the absence of a new Framework action. Compared to no action levels, the impacts of the preferred alternative would still be negative in 2013, but the decline in revenues and net revenues would be much lower, 11% to 12%, instead of 21% to 22% compared to SQ levels (Table 120 and Table 121).

6.1.12.3.4.4 Economic Impacts of the Specification Alternatives over the Medium-Term from 2013 to 2017

In order to assess impacts of this action over the medium term, some assumptions had to be made regarding the fishing mortality schedule after 2013 for each alternative. Because Framework 24/Framework 49 started as a two –year Framework, in order to determine long-term impacts of the alternatives, the biological model was run assuming that the preferred action and the alternatives would be implemented for 2 years and in the third year default measures would be implemented until a new Framework was approved. Starting with 2016 fishing year, biological simulations for all the scenarios assume that the fishery specifications would be determined within the constraints of the overfishing definition set by Amendment 15, rather than assuming that each alternative will be implemented from 2016 to 2026.

However, in its November meeting, the Council voted to implement the measures for this Framework for one year only for the reasons described in Section 3.2.1 of this document. As a result, there will be a new set of alternatives that will be effective for the years 2014 and 2015 and the SQ scenario would be entirely different in 2014, resembling more of the projections for the preferred alternative (ALT 2). In other words, the status quo DAS allocations would be 33 days instead of 34 and the status quo trip allocations would be two instead of four trips in 2014 and 2015.

Therefore, comparison of the results for preferred alternative (ALT 2) with the levels for the SQ scenario in 2014 and beyond would result in an overestimate of the negative impacts of the preferred alternative on scallop revenues. Even with such a comparison, the results show that the revenues (holding inflation constant) in 2017 under the preferred action will exceed the revenues for the SQ scenario. In fact under SQ scenario, the revenue and net revenue per vessel will decline both in 2016 and 2017 relative to levels in 2013. This is because, preferred alternative and other options would help rebuild the scallop resource by reducing fishing effort while the SQ scenario would keep the effort levels same as in 2012.

Similarly, comparison of the cumulative revenues for the preferred alternative with the levels for the SQ scenario over the medium-term from 2013 to 2017 overestimates the negative impacts. Specifically, cumulative revenues for the preferred alternative would be 7% lower than the SQ levels, and the net revenues would be 6% lower than the SQ levels in 2013-2017 (Table 120 and Table 121). Even if the results were compared to the levels for no action, the decline in cumulative net revenues over 2013-2017 would not exceed 5%, thus would not be significant. In reality, the economic impacts would be considerably lower than these percentages. The impacts would potentially be low negative when it is taken into account that this Framework will be

implemented for one year only and the allocations for both for no action and SQ scenarios in 2014 will be much lower in 2014-2015 than the corresponding allocations in 2012. In addition, the impacts will be small after 2014 (1-2% in 2015-2016 and positive in 2017) (Table 120).

For the purposes of the RFA analyses it would be more informative to analyze the growth rate of revenues under the preferred alternative and other options after the implementation in 2013 based on the biological model assumptions that the new specifications starting in 2014 and beyond will be consistent with target fishing mortality objectives for each alternative. The bio-economic simulations for the future years provide insight about those likely economic impacts. The implementation of the preferred action (ALT2) in 2013 would increase the revenues in the future years. Both the revenues and net revenues for the preferred action would increase by 25% in 2016, and by 29% in 2017 compared to their levels in 2013 with positive impacts on the profits of the scallop vessels and small business entities over the medium term (Table 120 and Table 121). In addition, the positive economic impacts of the other individual measures included in this Framework (discussed below) are expected to offset some of the decline in the revenues from the reductions in DAS and access area allocations.

Table 122. Percentage change in estimated fleet net revenues compared to Status Quo

Fishing year	ALT1	ALT2	ALT3	ALT4
2013	-21.0%	-20.6%	-25.8%	-24.4%
2014	-17.1%	-16.9%	-16.3%	-18.3%
2015	-11.4%	-10.4%	-9.0%	-7.8%
2016	8.0%	8.9%	8.4%	10.7%
2017	10.7%	10.6%	11.4%	12.8%
2018	6.7%	7.9%	6.8%	9.0%
2019	10.2%	13.1%	9.8%	14.0%
2020	8.2%	9.9%	7.2%	10.6%
2021	5.6%	7.0%	4.8%	6.7%
2022	4.0%	4.6%	3.1%	3.7%
2023	2.4%	2.0%	1.3%	1.2%
2024	1.7%	0.5%	0.4%	0.4%
2025	1.5%	0.1%	0.1%	-0.1%
2026	1.3%	0.4%	0.4%	-0.4%
Grand Total	**0.7%**	**1.1%**	**0.1%**	**1.2%**

Similarly, the economic impacts of the proposed measures for the limited access general category IFQ vessels are expected to be largely negative in the short-term, because the overall ACL would be lower resulting in smaller allocations for the LAGC IFQ fishery as well compared to the no action and status quo levels. Since LAGC fishery receives a fixed proportion of the total ACL, the economic impacts are similar to the impacts for the limited access fishery in the medium-term (low negative) and over the long-term (slightly positive) as well compared to the no action scenario and status quo scenarios. Only difference will be that, impacts on the LAGC-IFQ fishery will be the same as the impacts of the preferred alternative compared to no action and status quo because the total TAC will be the same across those alternatives. The preferred alternative would, however, prorate LAGC IFQ trips proportionally in all areas open excluding CA2, with positive economic impacts on the LAGC vessels because they will be able

to use CA2 trips in areas closer to the shore with lower trip costs, and offsetting some of the negative impacts of the reduced allocations.

In summary, in the short-term (2013), the preferred alternative and other options are expected to have substantial negative impacts on the revenues, net revenues and profits of the scallop vessels and small business entities compared to the no action, SQ scenarios and 2012 levels. However, the preferred alternative is not expected to wipe out the gains and profits of the scallop industry or to place the financial viability of the scallop vessels in jeopardy either in the short-term or in the medium term, especially in a highly profitable industry like the scallop fishery. In the medium-term from 2013 to 2017, the preferred alternative may have either negligibly or low negative economic impacts compared to the no action and SQ scenarios because it might take longer than 5 years for the benefits of the management measures to offset the short-term losses. However, SQ scenario is not a legally feasible alternative that could be considered by the Council, since the fishing mortality in the open areas under this scenario would exceed the upper limit set under Scallop FMP. The preferred alternative selected in this Framework would protect the scallop resource from overfishing and by 2017, it would generate 29% higher revenues for the scallop fishermen compared to the levels in 2013. In contrast, keeping the DAS and access areas allocations at the same levels as in 2012 would reduce the net revenues compared to 2013 levels. In the long-term, the economic impacts of the combined measures on the participants of the scallop fishery are expected to be positive. Net revenues for the scallop fleet will continue to exceed the no action and SQ levels until 2026. Because the biological simulations for the SQ scenario is based on the same fishing mortality assumption with the other alternatives after 2015, eventually the level of landings and revenues will converge in the future years for all alternatives (Table 122). For further discussion over the long-term impacts please see the Section of RIR, Executive Order 12866 above.

Comparison of the impacts with the alternative options:
The analyses provided above and in Section 5.4 of the document compared the impacts of the alternative options. The preferred alternative (ALT2) would result in largest fleet revenues, and net revenues (producer surpluses) both in the short-term compared to ALT3 and ALT 4, and in similar amount of revenues compared to ALT1 (Table 120 and Table 121). Therefore, the reduction in estimated revenues in 2013 would be lower under the preferred alternative (ALT2) compared to ALT3, and ALT4, but would be almost the same as under ALT1. As discussed above, status quo allocations would result in higher revenues in the short-term (2013). This is because the fishing mortality rates would exceed the target F if the allocations were set at the same levels as in 2012. Therefore, status quo is not a true alternative under the Sea Scallop FMP, but was included for analytical purposes to discuss the economic impacts of the preferred alternative compared to a scenario which continued exactly the same allocations in 2012 in years 2013 through 2015 as well.

Over the medium term, the preferred alternative (ALT 2) and ALT4 would have similar impacts, while the revenues and profits for ALT1 and ALT3 would be lower. However, over the long-term, the present value of the revenues for ALT 4 would exceed the levels for ALT2 slightly. The preferred alternative would have higher revenues and profits than ALT1 and ALT3 over the long-term. It is also estimated that the revenues for the scallop fleet would go over $500 million starting in 2017 using a conservative estimate for the future scallop prices (Table 67, Section

5.4.3). If the actual prices in 2013 and future years turn out to be higher than the estimated prices (as was the case for many years), the scallop revenues could exceed $500 million relatively sooner in the future.

In addition, the record high revenues and profits observed in the last three fishing years in the scallop fishery (as the landings exceeded 57 million lb. and prices increased to above $8.30 in 2010 and above $9.50 in 2011 and 2011) is expected to provide a considerable cushion for the scallop vessels to finance their operations in the short-term when the landing and revenues will decline by more than 20% (in 2013) compared to the recent years, no action and status quo scenarios (Table 120 to Table 122). As discussed above, despite this decline in revenues, the scallop industry is still expected to remain profitable. Finally, the implementation of this action for one year only will provide an opportunity to reassess the future allocations based on the recent data on scallop recruitment levels in the Mid-Atlantic, future GB yellowtail YT catch levels, and the status of the EFH Omnibus action and potential changes in habitat closure boundaries. Any potentially positive change regarding those factors could allow allocations go up in the future years and further offset the short-term negative impacts of this Framework Action.

In addition to these aggregate economic impacts of the specification alternatives (DAS and access area allocations, Section 5.4.3) summarized above, the economic impacts of the other individual measures are discussed in the relevant subsections of Section 5.4 and summarized in the following section.

6.1.12.3.4.5 Economic impacts of the individual measures

Acceptable Biological Catch

- Economic impacts are analyzed in Section 5.4.2
- Rationale is provided in Section 2.1.1
- **Summary of the impacts of the proposed option and mitigating factors**: Because the ABC level for the preferred alternative is lower than the no action ABC, this measure is expected to have negative impacts on the landings and revenues, producer and consumer surpluses and net economic benefits to the nation in the short-term. However, the level of ABC updated in the Framework will help prevent overfishing and optimize yield on a continuous basis. Therefore, this measure is expected to have positive impacts on the landings and revenues, producer and consumer surpluses and net economic benefits to the nation over the long-term.
- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for the participants of the scallop fishery over the long-term. No action would have a higher ABC for the scallop fishery compared to the preferred alternative**,** increasing the risks to the resource with potentially negative economic impacts over the long-term.

Prorate LAGC IFQ trips proportionally in all areas open that year excluding CA2

- Rationale is provided in Executive Summary and in 2.1.4

- Economic impacts are analyzed in Section 5.4.3.3.2

- **Summary of the impacts of the proposed option and mitigating factors**: The economic impacts of the preferred specification alternative and other alternatives on the general category fishery are discussed in Section 5.4.3.3 and also above as a part of the aggregate impacts (Section 1.12.6.2). These economic impacts will be negative in the short-term and positive in the long-term compared to the no action. The LAGC IFQ fishery is allocated 5.5% of the total ACL for the fishery, under the default measures (No Action). For FY2013, the total LAGC IFQ is equivalent to about 2.4 million pounds, and 2.8 for 2014, or about 400,000lb. less than for no action level. The preferred alternative would, however, prorate LAGC IFQ trips proportionally in all areas open that year excluding CA2, with positive economic impacts on the LAGC vessels because they will be able to use CA2 trips in areas closer to the shore, thus will lower trip costs.

- **Comparison of the impacts with the alternative options:** There are no other alternatives that would generate higher economic benefits for the participants of the scallop fishery. Option 1 would allocate trips to CA2, areas which is not accessible for many smaller LAGC IFQ vessels. Thus, most of these trips are taken in the open areas instead of taken in other access areas with higher scallop abundance, lowering potential economic benefits for this fishery.

Northern Gulf of Maine (NGOM) Hard-TAC

- Rationale is provided in Section 2.1.5

- Economic impacts are analyzed in Section 5.4.4

- **Summary of the impacts of the proposed option and mitigating factors**: Preferred alternative includes a 70,000 pounds hard-TAC for the NGOM, which is equivalent to the "No Action" scenario as specified in the previous Framework action 21. Thus, the preferred alternative will not have additional economic impacts on the participants of the NGOM fishery.

- **Comparison of the impacts with the alternative options:** The alternative option would set the TAC at 58,000 pounds in accordance with the updated surveys to be precautionary. However, given that current scallop catches by NGOM vessels are very low, either TAC level would likely not impact vessels. Thus, negligible economic impacts are expected from no action and the alternative option.

Payback measures for limited access vessels until Framework 24 is implemented

- Rationale is provided in Section 2.1.7.2

- Economic impacts are analyzed in Section 5.4.5.2

- **Summary of the impacts of the proposed option and mitigating factors:** The specific measures that are included until this action is implemented will help to reduce the adverse impacts of exceeding the proposed allocations in Framework 24/Framework 49 in 2013

on the scallop resource. If the resource conditions turns out to be less favorable in 2013 than suggested by the biological projections, instead of rolling over 34 DAS until the new Framework is implemented, this measure would allocate only 26 DAS to prevent potentially negative impacts on the resource, scallop yield, thus on the economic benefits from the scallop fishery. In addition, if a vessel takes 2013 access area trips authorized by FW22, it will have to give up all 2013 access area trips authorized to that vessel under FW24 plus 12 open area DAS as a payback. Since taking extra trips will result in a net loss of pounds, this could have negative economic impacts in the very short-term discouraging the vessels from taking those trips. However, taking the number of trips allocated by FW22 could have negative impacts on the scallop yield and revenues from these areas in the future years. As a result, the payback measures would help reduce the negative impacts of overfishing in 2013 on the scallop resource and would have positive long-term impacts on landings, revenues, and profits of the scallop vessels.

- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for the participants of the scallop fishery. No action allocations also include 26 open area DAS for FT LA vessels, however, it has no payback measures that would discourage vessels from taking 4 access area trips, each having a 18,000 lb. possession limit. Framework 24/Framework 49 would allocate two access area trips at at reduced possession limit (13,000 lb.). Thus under no action allocating more access area trips than could be supported by the resource has the potential to have negative impacts on the future scallop yield and revenues.

Payback measures for LAGC IFQ vessels until Framework 24 is implemented

- Rationale is provided in Section 2.1.7.3
- Economic impacts are analyzed in Section 5.4.5.3
- **Summary of the impacts of the proposed option and mitigating factors:** Pay back measures for the measures will reduce the incentive to fish FW22 allocations and will help reduce the negative impacts of overfishing in 2013 on the scallop resource. If LAGC IFQ vessels exceed final allocations, their overage to be deducted pound by pound from their allocations in 2013 fishing year along with any other incurred overages. As a result, these measures, will have positive impacts on landings, revenues and economic benefits for the participants of the scallop fishery.
- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for the participants of the scallop fishery.

Modification of Georges Bank access area seasonal restrictions

- Rationale is provided in Section 2.2.1
- Economic impacts are analyzed in Section 5.4.6
- **Summary of the impacts of the proposed option and mitigating factors:** Framework 24/Framework 49 will modify GB seasonal restrictions to provide access during months

with highest scallop meat weights and to minimize yellowtail bycatch. Preferred alternative will provide higher flexibility to vessels compared to no action and other options since CA2 would close for only 3 months (Aug.15-Nov.15) and CA1 and NL would be open all year, resulting in positive economic benefits for the scallop fishery.

- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for the participants of the scallop fishery. Under the no action, all the GB access areas will remain closed during 4.5 months (from Feb.1 to June 14), during when high scallop meat-weights are higher compared to the months that would be closed under the preferred alternative. Similarly, other alternatives (Options 1 and 2) would keep all three GB access areas closed, while the preferred alter would only close CA2. Eliminating GB access area seasonal restrictions could have positive economic benefits for the scallop vessels in the short-term. It is more likely, however, for the long-term benefits of this option to be lower compared to the economic benefits from other options since fishing effort could occur in the access areas during the low-meat weight seasons resulting in higher fishing costs and lower benefits for the scallop resource.

Measures to address YT flounder bycatch in the LAGC IFQ trawl fishery

- Rationale is provided in Section 2.2.2.2

- Economic impacts are analyzed in Section 5.4.7.2

- **Summary of the impacts of the proposed option and mitigating factors:** The accountability measures to address YT flounder by catch in the LAGC IFQ trawl fishery are expected to reduce incentive to catch YT as by catch and reduce the risks of closing of the YT flounder areas to scallop fishing with positive long-term economic impacts. However, if the YT by catch by the LAGC IFQ trawl fishery remains above 10%, the preferred alternative would close the three-digit statistical areas 612 and 613 for seven months to trawl. These areas would close to fishing during certain months as well if the overall SNE sub-ACL for the scallop fishery is exceeded. In either case, the vessels would have to shift a substantial portion of their effort to July to November if they want to fish with trawl gear, which is likely to increase costs of fishing. Allowing dredge gear to be used for fishing during closure periods would add to flexibility for those vessels that have the capacity to use dredge gear. This will mitigate the potential impacts of AM closures since the costs of installing a dredge could outweigh cost of shifting effort to other months and areas during the AM closure season.

- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for all the participants of the scallop fishery. The preferred alternative is more flexible than Option 1 because it allows a trawl vessel to convert to dredge gear. And it is more flexible than Option 3 because it is not a gear restriction for the entire SNE/MA YT stock area. Under No Action, YT catch by LAGC vessels would count against the scallop fishery YT sub-ACLs (GB and SNE/MA), but if an AM is triggered, LAGC vessels are exempt from those measures. As a result, no action would have positive economic impacts on the LAGC vessels and negative

economic impacts on the LA vessels if the AM triggered. Also, no accountability for the LAGC fishery would likely to increase the risk of catching substantial proportions of YT sub-ACL by this fishery with negative economic impacts on the overall scallop fishing industry.

Measures to address YT flounder bycatch in the LAGC IFQ dredge fishery

- Rationale is provided in Section 2.2.2.3
- Economic impacts are analyzed in Section 5.4.7.3
- **Summary of the impacts of the proposed option and mitigating factors:** YT AMs for LAGC IFQ dredge fishery would close the same LA AM area to to these vessels if their catch is more than 3% of the SNE/MA YT sub-ACL under a different schedule that leaves some of the AM area open for parts of the year when traditional fishing has occurred, but closes the areas during higher YT bycatch months. This should reduce the amount of effort that could be shifted to other months and areas, thus reducing negative impacts on crew income and profits. Bycatch from this segment of the fishery is typically very small and as long as the future catch of yellowtail do not increase from those levels in the previous years, this alternative would likely have negligible economic impacts. However, if the AM was triggered, a low negative economic impact on LAGC vessels using dredge gear would be expected.
- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for all the participants of the scallop fishery. Under No Action, YT catch by LAGC dredge vessels would count against the scallop fishery YT sub-ACLs (GB and SNE/MA), but if an AM is triggered, these vessels are exempt from those measures. As a result, no action would have positive economic impacts on the LAGC vessels and negative economic impacts on the LA vessels if the AM triggered. Also, no accountability for the LAGC fishery would likely to increase the risk of catching substantial proportions of YT sub-ACL by this fishery with negative economic impacts on the overall scallop fishing industry.

Timing of AMs for the scallop fishery YT flounder sub-ACL

- Rationale is provided in Section 2.2.3
- Economic impacts are analyzed in Section 5.4.8
- **Summary of the impacts of the proposed option and mitigating factors:** With the preferred alternative, if reliable information is not available to make a mid-year determination of the need to implement an AM for the YTF sub-ACL, NMFS would wait until enough information is available before making a decision to implement an AM. This alternative would have positive economic impacts on the scallop vessels since the decisions will be made based on more accurate information.
- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for all the participants of the scallop fishery. Under No Action, AMs will trigger in Year 2 regardless of the reliable information at that

time. This would have negative economic impacts on the scallop fishery if the AMs trigger in next fishing year due to inaccurate data and lack of reliable information resulting in loss of scallop landings and revenue.

Measures to improve the flexibility and efficient use of LAGC IFQ by allowing transfer of quota mid-year

- Rationale is provided in Section 2.3
- Economic impacts are analyzed in Section 5.4.9
- **Summary of the impacts of the proposed option and mitigating factors:** This measure is expected to have positive economic impacts allowing the vessels fully land their quota. The second aspect of this alternative would enable an IFQ vessel to transfer IFQ that it received through a previous transfer (i.e., a sub-lease to another vessel) to or another IFQ vessel or vessels. Although, this alternative provides more flexibility to vessels by allowing sub-leasing with positive economic benefits, it will also add more complexity to IFQ monitoring with a possibility for the cost recovery fees increasing and reducing the net economic benefits for the LAGC vessels.
- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for all the participants of the scallop fishery. No action could result in loss of revenue from unused quota if a vessel cannot fish during the rest of the year and lease its quota to another vessel, with negative economic impacts.

Measures to expand the current observer set-aside program to include LAGC vessels in open areas

- Rationale is provided in Section 2.4.2
- Economic impacts are analyzed in Section 5.4.10
- **Summary of the impacts of the proposed option and mitigating factors:** Given that the scallop fishery is subject to bycatch sub-ACLs, it would be useful to have more observer data to rely on for monitoring these ACLs more precisely, including the LAGC fishing in open areas. Having more precise bycatch information for all segments of the scallop fishery will improve management and will have indirect positive impacts on economic benefits.
- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for all the participants of the scallop fishery. Under no action, LAGC trips in open areas will not be under the observer set-aside program.

Modify the observer set-aside allocation

- Rationale is provided in Section 2.4.2.1
- Economic impacts are analyzed in Section 5.4.12

- **Summary of the impacts of the proposed option and mitigating factors:** With the preferred alternative, set-aside could be transferred from one area to another based on NMFS in-house area-level monitoring that determines whether one area will likely have excess set-aside while another may not. Therefore, this alternative would be more efficient in using the set-asides where it is needed most and as such, they will be more fully utilized for better monitoring the catch with indirect positive economic benefits.

- **Comparison of the impacts with the alternative options:** There are no alternatives that would generate higher economic benefits for all the participants of the scallop fishery. Under no action, if the set-aside for a given area is fully harvested, there would be no mechanism to transfer TAC from one area to another. As a result, any vessel with an observed trip in an area with no remaining observer set-aside would have to pay for the observer without compensation. This would increase costs for vessels and have negative economic impacts.

1. Indirectly affected industries

Indirect impacts 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 induced impacts represent the sales, income and employment resulting from expenditures by crew and employees of the indirect sectors. Given that the overall economic impacts of the combined measures proposed by this Amendment on the fleet revenues and profits will be considerably negative in the short-term, their indirect and induced impacts are expected to be negative in the short-term as well. Over the medium term from 2013 to 2017, the indirect and induced impacts of the preferred alternative on the indirectly affected businesses are expected to be substantial, but not significant due to the reasons explained in Section 6.1.12.3.3. Over the long-term, however, the preferred alternative is expected to have positive economic impacts on the scallop fishery, and thus will have positive indirect impacts on the indirectly affected industries.

2. Identification on Overlapping Regulations

The proposed regulations do not create overlapping regulations with any state regulations or other federal laws.

3. Reporting, recordkeeping, and other compliance requirements

There are no projected reporting, recordkeeping, and other compliance requirements required to comply with the proposed rule.

7.0 GLOSSARY

Area based management – in contrast to resource wide allocations of TAC or days, vessels would receive authorization to fish in specific areas, consistent with that area's status, productivity, and environmental characteristics. Area based management does not have to rotate closures to be effective.

Area rotation – a management system that selectively closes areas to fishing for short to medium durations to protect small scallops from capture by commercial fishing until the scallops reach a more optimum size. Closed areas would later re-open under special management rules until the resource in that area is similar to other open fishing areas. Area rotation is a special subset of area based management that relies on an area closure strategy to achieve the desired results when there are sufficient differences in the status of the management areas.

B_{max} – a theoretical value when the scallop stock with median recruitment is fished at Fmax. For a stock without a stock-recruitment relationship, like sea scallops, this stock biomass produces MSY when fished at Fmax.

Biological Opinion – an ESA document prepared by either the NMFS or USFWS describing the impacts of a specific Federal action, including an FMP, on endangered or threatened species. The Biological Opinion concludes whether or not the NMFS/USFWS believe that the actions are likely to jeopardize the continued existence of any of the protected species, and provides recommendations for avoiding those adverse impacts.

Closed rotation area – an area that is temporarily closed to postpone mortality on abundant, small scallops.

Consumer surplus - The net benefit consumers gain from consuming fish based on the price they would be willing to pay for them. Consumer surplus will increase when fish prices decline and/or landings go up.

Contagious recruitment – similar amounts of scallop settlement in related areas. When scallop settlement is above average in one area, it tends to be above average in neighboring areas.

Controlled access – a program that allows fishing in a specified area under rules that differ from the normal fishery management rules that apply to normal, open fishing areas. Often controlled access areas have a scallop TAC, a scallop possession limit, and area-specific trip and DAS allocations. Other regulations may apply to achieve certain conservation objectives.

Critical habitat – an area that has been specifically designated under the ESA as an area within the overall geographical region occupied by an endangered or threatened species on which are found the physical or biological features essential to conservation of the species.

Day-at-sea (DAS) – is each 24-hour period that a vessel is on a scallop trip (i.e. not declared out of the day-at-sea program) while seaward of the Colregs line.

Day-at-sea tradeoff – the number of days automatically charged for fishing for scallops in designated areas, regardless of the time actually fished.

Day-at-sea use – the amount of time that a vessel spends seaward of the Colregs line on a scallop trip.

Days-at-sea accumulated – days charged against a vessel's annual day-at-sea allocations, including day-at-sea tradeoffs. Trips in controlled access areas are often charged a pre-established amount of DAS, regardless of the actual duration of the trip.

Endangered species – a species that is in danger of extinction throughout all or a significant portion of its range.

ESA - Endangered Species Act of 1973 as amended.

Exploitable biomass - the total meat weight of scallops that are selected by fishing, accounting for gear and cull size, at the beginning of the fishing year[12].

F_{max} – a fishing mortality rate that under equilibrium conditions produces maximum yield-per-recruit. This parameter serves as a proxy for Fmsy for stocks that do not exhibit a stock-recruitment relationship, i.e. recruitment levels are driven mostly by environmental conditions.

Fixed costs - These costs include expenses that are generally independent of the level of fishing activity, i.e., DAS-used, such as insurance, license, half of repairs, office expenses, professional fees, dues, utility, interest, dock expenses, bank, rent, store, auto, travel, and employee benefits.

Fixed duration closure – a rotational closure that would be closed for a pre-determined length of time.

Fixed rotational management area boundaries – pre-defined specifications of areas to be used to manage area rotation.

FMP – Fishery Management Plan.

Heterogeneity – spatial differences in the scallop resource, life history, or the marine environment.

Incidental Take Statement – a section of a Biological Opinion that allows the take of a specific number of endangered species without threat of prosecution under the ESA. For the Scallop

[12] The **average exploitable biomass** is different and is defined as the total meat weight of scallops that are selected by fishing averaged over the fishing year, accounting growth, natural mortality, fishing mortality, and gear and cull size.

FMP, an incidental take statement has been issued for a limited number of sea turtles to be taken by permitted scallop vessels.

IWC – International Whaling Commission; an international group that sets international quotas and/or establishes moratoria on harvesting of whales.

Localized overfishing – a pattern of fishing that locally exceeds the optimum rate, considering the age structure of the population, recruitment, growth, and natural mortality. This effect may cause mortality that is higher than appropriate on small scallops while under-fishing other areas with large scallops (assuming that the overall amount of effort achieves the mortality target for the entire stock). The combined effect is to reduce the yield from the fishery through the loss of fast-growing small scallops and the loss of biomass from natural mortality on very large scallops.

Long-term closure area – an area closed to scallop fishing for reasons other than achieving area rotation objectives. These areas may be closed to minimize habitat impacts, avoid bycatch, or for other reasons.

LPUE – Similar to catch per unit effort (CPUE), commonly used terminology in fisheries, LPUE in the Scallop FMP refers to the amount of landings per DAS a vessel achieves. This value is dependent on the scallop abundance and catch rate, but also depends on the shucking capacity of the crew and vessel, since most of the scallop catch must be shucked at sea. Since discard mortality for sea scallops is low, discards are not included as a measure of catch in the calculation of LPUE.

Magnuson Act – Magnuson Stevens Act of 1976 as amended.

Meat yield – the weight of a scallop meat in proportion to the total weight or size of a scallop. Scallops of similar size often have different meat yields due to energy going into spawning activity or due to the availability of food.

MMPA - Marine Mammal Protection Act of 1972 as amended.

NAAA - The Northwest Atlantic Analysis Area was a geographic area used in the habitat metric analysis. It's boundary to the North is the Hague line, the NC/SC border to the South, the coastline to the West, and the 500 fathom depth contour to the East.

NEPA – National Environmental Policy Act of 1972 as amended.

Net economic benefits - Total economic benefits measure the benefits both to the consumers and producers and are estimated by summing consumer and producer surpluses. Net economic benefits show, however, the change in total economic benefits net of no action.

NMFS – National Marine Fisheries Service.

Nominal versus real economic values - The nominal value of fishing revenues, prices, costs and economic benefits are simply their current monetary values unadjusted for inflation. Real values are obtained, however, by correcting the current values for the inflation.

Open area – a scallop fishing area that is open to regular scallop fishing rules. The target fishing mortality rate is the resource-wide target.

Operating expenses or variable costs - The operating costs measures the expenses that vary with the level of the fishing activity including food, ice, water, fuel, gear, supplies and half of the annual repairs.

Opportunity cost - The cost of forgoing the next best opportunity. For example, if a fisher's next best income alternative is to work in construction, the wage he would receive from construction work is his opportunity cost.

PDT – Scallop plan Development Team; a committee of experts that contributed to and developed the technical analysis and evaluation of alternatives.

Potential biomass increase - the annual change in the total biomass of scallop meats if no fishing occurs.

Producer surplus -Producer surplus for a particular fishery shows the net benefits to harvesters, including vessel owners and the crew, and is measured by the difference between total revenue and operating costs.

Recently re-opened area – an area that has recently re-opened to scallop fishing following a period of closure that postponed mortality on small scallops. The annual TAC and target fishing mortality rate is defined by time-averaged fishing mortality that allows the area-specific target to deviate from the norm. Special rules (i.e. day-at-sea allocations or trips with possession limits and day-at-sea tradeoffs may apply.

Recruitment – a new year class of scallops measured by the resource survey. Scallop larvae are pelagic and settle to the bottom after 30-45 days after spawning. The resource survey, using a lined dredge, is able to capture scallops between 20 – 40 mm, but more reliably at between 40 and 60 mm. Recruitment in this document refers to a new year class that is observable in the survey, at around two years after the eggs had been fertilized and spawned.

Recruitment overfishing – a high level of fishing mortality that causes spawning stock biomass to decline to levels that significantly depresses recruitment. Because sea scallops are very productive, this mortality rate is substantially higher than F_{max} and the biomass where recruitment is threatened is much lower than the present biomass target.

SAFE Report – A Stock Assessment and Fishery Evaluation Report, required by the Sustainable Fisheries Act. This report describes the present condition of the resource and managed fisheries, and in New England it is prepared by the Council through its Plan Development Teams (PDT) or

Monitoring Committees (MC). The Scallop PDT is the MC for the Atlantic Sea Scallop FMP and prepares this report.

SMAST – School for Marine Science and Technology, University of Massachusetts Dartmouth

Scallop productivity – the maximum average amount of biomass that can be taken from a defined area.

Shucking – a manual process of cutting scallop meats from the shell and viscera.

Size selection – in the scallop fishery, size selection occurs at two points: when the fishing gear captures the scallop and when the crew culls the catch before shucking. At the first point, size selection depends on escapement through the dredge rings, twine top, or trawl meshes. At the second point, size selection depends on the size of the catch and marketability. Small scallops are less valuable and more time consuming to shuck a pound of meats. These factors influence whether the crew retains scallops at a smaller or larger size. Size selection by the fishery is the combined effect of mortality from landed scallops, from discard mortality, and from non-catch mortality from the fishing gear. Except under certain rare conditions, most of the mortality has been associated with the landed portion of the catch.

TAC – Total allowable catch is an estimate of the weight of scallops that may be captured by fishing at a target fishing mortality rate. The TAC could apply to specific areas under area based management rules.

Take – a term under the MMPA and ESA that means to harass, harm , pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct with respect to either a marine mammal or endangered species.

Ten-minute square – an approximate rectangle with the dimensions of 10-minutes of longitude and 10-minutes of latitude.

Threatened species – any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

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