This is a working draft for discussion at the January 2014 Council Meeting

This document has been updated based on Council motions in December 2013
New information is highlighted in YELLOW

Framework 25 to the Scallop FMP

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

Council – Please consider AP/Cmte input on outstanding issues below and preferred alternatives

1. What should default measures for FY2015 be – PDT recommendation for LA vessels is 75% of projected DAS like in FW24 (page 19)? And for LAGC – 100% of projected catch for 2015 (Page 37)?
2. Should PT and Occasional vessels be able to convert Delmarva trips to open areas? How would that work? How many DAS? (Page 21)
3. How should Delmarva flexibility would work in specification alternatives 3, 4, and 5 – what would vessels have to do and when? Draft text inserted – review and provide input. (Page 21)
4. Should a minimum poundage be considered for unused 2012 CA1 rollover? (Table 10 page 33)
5. WP AM alternatives – finalize AM areas, seasons, and triggers Section 2.2 and Document #3
6. Consider AP and Cmte recommendations for preferred alternatives for all measures (See Decision Document – Doc #5)

Prepar ational

Initial Council Meeting: April 25, 2013
Final Council Meeting: ~~November 19-21, 2013~~ January 28 – 30, 2014
Submission of Final EA: ~~December 2013~~ February 2014

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Executive Summary

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1.0 BACKGROUND AND PURPOSE

1.1 BACKGROUND

This framework to the Scallop Fishery Management Plan (FMP) sets fishery specifications for fishing year (FY) 2014 and default measures for FY 2015. The New England Fishery Management (Council) decided to develop a one-year action only, including default measures for Year 2 only (FY2015). This decision was made to get the management cycle back in-sync with the scallop assessment schedule. The scallop resource is scheduled for a benchmark assessment in the spring of 2014. Therefore, the status of the stock will be reviewed and more up to date information will be available in 2014 that can be used to set management measures for FY2015 and FY2016.

The list of measures required to be in a framework has increased over the years to include overall annual catch limits, specific allocations for both limited access and limited access general category vessels. Below is a list of the measures required as part of the scallop fishery specifications:

- Overfishing Limit (OFL) and Acceptable Biological Catch (ABC), which is approved by the SSC;
- Annual Catch Limits (ACL) (for both the limited access and limited access general category fisheries, and Annual Catch Target (ACT);
- Allocations for limited access vessels include DAS allocations, access area allocations with associated possession limits;
- Allocations for limited access general category vessels include an overall IFQ for both permit types, as well as a fleetwide, area-specific maximum number of access area trips available for the general category fishery;
- NGOM hard-TAC;
- Incidental catch target-TAC; and
- Set-aside of scallop catch for the industry funded observer program.

Through Framework 48 to the Multispecies FMP the Council allocated a sub-ACL of SNE/MA windowpane flounder to the scallop fishery. Since, all sub-ACLs require accountability measures (AMs) if exceeded, those measures will also be developed in this action. The sub-ACL for SNE/MA windowpane flounder was set at 36% of the total ABC for that stock. This percentage of the ABC would be used to determine the scallop fishery sub-ABC, and then this would be adjusted for management uncertainty to get the scallop fishery sub-ACL. This allocation is based on the 90^{th} percentile of the scallop fishery catches from 2001-2010. For 2014 and 2015 the scallop fishery sub-ACL is 186 mt.

Finally, the Council identified one additional item to consider when Framework 25 was officially initiated in April 2013. Specifically, the Council requested that measures be developed to address Closed Area I access areas trips allocated in FY2013. Catch rates have declined rapidly in that area and measures will be considered in this action that would potentially allow vessels to use those trips in a future fishing year and/or area. At a subsequent Council meeting the consideration of unused 2012 Closed Area I trips was included as well.

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 including: OFL, ABC, scallop ACLs and associated set-asides, day-at-sea (DAS) allocations, general category fishery allocations, and area rotation schedule and allocations for the 2014 fishing year, as well as default measures for FY2015 that are expected to be replaced by a subsequent action. Related to this primary need, the Council is developing measures to improve yield per recruit from Closed Area I. Specifically, this action will also consider measures to address Closed Area I access area trips allocated to a portion of the limited access scallop fishery in FY2013 and FY2012. Catch rates have declined rapidly in this area and measures were developed to reduce potentially negative environmental and disproportional economic impacts of these allocations.

Another purpose of this action is to establish accountability measures (AMs) for the SNE/MA windowpane flounder sub-ACL. These AMs are needed to help prevent overfishing and reduce catch of SNE/MA windowpane flounder if the scallop fishery exceeds their sub-ACL of this stock.

Table 1 – Summary of the purpose and need for measures developed in Framework 25 including section number with specific alternatives

Need	Purpose	Section # with specific alternatives
1. 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 for FY2014 and FY2015 (default): OFL, ABC, ACLs, ACT, DAS, general category allocations, and area rotation schedule and related allocations. 2. To address low catch rates in Closed Area I that may have negative impacts on the environment in that area as well as disproportional economic impacts.	Section 2.1 Section 2.1.2.4
2. To reduce bycatch of SNE/MA windowpane flounder if the scallop fishery exceeds their annual limit (sub-ACL)	To implement AMs for the SNE/MA windowpane flounder sub-ACL allocated to the scallop fishery	Section 2.2

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, but a complete list of the measures as well as the actions themselves are available on the NEFMC website (http://www.nefmc.org/scallops/index.html).

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 1.3.1 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 scallop catch each fishing year. This action also established separate limited entry programs for general category fishing in the Northern Gulf of Maine and an incidental catch permit category (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 brought the FMP in compliance with new requirements of the re-authorized MSA (namely ACLs and AMs) as well as a handful of other measures to improve the overall effectiveness of the FMP.

1.3.1 Detailed background on rotational area management

Rotational area management is the cornerstone of scallop fisheries management. There are four types of areas in this system: 1) "open areas" where scallop fishing can occur using DAS or IFQ; 2) areas completely closed to scallop fishing year-round to reduce impacts on EFH and/or groundfish mortality; 3) areas temporarily closed to scallop vessels to protect small scallops until a future date; and 4) areas open to very restricted levels of scallop fishing called "access areas". When scallop vessels are fishing in these areas they are limited in terms of total removal and sometimes season.

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 2. 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.

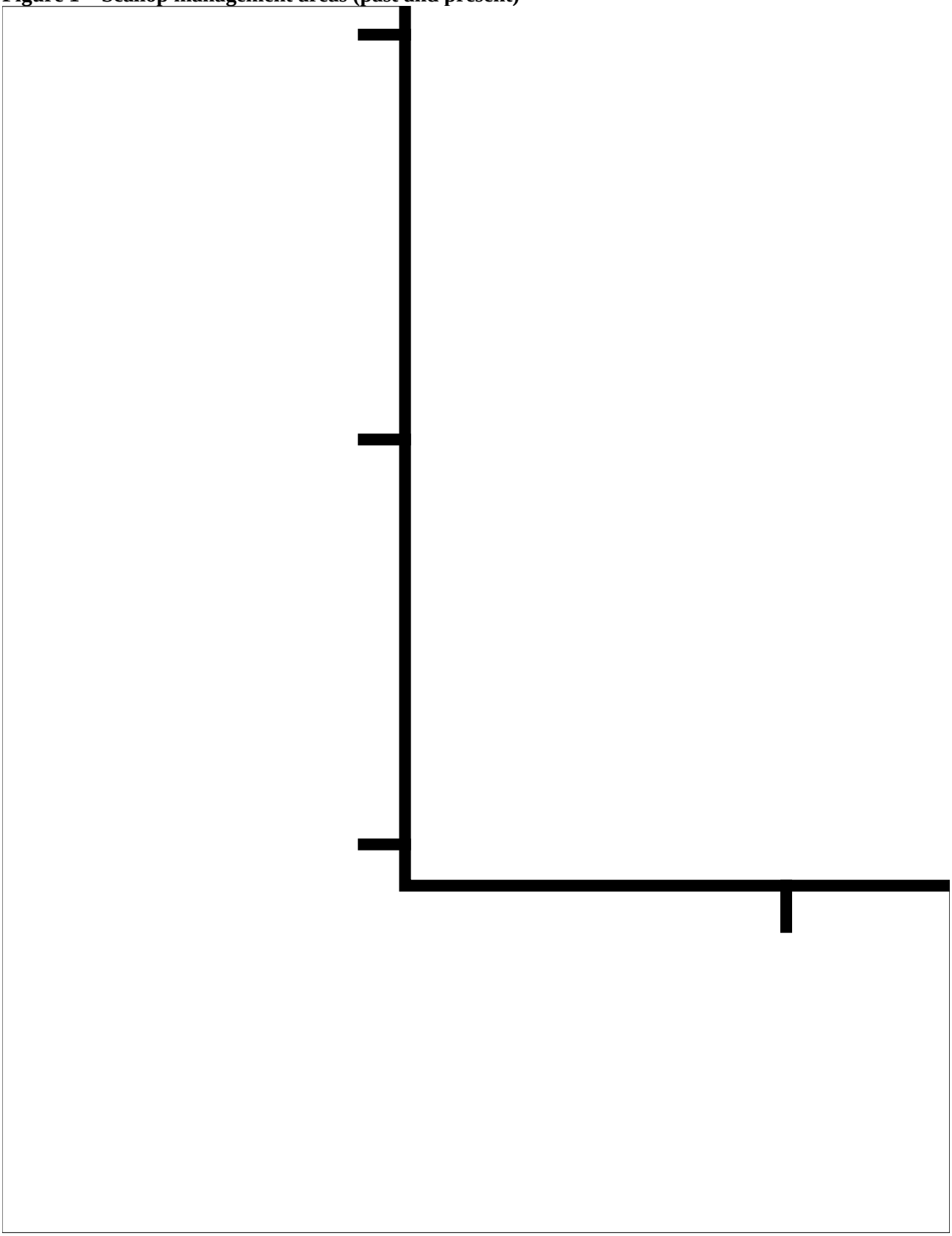
Figure 1 shows the boundaries of current and past scallop access areas (green shaded) on Georges Bank and in the Mid-Atlantic. Areas that are closed to the scallop fishery are indicated as well: groundfish mortality closed areas (hollow) and EFH closed areas (hatched). For the most part some of these areas are closed to the fishery if small scallops are present, some areas are open as access areas with a controlled level of fishing, and some may be "open areas" that may be fished using DAS, not access area trips. Each year limited access vessels are allocated a set number of trips with possession limits to fish in specific access areas. And general category vessels are awarded a fleetwide maximum of trips that can be taken per area.

The NEFMC is currently reviewing the EFH and groundfish mortality closed areas in this region in the EFH Omnibus Amendment. Based on the outcome of that action the current boundaries of these closed areas may change. Therefore, future scallop access areas may also be different, and current restrictions to fish in EFH closed areas may be different as well. Since this action is primarily limited to FY2014, and any of these potential changes will only be effective toward the very end of FY2014 (under the best case scenario); Framework 25 will only address specifications based on the current areas available to the scallop fishery – areas outside of EFH closed areas and areas within CA1, CA2, and NL that have been available to the scallop fishery in the past.

Table 2- 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)



1.3.2 Detailed background on more recent requirements of the MSA

Amendment 15 to the Scallop FMP was implemented in 2011 to bring the FMP in compliance with new requirements of the re-authorized MSA (namely ACLs and AMs).

(Will include more info with flowcharts and tables like in the final regulations for all required terms, and summary of related AMs)

1.4 SUMMARY OF FY2014 DEFAULT MEASURES APPROVED IN FRAMEWORK 24

The Council routinely sets default measures for the fishing year following the intended length of an action in the event that subsequent actions are not in place at the start of the following fishing year. For example, the scallop fishing year starts on March 1, but complete management measures are not usually in place until May. This lag is primarily due to the fact that scallop specifications are set using the most up to date survey data collected the summer before the start of the fishing year. The results are typically available in August, a new ABC is reviewed by the SSC in September, and the PDT develops and analyzes specification alternatives in early fall before final Council action at the November meeting. Staff generally completes the submission package by the end of the year and the action is reviewed and implemented by NMFS typically in May.

In the past, measures have been in place on March 1 that are inferior to measures proposed for implementation in a subsequent action using more updated information. Ultimate catch levels may be higher or lower depending on updated survey results, some areas with access area trips assigned may not be able to support that level of effort, or small scallops may show up in a new survey suggesting the area should be closed to protect new recruitment. In order to minimize the potentially negative impacts of having measures in place on March 1 that ultimately need to be changed, the Council more recently only allocated DAS to the limited access fishery as default measures for FY2014; no access area trips were assigned to limited access vessels or general category vessels.

Therefore, if Framework 25 is delayed past March 1, 2014, scallop vessels would be restricted to fishing in open areas until final FY 2014 specifications are implemented. However, vessels would be able to fish FY 2013 compensation trips in the access areas that were open in FY 2013 (e.g., HC, NLS, CA1, and CA2) for the first 60 days that those areas are open in FY 2014, or until Framework 25 is approved and implemented, whichever occurs first. In addition, the default DAS allocations were set at 75% of the projection to be precautionary. Therefore, vessels will receive a set number of DAS on March 1, 2014, and that may be different than the ultimate number of DAS awarded under FW25.

The default measures for 2014 also included the required ABC and ACL values, but they will likely be replaced by this action. The table below summarizes the default values that will be effective on March 1, 2014 until FW25 is implemented to replace them. Vessels with a LAGC IFQ permit will receive an allocation based on the contribution factor assuming the total LAGC IFQ is 2.5 million pounds. Their allocations for FY2014 may ultimately change based on the final sub-ACL approved in FW25. LAGC IFQ vessels are responsible to payback any overage

the following year if the ultimate IFQ for FY2014 is lower than the allocation under the default sub-ACL.

If FW25 is not adopted these allocations would remain in place for all of FY2014 and beyond until replaced by a subsequent action.

Table 3 - ACL related values and allocations for 2014 (default measures approved in FW24)

	2014*
OFL	31,110 mt (68,585,801 lb)
ABC	23,697 mt (52,242,952 lb)
incidental	22.7 mt (50,000 lb)
RSA	567 mt (1,250,000 lb)
OBS	237 mt (522,429 lb)
ACL after set-asides/incidental removed *(= ABC-(incidental + RSA +OBS))*	22,870.3 mt (50,420,523 lb)
LA sub-ACL (94.5% of ACL)	21,612 mt (47,647,385 lb)
IFQ-only (5% of ACL)= sub-ACL = ACT	1,144 mt (2,521,026 lb)
IFQ + LA (0.5% of ACL)=sub-ACL=ACT	114 mt (252,103 lb)

** 2014 measures are default and expected to be adjusted based on FW25*

Table 4 – Summary of FY2014 default allocations for LA vessels (approved in FW24)

	LA FT	LA PT	LA Occasional
2014	23	9	2

** Default DAS is 75% of the total DAS projected for FY2014 (31 DAS)*

2.0 MANAGEMENT ALTERNATIVES UNDER CONSIDERATION

2.1 FISHERY SPECIFICATIONS

2.1.1 Overfishing Limit (OFL) and Acceptable Biological Catch (ABC)

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.

2.1.1.1 No Action (Alternative 1)

Under "No Action", the overall OFL and ABC would be equivalent to default 2014 values adopted in Framework 24 (Table 5). These would remain in place until a subsequent action replaced them. These values were selected based on the same control rules: 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 loss to yield. The overall fishing mortality rate used for setting ABC is 0.32. 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 5, column to the far right).

Table 5 – Summary of OFL and ABC FY2014 (default) values approved by the SSC in Framework 24 (in metric tons)

	OFL (including discards at OFL)	ABC (including discards)	Discards (at ABC)	ABC available to fishery (after discards removed)
2014 (default)	35,110	30,353	6,656	23,697

2.1.1.2 Updated estimate of ABC for FY2014 and FY2015 (default) (Alternative 2)

The SSC first met on September 16, 2013 to review updated estimates of OFL and ABC for Framework 25. The PDT presented an update of stock status for 2012 as well as updated estimates of OFL and ABC for FY2014 and FY2015. Unfortunately, there was not a quorum at

the meeting. The SSC proceeded with the discussion and did accept the updated estimates; however, at the following September Council meeting it was decided that the SSC should review the same information again when a quorum was available.

Therefore, the SSC met again on November 15, 2013. The SSC reviewed updated estimates of OFL and ABC based on revised PDT analyses. Several errors were discovered when the PDT prepared documents for the second SSC meeting. These errors were related to calculation mistakes and did not change the overall estimates of OFL or ABC substantially. The final values are very similar to the previous estimates; 2014 estimates are actually a bit higher (Table 6).

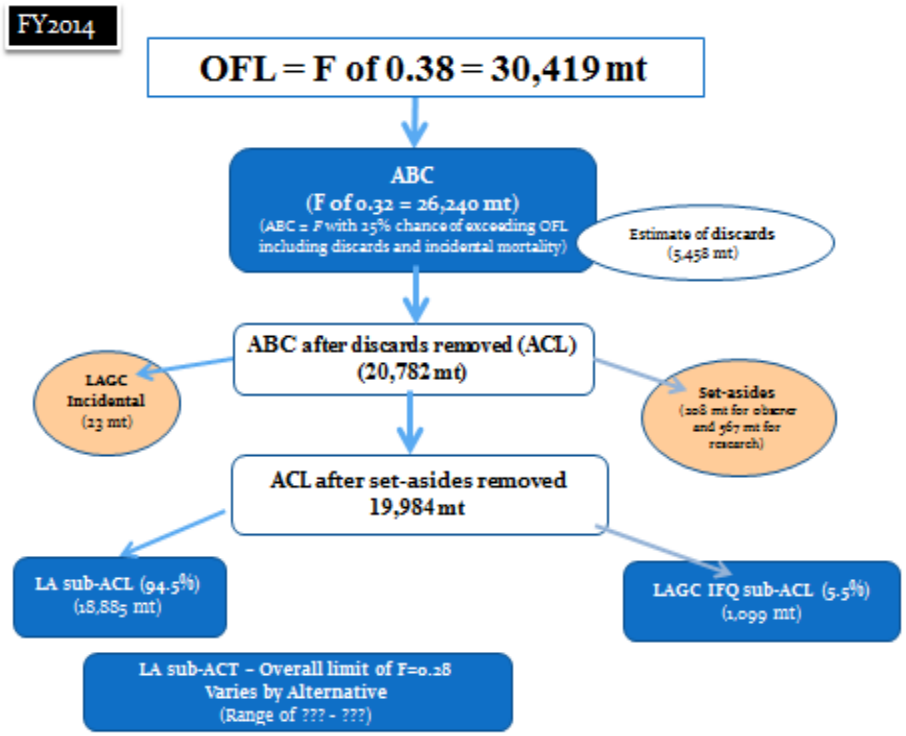
Table 6 – Proposed OFL and ABC for FY2014 and 2015 (default) approved by the SSC

Year	OFL (including discards)	ABC (including discards)	Discards at ABC	ABC available to fishery = ACL (after discards removed)
2014	30,419	26,240	5,458	20,782
2015	34,247	29,683	5,701	23,982

2.1.2 Annual catch limits (ACLs)

In the Scallop FMP, ACL is equivalent to ABC, after removing an estimate of discards and incidental mortality. ABC is the catch equivalent to applying an overall F of 0.32 on the entire resource, the fishing mortality rate that has a 25% chance of exceeding OFL (0.38). From ABC/ACL several set-asides are removed for the observer program, research program, and vessels with a limited entry incidental catch permit. After those set-asides are removed, the remaining catch is divided between the LA and LAGC fisheries into two sub-ACLs; 94.5% for the LA fishery sub-ACL, and 5.5% for the LAGC fishery sub-ACL. Figure 2 summarizes how the various ACL terms are related in the Scallop FMP.

Figure 2 – Summary of scallop fishery catch limits proposed in this action (FY2014)



The ACLs and set-asides are the same for all specification alternatives under consideration in this action, except the No Action. Because the No Action alternative is based on default measures previously set in FW24, the sub-ACLs and set-asides are different based on a previous estimate of overall OFL and ABC before using updated survey and fishery data. Table 7 summarizes the ACLs and set-asides under consideration.

Aside from the No Action Alternative, the only difference between the FW25 specification alternatives is the LA sub-ACT; all other ACL related values are the same. The LA fishery has a sub-ACT to account for management uncertainty. This "buffer" for management uncertainty is used to address the uncertainty in annual catches in the LA fishery. Several measures provide flexibility for the LA fishery, but also have associated uncertainty in terms of total annual catches. For example, the allowance to carry forward up to 10 DAS from one fishing year to the next, the broken trip provision for access area trips that allows a LA vessel to fish unused catch up to 60 days into the next fishing year, and underestimates in catch rates from open areas that could impact overall catch.

The sub-ACT for the LA fishery is equivalent to the catch associated with the fishing mortality rate that has a 25% chance of exceeding the ABC (0.32), currently estimated to be 0.28 overall. It also needs to be pointed out that the projected catch for each of the scenarios under consideration is based on the resource *available* to the fishery, not in closed areas since that is not accessible to the fishery. Therefore, the projected catch for a scenario is often even lower than the limit of catch associated with 0.28 if scallop biomass is within closed areas. In the end the sub-ACT for the LA fishery is the remainder of the projected catch for each scenario after

allocations are set for the LAGC sub-ACL and set-asides for observer coverage, research and incidental catch. Table 7 also includes the LA sub-ACTs for each alternative.

The LAGC fishery is allocated an overall IFQ equivalent to the sub-ACL for that fishery; there is no sub-ACT. Therefore, the LAGC-sub ACL is the same for all alternatives under consideration, except the No Action.

Table 7 – Summary of ACL related values for FW25 specification alternatives (FY2014)

	Alt 1 (No Action)	**FW25 Specification Alternatives (Alt 2, 3, 4, 5, and 6)**				
OFL (including discards and incidental mortality)	68,585,801 lb. 31,110 mt	67,062,427 lb. 30,419 mt				
ABC after discards removed = ACL	52,242,952 lb. 23,697 mt	45,816,475 20,782 mt				
Observer set-aside	522,429 lb. 237 mt	458,562 lb. 208 mt				
Research set-aside	1,250,000 lb. 567 mt	1,250,000 lb. 567 mt				
Incidental catch	50,000 lb 22.7 mt	50,000 lb 22.7 mt				
LA sub-ACL	47,647,385 lb. 21,612 mt	41,634,305 18,885 mt				
LA sub-ACT	34,012,918 lb. 15,428 mt	**Alt2** 27.5 mil 12,482 mt	**Alt3** 27.5 mil 12,482 mt	**Alt4** 34.3 mil 15,567 mt	**Alt5** 31.7mil 14,387 mt	**Alt6** 33.7 mil 15,294 mt
LAGC sub-ACL (no sub-ACT)	2.77 mil 1,258 mt	2.42 mil 1,099 mt				

All set asides plus incidental and gen cat is 1,896.7 mt – take that away from projected catch of each scenario to get LA sub-ACT

2.1.3 Specifications for limited access vessels

Specifications for the limited access fishery include DAS and access area trips as limited by the ACT for the limited access fishery and what areas are open to the fishery. This action considered a wide range of alternative ACTs based on a variety of possible allocation scenarios. A summary of the various allocation alternatives for the LA fishery are described in Table 8.

2.1.3.1 Alternative 1 (No Action – Default measures from Framework 24)

Under No Action, the sub-ACL for the LA fishery would be 21,612 mt (47,647,385 lb) and sub-ACT of 15,428 mt (34,012,918 lb). The specifications would include default measures approved in Framework 24 for FY2014 which are 75% of the projected DAS for that year. For full-time vessels that is equivalent to 23 DAS (75% of 31 DAS), 9 DAS for part-time vessels, and 2 DAS

for occasional vessels. There are no access area allocations under No Action. These measures would remain in place until replaced by another action.

The overall estimate of projected F in all areas combined from this alternative is 0.10, which is lower than the maximum F allowed under the current system used for setting ACT (overall limit of 0.28 in all areas). Total projected catch for the No Action alternative from all sources of catch (including set-asides and LAGC catch) is 10,798 mt, or 23.8 million pounds.

2.1.3.2 Alternative 2 (Basic run using OFD fishing mortality target principles – 23 DAS and 2 trips in either CA2, NL and Delmarva)

This is the basic alternative the PDT generally begins with when identifying possible specification alternatives. Target catches in this fishery are driven by three principles developed as part of the "hybrid" overfishing definition approved in Amendment 15. The three main principles that are used in this FMP to set target catches for the limited access fishery are:

1) fishing mortality in open areas cannot exceed 0.38;
2) a spatially averaged fishing mortality target is limited to 0.28 for all areas combined (open and closed areas); and
3) fishing mortality targets for access areas are based on a time-averaged principle, higher F in some years followed by closures or limited fishing levels in other years.

When these principles are applied to the estimated biomass in each area for FY2014 the allocations for full-time LA vessels are:

- 23 DAS in open areas (when open area F is set at 0.38); and
- Two 12,000 pound access area trips per FT vessel. Each vessel would be allocated one trip in Delmarva and one trip in either NL or CA2, to be allocated by lottery. Roughly 116 trips would be allocated in NL and 197 in Closed Area II. A target F of 0.4 per area would be applied in areas with sufficient exploitable biomass and lower growth potential.
- Part-time (PT) vessels would receive one access area trip at 9,200 lb and 9 DAS, while Occasional vessels would receive one access area trip at 1,920 lb and 2 DAS. PT and occasional vessels could fish their access trip in any one area open (i.e., Delmarva, CA2, or NL).
- Total projected catch for Alternative 2 from all sources of catch (including set-asides and LAGC catch) is 14,364 mt, or 31.7 million pounds.

The overall estimate of projected F in all areas combined from this alternative is 0.17, which is lower than the maximum F allowed under the current system used for setting ACT (overall limit of 0.28 in all areas). Therefore, in this particular year the principle that limits open area F at 0.38 is the constraining factor in terms of setting total catch limits. The LA-sub ACL for this alternative is 18,885 mt (41,634,305 lb), and the LA-ACT is 12,482 mt (27.5 million pounds), the remaining catch available after set-asides and allocations for LAGC IFQ and LAGC incidental fisheries.

The default measures for FY2015 for this alternative would be ???
The PDT recommends default measures be 75% of the projected DAS for FY2015, and no access area allocations included as default measures.

PDT Recommendation for all alternatives – Agree?

2.1.3.3 Alternative 3 (Basic run using OFD fishing mortality target principles – 23 DAS and 2 trips in either CA2, NL and Delmarva, but flexibility to use open area DAS instead of Delmarva trip)

This alternative is similar to Alternative 2, but flexibility has been added related to the Delmarva access area trip in an effort to provide additional conservation for that area. LA vessels will be given a choice to use one access area trip of 12,000 pounds in Delmarva, or five open area DAS.

The primary rationale for giving vessels a choice is to provide some potential for protection for Delmarva, while keeping total catch similar to Alternative 2. If scallops are of harvestable size in Delmarva and in higher densities than open areas then vessels would be expected to fish there. But if projections are not correct, giving vessels a choice to fish in open areas instead may help reduce impacts on smaller scallops if catch rates and sizes are overestimated. This flexibility may help self-regulate the area to better reflect the fishing condition in Delmarva, which is more uncertain than some of the other access areas due to the large proportion of smaller scallops and more uncertainty about natural mortality and growth in that access area.

There are other measures under consideration to further reduce mortality in Delmarva in Section 2.1.3.7 and 2.1.3.8.

When this alternative was first developed the idea was that DAS could be used in Delmarva rather than treating the area as an access area. However, as the PDT, AP and Committee worked on the details it became clear that modifying the status of the area even temporarily created more issues and would be more difficult to implement. Therefore, at the November Committee meeting the Committee recommended modifying this alternative so that it remained an access area with a maximum allocation per vessel, but vessels could choose whether to fish in the area under the possession limit, or use open area DAS outside of Delmarva instead. The Council agreed with this modification at the December Council meeting.

The allocations related to this alternative are similar to Alternative 2, but fishing in Delmarva is voluntary.

- 23 DAS in open areas (when open area F is set at 0.38);
- Two 12,000 pound access area trips per FT vessel. Each vessel would be allocated one trip in Delmarva and one trip in either NL or CA2, to be allocated by lottery. Roughly 116 trips would be allocated in NL and 197 in Closed Area II. A target F of 0.4 per area would be applied in areas with sufficient exploitable biomass and lower growth potential.
- The trip allocated for Delmarva is voluntary. FT vessels can either choose to use that access opportunity in Delmarva up to 12,000 pounds, or fish five additional DAS in open areas and no access in Delmarva. If the latter, a FT LA vessel would be allocated 28 DAS (23 DAS plus 5 DAS) and one access area trip in either NL or CA2.
- A FT vessel would be permitted to trade Delmarva trips. However, if a vessel traded in one Delmarva trip for a total of 2 Delmarva trips in 2014, it would only be permitted to convert one of those trips into open area DAS. No vessel could convert more than one Delmarva trip to DAS.
- Part-time (PT) vessels would receive one access area trip at 9,200 lb and 9 DAS, while Occasional vessels would receive one access area trip at 1,920 lb and 2 DAS. PT and occasional vessels could fish their access trip in any one area open (i.e., Delmarva, CA2,

PDT recommends PT and Occ vessels be included – but lower DAS allocation (2DAS for PT and 0.4DAS for Occ)

or NL). *The Committee did not clarify if these vessels could convert a Delmarva trip into open area DAS??*

- Total projected catch for Alternative 3 from all sources of catch (including set-aides and LAGC catch) is 14,407 mt, or 31.8 million pounds.

The overall estimate of projected F in all areas combined from this alternative is 0.17, which is lower than the maximum F allowed under the current system used for setting ACT (overall limit of 0.28 in all areas). Therefore, in this particular year the principle that limits open area F at 0.38 is the constraining factor in terms of setting total catch limits. The LA-sub ACL for this alternative is 18,885 mt (41,634,305 lb), and the LA-ACT is 12,482 mt (27.5 million pounds), the remaining catch available after set-asides and allocations for LAGC IFQ and LAGC incidental fisheries.

The default measures for FY2015 for this alternative would be ???
The PDT recommends default measures be 75% of the projected DAS for FY2015, and no access area allocations included as default measures.

This text applies to Specification Alternatives 3, 4, and 5

NMFS is still discussing the details of how this alternative would be implemented in terms of how and when a vessel operator/owner would notify NMFS about their choice to either use a Delmarva trip, or use 5 open area DAS.

Although the final decision will depend on NMFS's programming and enforcement needs, here is one possible option for how to implement this flexibility for FT limited access vessels.

NMFS will reach out to vessel owners giving them the option to receive 5 additional DAS or a 12,000 pound Delmarva trip. Once a vessel decides they will no longer be allowed to exchange any portion of a Delmarva trip of DAS. Specifically, if a vessel decides to receive the Delmarva trip that decision is final and cannot be converted into DAS. Current broken trip provisions would still apply to those Delmarva trips. If a vessel breaks that trip within the last 60 days the area is open that fishing year, any unused catch would be available during the first 60 days the area is open the following year.

{Does AP have input about what the 60 day period should be?
Could be March-April 2015, 60 days after FW26 is implemented (May-June), or 60 days after the Delmarva area opens in FY2015, if a similar seasonal restriction is considered for FY2015 as well (June-August).}

AP input ?

In order to prevent excessive effort in the open areas vessels would only be allowed to exchange their initial Delmarva trip for DAS. If a vessel trades in another Delmarva trip it would not be allowed to exchange the new trip for DAS.

2.1.3.4 Alternative 4 (Basic run but increase target F in open areas to bring total catch to 2013 level – 31 DAS and 2 trips in either CA2, NL and Delmarva, but flexibility to use open area DAS instead of Delmarva trip)

This alternative is similar to Alternative 3, but open area F has been increased to bring total catch to projected FY2013 levels. This alternative was developed by the PDT based on a Scallop Committee Motion from November 2013. The Council agreed to include this alternative for consideration at the December 2013 meeting.

Projected catch for FY2013 was 17,327 mt, or just over 38 million pounds. To attain that level of catch for 2014, open area DAS would need to increase to 31 DAS per FT vessel compared to 23 DAS under consideration in Alternatives 2 and 3. This increase of 8 DAS has an associated increase in open area F of 0.52 overall (MA and GB open areas combined), compared to 0.38 in Alternatives 2 and 3. Access area allocations for this alternative would remain the same as Alternative 3. If a FT vessel chose to use open area DAS instead of a Delmarva access area trip, their total DAS allocation for the year would be 36 DAS (31 DAS plus 5 DAS), and one access area trip in NL or CA2.

This alternative would also temporarily modify a current principle used for setting target catch levels in this fishery. Specifically, as part of the hybrid overfishing definition approved in Amendment 15 there are three main principles used to set target catches: 1) fishing mortality in open areas cannot exceed 0.38; 2) a spatially averaged fishing mortality target is limited to 0.28 for all areas combined (open and closed areas); and 3) fishing mortality targets for access areas are based on a time-averaged principle, higher F in some years followed by closures or limited fishing levels in other years. This alternative would temporarily, just for FY2014, modify the first principle and allow open area F to exceed $F_{threshold}$ (0.38). Open area F would increase to a level that provides projected catch levels similar to FY2013, but not to exceed an overall combined F of 0.28 for all areas, the second principle of setting target catch levels. The estimates of F for this alternative are 0.52 for open areas, and 0.21 overall for all areas combined.

Alternative 4 includes:

- 31 DAS in open areas (when open area F is increased to attain 2013 projected catch levels); and
- Two 12,000 pound access area trips per FT vessel. Each vessel would be allocated one trip in Delmarva and one trip in either NL or CA2, to be allocated by lottery. Roughly 116 trips would be allocated in NL and 197 in Closed Area II. A target F of 0.4 per area would be applied in areas with sufficient exploitable biomass and lower growth potential.
- The trip allocated for Delmarva is voluntary. FT vessels can either choose to use that access opportunity in Delmarva up to 12,000 pounds, or fish five additional DAS in open areas and no access in Delmarva. If the latter, a FT LA vessel would be allocated 36 DAS (31 DAS plus 5 DAS) and one access area trip in either NL or CA2.
- A FT vessel would be permitted to trade Delmarva trips. However, if a vessel traded in one Delmarva trip for a total of 2 Delmarva trips in 2014, it would only be permitted to convert one of those trips into open area DAS. No vessel could convert more than one Delmarva trip to DAS.
- Part-time (PT) vessels would receive one access area trip at 9,200 lb and 9 DAS, while Occasional vessels would receive one access area trip at 1,920 lb and 2 DAS. PT and

occasional vessels could fish their access trip in any one area open (i.e., Delmarva, CA2, or NL). *The Committee did not clarify if these vessels could convert a Delmarva trip into open area DAS??*

- Total projected catch for Alternative 4 from all sources of catch (including set-asides and LAGC catch) is 17,254 mt, or 38.0 million pounds.

The overall estimate of projected F in all areas combined from this alternative is 0.21, which is lower than the maximum F allowed under the current system used for setting ACT (overall limit of 0.28 in all areas). Therefore, in this particular year the principle that limits open area F at 0.38 is the constraining factor in terms of setting total catch limits. The LA-sub ACL for this alternative is 18,885 mt (41,634,305 lb), and the LA-ACT is 15,567 mt (34.3 million pounds), the remaining catch available after set-asides and allocations for LAGC IFQ and LAGC incidental fisheries.

The default measures for FY2015 for this alternative would be ???
The PDT recommends default measures be 75% of the projected DAS for FY2015, and no access area allocations included as default measures.

2.1.3.5 Alternative 5 (Basic run but increase target F in open areas so that open area DAS in 2015 are only reduced by one DAS to allow higher DAS in 2014 - 28 DAS and 2 trips in either CA2, NL and Delmarva, but flexibility to use open area DAS instead of Delmarva trip)

This alternative is similar to Alternative 4, but open area F is limited so that projected 2015 DAS only reduce by one DAS. This alternative was developed by the PDT based on a Scallop Committee Motion from November 2013. The Council agreed to include this alternative for consideration at the December 2013 meeting.

If open area F in 2014 is constrained to a level that only causes a reduction of one DAS in 2015 the total open area DAS allocation for FT LA vessels in 2014 is 28 DAS. This alternative has a total projected catch of 16,263 mt, or 35.9 million pounds. This increase in DAS has an associated increase in open area F of 0.47 overall (MA and GB open areas combined). Access area allocations for this alternative would remain the same as Alternative 3. If a FT vessel chose to use open area DAS instead of a Delmarva access area trip, their total DAS allocation for the year would be 33 DAS (28 DAS plus 5 DAS), and one access area trip in NL or CA2.

This alternative would also temporarily modify a current principle used for setting target catch levels in this fishery. Specifically, as part of the hybrid overfishing definition approved in Amendment 15 there are three main principles used to set target catches: 1) fishing mortality in open areas cannot exceed 0.38; 2) a spatially averaged fishing mortality target is limited to 0.28 for all areas combined (open and closed areas); and 3) fishing mortality targets for access areas are based on a time-averaged principle, higher F in some years followed by closures or limited fishing levels in other years. This alternative would temporarily, just for FY2014, modify the first principle and allow open area F to exceed $F_{threshold}$ (0.38). Projected open area F would increase to 0.47; and overall F of 0.20 for all areas combined.

Alternative 5 includes:

- 28 DAS in open areas (when open area F is increased); and
- Two 12,000 pound access area trips per FT vessel. Each vessel would be allocated one trip in Delmarva and one trip in either NL or CA2, to be allocated by lottery. Roughly 116 trips would be allocated in NL and 197 in Closed Area II. A target F of 0.4 per area would be applied in areas with sufficient exploitable biomass and lower growth potential.
- The trip allocated for Delmarva is voluntary. FT vessels can either choose to use that access opportunity in Delmarva up to 12,000 pounds, or fish five additional DAS in open areas and no access in Delmarva. If the latter, a FT LA vessel would be allocated 33 DAS (28 DAS plus 5 DAS) and one access area trip in either NL or CA2.
- A FT vessel would be permitted to trade Delmarva trips. However, if a vessel traded in one Delmarva trip for a total of 2 Delmarva trips in 2014, it would only be permitted to convert one of those trips into open area DAS. No vessel could convert more than one Delmarva trip to DAS.
- Part-time (PT) vessels would receive one access area trip at 9,200 lb and 9 DAS, while Occasional vessels would receive one access area trip at 1,920 lb and 2 DAS. PT and occasional vessels could fish their access trip in any one area open (i.e., Delmarva, CA2, or NL). *The Committee did not clarify if these vessels could convert a Delmarva trip into open area DAS??*
- Total projected catch for Alternative 5 from all sources of catch (including set-aside and LAGC catch) is 16,263 mt, or 35.9 million pounds.

The overall estimate of projected F in all areas combined from this alternative is 0.19, which is lower than the maximum F allowed under the current system used for setting ACT (overall limit of 0.28 in all areas). Therefore, in this particular year the principle that limits open area F at 0.38 is the constraining factor in terms of setting total catch limits. The LA-sub ACL for this alternative is 18,885 mt (41,634,305 lb), and the LA-ACT is 14,387 mt (31.7 million pounds), the remaining catch available after set-asides and allocations for LAGC IFQ and LAGC incidental fisheries.

The default measures for FY2015 for this alternative would be ???
The PDT recommends default measures be 75% of the projected DAS for FY2015, and no access area allocations included as default measures.

2.1.3.6 Alternative 6 (Increase target F in open areas to bring total catch to 2013 level AND keep Delmarva closed – 37 DAS and 1 trip in either CA2 or NL)

This alternative is similar to Alternative 4 in terms of trying to maintain FY2013 catch levels for FY2014, but Delmarva remains closed in this alternative. This alternative was developed by the PDT based on a Scallop Committee Motion from November 2013. The Council agreed to include this alternative for consideration at the December 2013 meeting.

For this alternative Delmarva remains closed and open area F increases until catch is similar to projected catch levels in 2013. This alternative has a total projected catch of 17,201, or 37.9 million pounds. This increase in DAS has an associated increase in open area F of 0.63 overall

(MA and GB open areas combined). Under this alternative, each vessel would receive one access area trip from NL or CA2; Delmarva would remain closed.

This alternative would also temporarily modify a current principle used for setting target catch levels in this fishery. Specifically, as part of the hybrid overfishing definition approved in Amendment 15 there are three main principles used to set target catches: 1) fishing mortality in open areas cannot exceed 0.38; 2) a spatially averaged fishing mortality target is limited to 0.28 for all areas combined (open and closed areas); and 3) fishing mortality targets for access areas are based on a time-averaged principle, higher F in some years followed by closures or limited fishing levels in other years. This alternative would temporarily, just for FY2014, modify the first principle and allow open area F to exceed $F_{threshold}$ (0.38). Projected open area F would increase to 0.63; and overall F of 0.18 for all areas combined.

Alternative 6 includes:

- 37 DAS in open areas (when open area F is increased to attain 2013 projected catch levels and Delmarva remains closed); and
- One 12,000 pound access area trips per FT vessel from CA2 or NL (applying a target F of 0.4 per area in areas with sufficient exploitable biomass and lower growth potential). Each vessel would be allocated one trip by lottery. Roughly 116 trips would be allocated in NL and 197 in Closed Area II.
- Part-time (PT) vessels would receive on access area trip at 4,800 lb and 15 DAS, while Occassional vessels would receive one access area trips at 960 pounds and 3 DAS. PT and occasional vessels could fish their access area trip in any one area open (CA2 or NL).
- Total projected catch for Alternative 6 from all sources of catch (including set-aside and LAGC catch) is 17,201 mt, or 37.9 million pounds.

The overall estimate of projected F in all areas combined from this alternative is 0.18, which is lower than the maximum F allowed under the current system used for setting ACT (overall limit of 0.28 in all areas). Therefore, in this particular year the principle that limits open area F at 0.38 is the constraining factor in terms of setting total catch limits. The LA-sub ACL for this alternative is 18,885 mt (41,634,305 lb), and the LA-ACT is 15,294 mt (33.7 million pounds), the remaining catch available after set-asides and allocations for LAGC IFQ and LAGC incidental fisheries.

The default measures for FY2015 for this alternative would be ???
The PDT recommends default measures be 75% of the projected DAS for FY2015, and no access area allocations included as default measures.

Table 8 – Summary of 2014 FW25 specification alternatives and allocations under consideration

	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
Description of Alternative	No Action Default measures set in FW24	Basic run with OFD principles	Basic run with OFD principles - but choice for Delmarva	Basic run but increase target F in OA to bring catch to 2013 levels - choice for Delmarva	Basic run but increase target F in OA to limit 2015 DAS reduction - choice for Delmarva	Increase target F in OA to bring catch to 2013 levels - keep Delmarva closed
FT LA DAS	23 DAS (OA F=0.38)	23 DAS (OA F=0.38)	23 DAS (OA F=0.40) Vessel Choice: 1) DEL trip or 2) 5 additional DAS (total of 28 DAS)	31 DAS (OA F=0.52) Vessel Choice: 1) DEL trip or 2) 5 additional DAS (total of 36 DAS)	28 DAS (OA F=0.48) Vessel Choice: 1) DEL trip or 2) 5 additional DAS (total of 33 DAS)	37 DAS (OA F=0.62)
# of AA trips	0	2	2 or 1	2 or 1	2 or 1	1
NL	closed	Open (116 trips) (632 mt) (12,000 FT Poss limit)	Open (116 Trips) (632 mt) (12,000 FT Poss limit)	Open (116 Trips) (632 mt) (12,000 FT Poss limit)	Open (116 Trips) (632 mt) (12,000 FT Poss limit)	Open (116 Trips) (632 mt) (12,000 FT Poss limit)
CA2	closed	Open (116 trips) (1119 mt) (12,000 FT Poss limit)	Open (116 Trips) (1119 mt) (12,000 FT Poss limit)	Open (116 Trips) (1119 mt) (12,000 FT Poss limit)	Open (116 Trips) (1119 mt) (12,000 FT Poss limit)	Open (116 Trips) (1119 mt) (12,000 FT Poss limit)
DEL	closed	Open (313 trips) (1993 mt) (12,000 FT Poss limit)	open but vessels have choice to fish there OR 5 OA DAS	open but vessels have choice to fish there OR 5 OA DAS	open but vessels have choice to fish there OR 5 OA DAS	closed
Total AA (mt)	0	3,744	1,751 - 3,744	1,751 - 3,744	1,751 - 3,744	1,751
Gen Cat	2.77 mil 1,258 mt	2.42 mil 1,099 mt	2.42 mil 1,099 mt	2.42 mil 1,099 mt	2.42 mil 1,099 mt	2.42 mil 1,099 mt
Total catch (Total F)	23.8 mil 10,798 mt (Total F = 0.10)	31.7 mil 14,364 mt (Total F = 0.18)	31.7 mil 14,396 mt (Total F =0.17)	38.5 mil 17,447 mt (Total F =0.21)	35.9 mil 16,306 mt (Total F = 0.19)	37.9 mil 17,178 mt (Total F = 0.18)

Insert table with 2015 default measures after decision made

2.1.3.7 Measures to protect recruitment within access areas potentially opening in 2014

There were three options considered for this alternative. Option 1 would not restrict scallop access within any of the access areas open in 2014; Option 2 is related to Nantucket Lightship and Option 3 is related to Closed Area 2. The Committee did not include the option for Closed Area 2, so that has been moved to the considered and rejected section.

Based on 2013 survey results from several sources there is evidence of very large recruitment within and around NL, and to a lesser extent within CA2. The areas with recruitment are somewhat discrete and do not completely overlap areas with larger scallops. Therefore, the PDT has identified potential boundaries within NL and CA2 that could be closed to protect recruitment, but scallop fishing could take place in any area within the access area that is not included in these designated recruitment areas.

These alternatives are separate from the overall specifications alternatives 1-3. They could be selected separately in combination with any of the specification alternatives.

2.1.3.7.1 Option 1 (No Action) – no restriction on fishing location within GB access areas

LA and LAGC trips could take place throughout the open GB access areas, no sub-area defined to protect scallop recruitment.

2.1.3.7.2 Option 2 – Trips restricted to northern part of NL access area only

The boundary for the NL access area would be temporarily modified to restrict access in the northern portion of the access area only. Vessels would not be permitted to fish NL access area trips south of 40.5° N Lat. This restriction would be also be applied to any RSA compensation fishing as well as compensation trips taken in the first 60 days of FY2015. This option is being considered to reduce impacts on the very large recruitment event that was observed in 2013 (Figure 3). The survivability of these scallops is uncertain, but limiting effort in this area could have beneficial impacts by reducing incidental mortality from scallop fishing.

Using 2013 survey results from VIMS dredge tow locations in NL a boundary option was developed at 40.5° N. Lat (Figure 4). The PDT evaluated the proportion of large and small scallops within the boundary option. Less than 10% of small scallops (less than 80mm) are within the access area, over 90% in the protected area. And 96% of all adult scallops in NL are within the access area and only 4% in the protected area (Table 9). The length distribution of scallops observed in the VIMS survey are in Figure 5, and the majority of the small scallops are south of 40.5° Lat.

Figure 3 – Abundance of 2013 pre-recruits on GB from NEFSC and VIMS dredge tows combined (less than 40 mm)

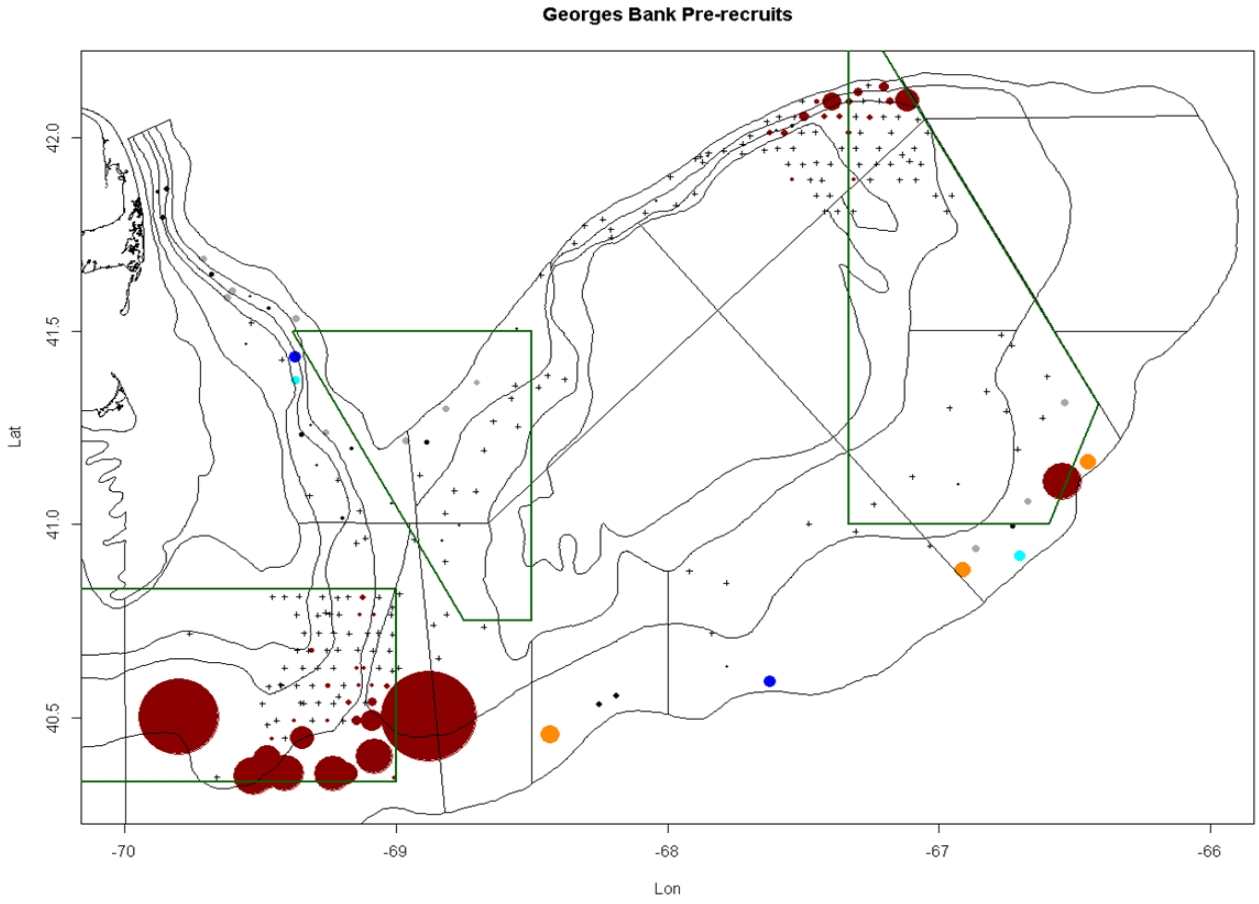


Figure 4 – Spatial distribution of adult scallops >80mm shell height relative to a potential closure boundary at 40.5° N Lat (top) and small scallops <80 mm (bottom)

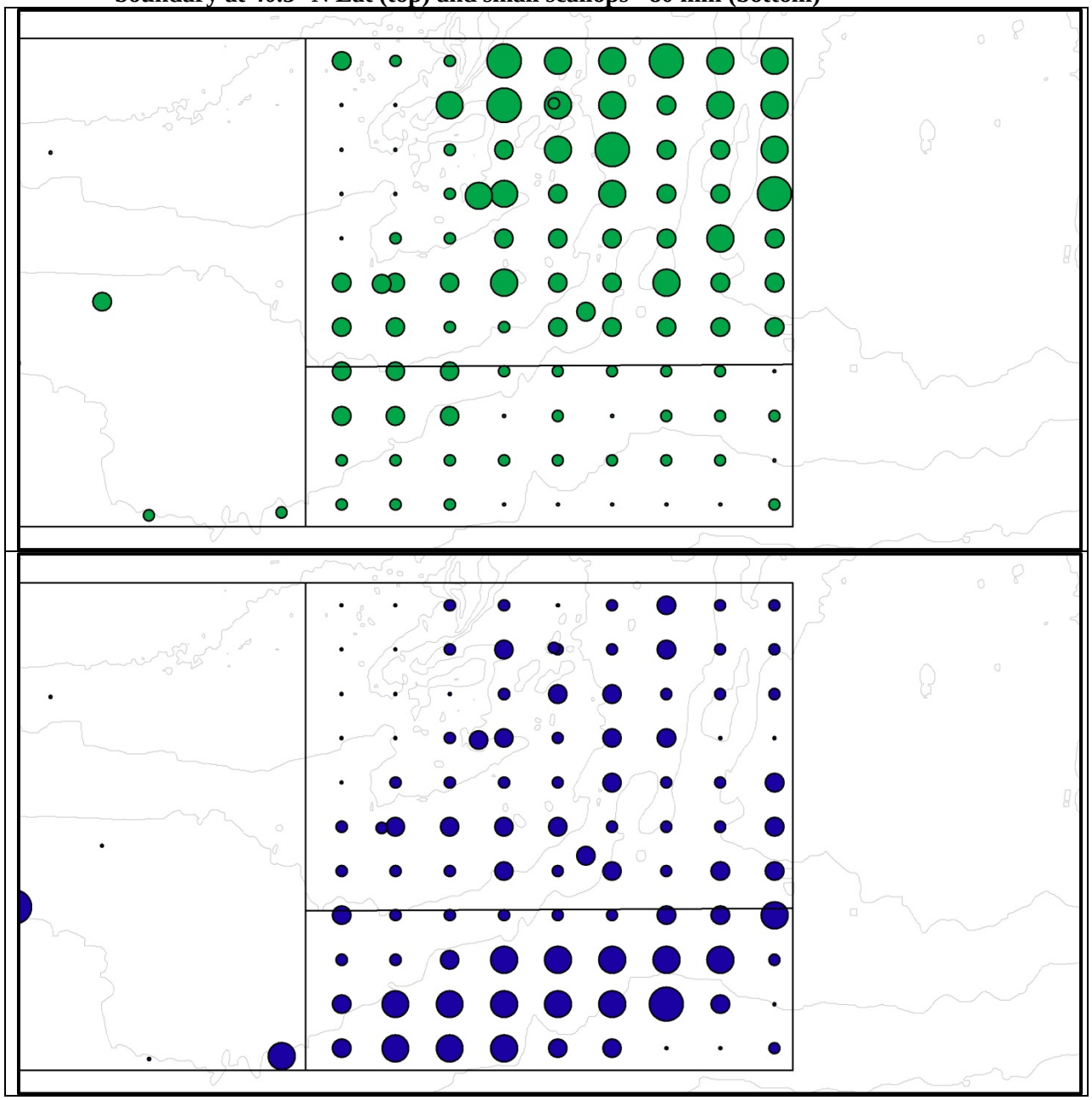
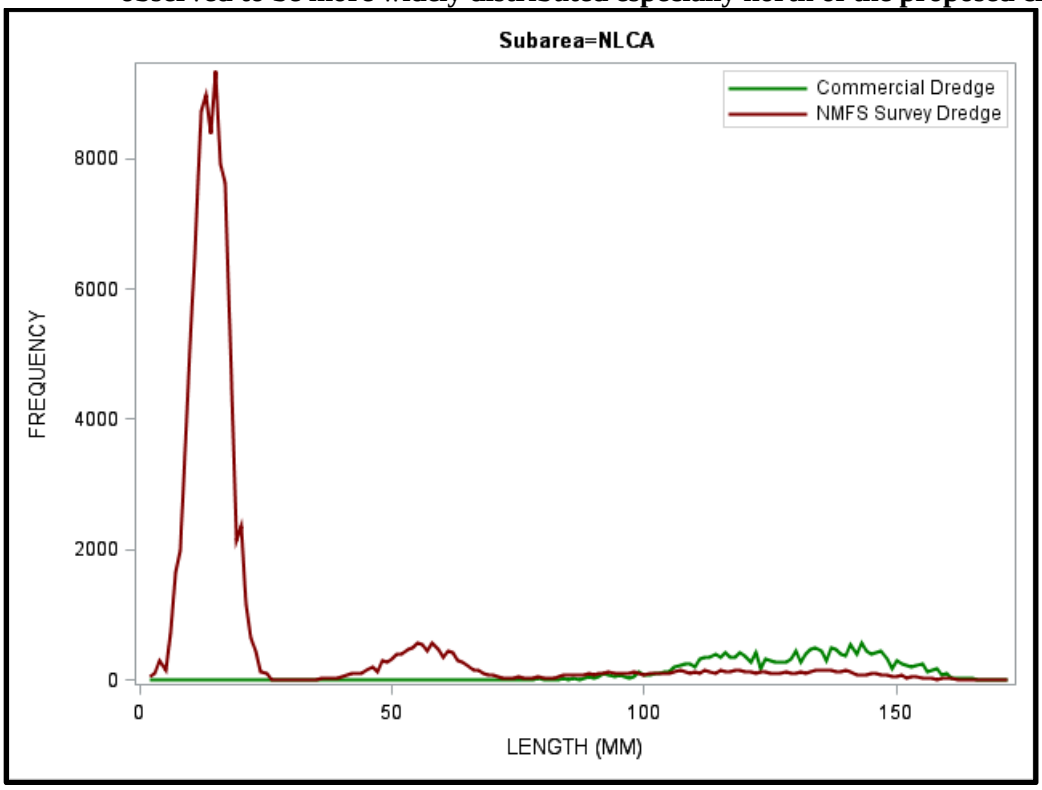


Table 9 – Percentage of scallops by category (adults >80mm) observed to fall in either the open or closed areas as delineated by a boundary like at 40.5 N

	recruits	adults
open	9%	96%
closed	91%	4%

Figure 5 - Length frequency distribution of scallops observed during the VIMS survey of NLCA during June of 2013. The majority of recruit scallops are spatially distributed south of 40.5 degrees N. A less abundant occurrence of 2 year old scallops (~60 mm) were observed to be more widely distributed especially north of the proposed closure line.



2.1.3.8 Additional measures to reduce mortality on smaller scallops in NL and/or Delmarva

2.1.3.8.1 No Action – No additional measures to reduce mortality on smaller scallops in NL and Delmarva (Alternative 1)

No specific measures in addition to area rotation would be implemented to further reduce mortality on smaller scallops in NL or Delmarva. Under current regulations RSA compensation fishing can occur in any area that is open to the fishery, including open areas and any access area open that year. For example, under Specification Alternative 2 in this action RSA compensation fishing could occur in open areas, Delmarva, Nantucket Lightship, or Closed Area II. The total set-aside for RSA is equivalent to 1.25 million pounds.

2.1.3.8.2 Alternative 2 – Prohibit 2014 RSA compensation fishing from occurring in NL

This alternative would prohibit RSA fishing in Nantucket Lightship in 2014. In recent years a substantial proportion of RSA catch has come out of Nantucket Lightship and it is increasing the fishing mortality in that area limiting the amount of access for the fishery overall. For example, in FY2012 the LA fishery was allocated about 2.94 million pounds and the LAGC fishery was

allocated 296 trips in the NL access area. In the same year a total of 1.25 million pounds of RSA compensation was allocated to vessels that qualified. The PDT estimates that about 1 million pounds of 2012 RSA compensation allocation was harvested in FY2012, and over 750,000 pounds, or over 75% of all RSA catch was from NL (statistical area 526). When the total allocation for an access area is less than 3 million pounds, adding 75% of the total RSA set-aside becomes a large proportion of the total catch from the area. The projection models assume that RSA catch is distributed evenly from all areas open to the fishery.

In 2013, the LA fishery was allocated about 1.5 M pounds and the LAGC fishery was allocated 206 trips in NL, for a total of about 1.6 million pounds. The total RSA set-aside in 2013 was again 1.25 million pounds. To date, 1.16 million pounds of RSA compensation have been harvested in FY2013 (some likely from 2012 RSA allocation as well). This year over 700,000 pounds were again harvested from NL, over 60% or the total RSA catch. Based on these recent trends, NL is an attractive area for RSA compensation fishing.

2.1.3.8.3 Alternative 3 – Prohibit 2014 RSA compensation fishing from occurring in Delmarva

This alternative would prohibit RSA fishing in Delmarva in 2014. This access area is relatively close to shore and could be an attractive area for vessels in the south to harvest RSA compensation. Prohibiting RSA fishing in this area would improve overall yield from the area in 2015 and beyond. Delmarva has been closed for most of 2012 and all of 2013 so there is no recent catch info available in terms of RSA catch from Delmarva. But similar to NL, it is an access area that is relatively close to shore for many MA ports. It is the only access area scheduled to be open in FY2014; therefore, may be an attractive area for RSA compensation fishing.

2.1.3.8.4 Alternative 4 – Limit fishing in Delmarva access area from June 1 – August 31, or three months after implementation of FW25

The Scallop PDT recommended that access not be granted in Delmarva until June to allow scallops in that area one last growth spurt in May. The Scallop AP went further and recommended a two-month window of time between June 1 and July 31 to reduce overall mortality in that area. The Committee rounded the opening to three months to provide vessels time to access the area, but recommend closing the area before September 1 when MA scallop meat yields decline in the fall. FW25 is expected to be implemented around June 1 due to several delays in development of this action. If that is the case then access would be permitted in Delmarva from June 1 – August 31. If FW25 is implemented sooner or later, the window for access would end 90 days after implementation. Because projections are more uncertain in this area and there are smaller scallops in the area this alternative would reduce overall mortality from fishing in the area by compressing effort during the season with highest yields.

2.1.3.8.5 Alternative 5 – Restrict crew limits in Delmarva access area to be consistent with open area limits

Limited access scallop vessels have crew size limits when fishing in open areas, but there are no crew size limits when fishing in access areas since there is a possession limit. However, because scallops are projected to be smaller in Delmarva if the area opens under this action, a crew limit would help reduce highgrading and associated mortality on smaller scallops. This alternative

would implement the same crew limits that exist for open areas: 7 individuals per LA vessel, and if a vessel is participating in the small dredge program it may not have more than five people on board.

2.1.3.9 Measures to address unused Closed Area 1 access area trips

2.1.3.9.1 No Action – No rollover of FY2012 or FY2013 access area allocation (Alternative 1)

Vessels with unused FY2013 Closed Area I allocation will be permitted to fish those trips until the end of the 2013 fishing year. Consistent with current regulations, if a vessel breaks a trip in the last 60 days of the 2013 fishing year, the vessel can fish the remainder of that trip during the first 60 days of the next fishing year, but only if that access area is open.

Based on the current condition of scallop biomass in Closed Area I, the area is not expected to be open under the rotational management program in FY2014. Therefore, under No Action vessels would likely need to fish all 2013 CA1 allocation before February 28, 2014, since the area is not expected to be open as an access area in FY2014. Unused trips would expire after that date if Closed Area I is not an access area in FY2014.

Under No Action, there is no opportunity left for vessels with unused FY2012 CA1 trips. Those trips expired at the end of FY2012. And if a vessel broke a trip within the last 60 days of that fishing year it could have fished the remaining possession limit within the first 60 days the area opened in FY2013, which was between May 20-July 20. Since that date has passed these trips are completely expired under No Action.

2.1.3.9.2 Alternative 2 – Allow rollover of unused Closed Area I allocation to future fishing year

This alternative would extend the deadline to use Closed Area I access area trips. This alternative has two options in terms of 2012 trips and/or 2013 trips, as well as three sub-options in terms of the length of time trips can rollover (Table 11). Option 1 for FY2013 trips only with three sub-options to extend the trips through FY2014, FY2015, or until CA1 reopens. Option 2 is for FY2012 CA1 trips with the same three sub-options for the length of the extension. For this alternative, both Option 1 (2013 trips) and Option 2 (2012 trips) can be selected.

The Committee also clarified that if CA1 trips are permitted to rollover in this action, the trips could be taken within the existing CA1 access area, or a revised CA1 access area if modified by the EFH Omnibus Amendment. Specifically, if the EFH closed area within Closed Area I is modified or removed by that action, a subsequent scallop action could modify the access area boundaries to extend farther north. If that happens unused CA1 trips from 2012 and/or 2013 could be fished in the expanded area if an alternative in this section is selected.

2.1.3.9.2.1 Option 1 – Allow rollover of unused FY2013 Closed Area I allocation

Vessels would be permitted to fish unused 2013 Closed Area I for a specified period of time. The PDT estimates that the unused FY2013 allocation is over one million pounds.

- Sub-option A – unused allocation could be fished through February 28, 2015, the end the 2014 fishing year
- Sub-option B - unused allocation could be fished through February 28, 2016, the end the 2015 fishing year
- Sub-option C - unused allocation could be fished the fishing year that CA1 reopens as an access area under a future action

2.1.3.9.2.2 Option 2 – Allow rollover of unused FY2012 Closed Area I allocation

Vessels would be permitted to fish unused 2012 Closed Area I for a specified period of time. The PDT estimates that there is about 500,000 pounds of unused 2012 CA1 allocation. Most vessels have under 500 pounds of unused allocation, but about 18 vessels have between 1,000 and 6,000 pounds unharvested, and over 30 vessels have 8,000 pounds or more (Table 10).

- Sub-option A – unused allocation could be fished through February 28, 2015, the end the 2014 fishing year
- Sub-option B - unused allocation could be fished through February 28, 2016, the end the 2015 fishing year
- Sub-option C - unused allocation could be fished the fishing year that CA1 reopens as an access area under a future action

Table 10 - FY2012 scallop limited access sub-ACL Closed Area 1: number of vessels by range of allocated pounds under-harvested

Number of Vessels	Under-harvested (lb)
129	0-100
22	101-200
11	201-300
9	301-400
9	401-500
7	501-600
5	601-700
7	701-800
4	801-900
7	1000-2000
6	2001-4000
5	4001-6000
4	8000-10000
8	10001-15000
10	16000-19000
5	25000-35000
4	35001-36000

Should all unharvested pounds be available for rollover – or should a minimum poundage be considered for FY2012 trips?

2.1.3.9.3 Alternative 3 – Unused Closed Area I allocation could be fished in open areas

This alternative would convert unused Closed Area I allocation into access in open areas instead. There are two options being considered for when access would be granted: FY2014 or some in FY2014 and some in FY2015 (Table 11). The PDT is also exploring two sub-options for how access would be allocated. Sub-option A would directly convert unused Closed Area I allocation into open area allocation in terms of pounds. Sub-option B would convert unused Closed Area I allocation into DAS. It needs to be specified for this alternative if it applies to unused FY2012 and/or FY2013 Closed Area I allocation.

2.1.3.9.3.1 Option 1 – Unused Closed Area I allocation could be fished in open areas through FY2014

Vessels would have until the end of FY2014 to fish unused CA1 allocation in open areas. Allocation will be granted in pounds or DAS based on the sub-options below.

- Sub-option A – unused allocation would be allocated in pounds. Vessels would receive an LOA to fish unused allocation in open areas
- Sub-option B - unused allocation would be allocated in DAS. The PDT will provide a conversion factor for NMFS to use to assign DAS allocations for unused allocation. *DAS conversion would need to be conservative to prevent unintended consequences on the resource in open areas as well as other segments of the fishery. Concerns raised about vessels having different capacities in open areas.*

  Possible recommendation – any unused allocation would be divided by 3,000 pounds to get DAS conversion. This is based on current projection of open area LPUE for 2014 (2,700 pounds per DAS) and rounded up to 3,000 pounds to acknowledge that the model underestimates LPUE and to limit unintended consequence. For example, if a vessel has 12,000 pounds of unused allocation the DAS conversion would be 4DAS.

2.1.3.9.3.2 Option 2 – Unused Closed Area I allocation would be divided with 40% available in FY2014 and 60% in FY2015.

Vessels with unused CA1 allocation will be allowed to fish that allocation in either FY2014 or FY2015. All vessels with unused allocation would be placed in a lottery. Forty percent of the unused allocation would be granted access in FY2014 and 60% of unused allocation would be granted access in FY2015. This was recommended as a way to spread catch over two years to reduce impacts of additional catch on other limited access vessels. The catch from this rollover will need to be considered under the LA sub-ACL for each fishing year. Allocation will be granted in pounds or DAS based on the sub-options below.

- Sub-option A – unused allocation would be allocated in pounds. Vessels would receive an LOA to fish unused allocation in open areas
- Sub-option B - unused allocation would be allocated in DAS. The PDT will provide a conversion factor for NMFS to use to assign DAS allocations for unused allocation. *DAS conversion would need to be conservative to prevent unintended consequences on the resource in open areas as well as other segments of the fishery. Concerns raised about vessels having different capacities in open areas.*

Possible recommendation – any unused allocation would be divided by 3,000 pounds to get DAS conversion. This is based on current projection of open area LPUE for 2014 (pounds per DAS) and rounded up to 3,000 pounds to acknowledge that the model underestimates LPUE and to limit unintended consequence. For example, if a vessel has 12,000 pounds of unused allocation the DAS conversion would be 4DAS.

Table 11 – Summary of alternatives under consideration for unused Closed Area I alternatives

ALTERNATIVE	DESCRIPTION
No Action (Alt 1)	No rollover of 2012 or 2013 trips
Alternative 2	Allow rollover in CA1 access area (or a revised CA1 access area if modified by the EFH omnibus action)
Option 1	2013 trips only
Sub-Option A	Through FY2014
Sub-Option B	Through FY2015
Sub-Option C	When CA1 reopens
Option 2	2012 trips only
Sub-Option A	Through FY2014
Sub-Option B	Through FY2015
Sub-Option C	When CA1 reopens
Alternative 3	Allow rollover in open areas *Council needs to specify if that includes 2012 and/or 2013 trips*
Option 1	Unused trips could be fished through FY2014
Sub-Option A	Allocation in pounds
Sub-Option B	Allocation in DAS conversion
Option 2	Unused allocation divided by FY (40% in FY2014 and 60% in FY2015) by lottery
Sub-Option A	Allocation in pounds
Sub-Option B	Allocation in DAS conversion

2.1.4 Specifications for limited access general category 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 LAGC IFQ specifications (Alternative 1)

Under FY2014 default measures the LAGC IFQ allocation is 1,258 mt for vessels with a LAGC IFQ permit as well as LA vessels with a LAGC IFQ permit. This allocation is equivalent to 5.5% of the ACL projected for FY2014 from FW24. This total is higher than the total IFQ allocated in FY2013, and higher than the projected sub-ACL under this action. Therefore, on March 1, 2013 LAGC vessels will be allocated a higher IFQ based on default measures than what LAGC IFQ vessels will likely ultimately be allocated under FW25. (NMFS do we want to add more text to explain to industry that we are in the same situation as last year?)

2.1.4.2 Updated LAGC IFQ for FY2014 and FY2015 (default) (Alternative 2)

The total sub-ACL for the LAGC fishery is the same regardless of the allocation scenario selected (Alternative 1-3). 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 12). For FY2014 the total LAGC IFQ is equivalent to about 1099 mt. The default 2015 IFQ allocation is about 1,273 mt.

Table 12 – Summary of LAGC IFQ allocations under consideration in FW25 (same for all allocation scenarios)

LAGC Allocations	2014	2015 (default)
IFQ-only (5% of ACL)= sub-ACL = ACT	999 mt	1,157 mt
IFQ + LA (0.5% of ACL)=sub-ACL=ACT	100 mt	116 mt

PDT Recommendation for default for all alternatives – Agree?

2.1.4.3 Allocation of fleetwide access area trip allocations for LAGC fishery

This action is considering two options for allocating fleetwide trips to the LAGC IFQ fishery. Option 1 is to allocate 5.5% of the total 2014 access area TAC for every area open in a particular year. And Option 2 is 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 2015 default LAGC IFQ measures. If final specifications are not in place before the start of the 2015 fishing year vessels with LAGC IFQ would be permitted to fish their 2015 default quota allocations from open areas only. Once a subsequent action is implemented to set final 2015 measures, LAGC IFQ vessels would be permitted to fish their quota from access areas with available LAGC trips.

2.1.4.3.1 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 2014 fishing year. See Table 13 for a summary of the trips that would be available to the LAGC fishery.

2.1.4.3.2 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

This alternative would allocate 5.5% of the 2014 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 Specification Alternative 2 the LAGC fishery would be allocated 226 trips in CA2 in 2014. Under this option those trips would be shifted to NL and Delmarva proportionally, adding about 113 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 13 for a summary of the trips that would be available to the LAGC fishery.

Table 13 – Summary of alternatives for LAGC fleetwide trips per access area for FY2014

2014		Del	CA2	NL	Total TAC and # trips
No Action (Alt 1)	AA TAC	0	0	0	0
	LAGC TAC	0	0	0	0
	# LAGC trips (Option 1)	0	0	0	0
	# LAGC trips (Option 2 - no CA2)	0	0	0	0
Alt 2, 3, 4, and 5	AA TAC	1993	119	632	3744
	LAGC TAC	109.6	61.5	34.8	205.9
	# LAGC trips (Option 1)	403	226	128	757
	# LAGC trips (Option 2 - no CA2)	516	0	241	757
Alt 6	AA TAC	0	119	632	1751
	LAGC TAC	0	61.5	34.8	96.3
	# LAGC trips (Option 1)	0	226	128	354
	# LAGC trips (Option 2 - no CA2)	0	0	354	354

2.1.5 Specifications for limited access general category NGOM vessels

The Council approved a separate limited entry program for the NGOM with a hard-TAC. Framework 25 is considered a separate hard TAC for this area for 2014 and 2015(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 specified that the Scallop PDT will recommend a hard-TAC for the federal portion of the scallop resource in the NGOM. The amendment recommended 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 based on historical catch records. The Council considered the TAC in FW23 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.

FW24 considered a lower TAC of 58,000 pounds based on a resource survey of the NGOM management unit (See Section 2.1.5.2 of FW24). However, the Council selected 70,000 pounds in FW24 for FY2013 as well.

2.1.5.1 No Action NGOM hard-TAC (Alternative 1 - 70,000 pounds)

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

2.1.5.2 Updated NGOM hard-TAC (Alternative 2 – 58,000 pounds)

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).

The PDT reviewed the results of this survey in FW24 and recommend that the TAC for that action 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. Very briefly, the PDT recommended using the lower 25^{th} 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 25^{th} 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 there is no new information the PDT recommends considering the same value in this action.

2.2 ACCOUNTABILITY MEASURES FOR THE SNE/MA WINDOWPANE FLOUNDER SUB-ACL ALLOCATED TO THE SCALLOP FISHERY

2.2.1 No Action SNE/MA Windowpane flounder AM (Alternative 1)

Under No Action, the sub-ACL for SNE/MA windowpane flounder would not have accountability measures specific to the scallop fishery. If the scallop fishery exceeds their sub-ACL, no measures would be triggered to limit or reduce future windowpane catch in the scallop fishery. This is not in compliance with NMFS regulation and guidance on ACL management, which requires an AM for every ACL and sub-ACL.

In terms of when AMs trigger in general, under No Action, if the scallop fishery is below their sub-ACL, and the GF fishery is over their sub-ACL, but the sum of all catch is below the total ACL, then no AMs would trigger in the groundfish fishery. In the reverse, if the scallop fishery exceeds their sub-ACL, but the total ACL is not exceeded because other components of the fishery were under their sub-ACLs, then AMs would NOT trigger for the scallop fishery. The program for SNE/MA windowpane flounder was designed so that each component of the fishery is accountable, but the trigger to implement AMs only occurs if the total ACL is exceeded, not just one particular sub-ACL.

However, under No Action, if the overage by the scallop fishery is substantial causing the overall ACL to be exceeded, AMs would trigger for the groundfish fishery because there are currently no AMs specific to the scallop fishery. If No Action is adopted in Scallop Framework 25, it would be likely that the next groundfish action would consider an AM for the scallop fishery to address this issue. The sub-ACL management strategy used by the Council for other species is that each fishery is accountable, and an overage that causes the total ACL to be exceeded should not impact a fishery that did not cause the overage.

2.2.2 Reactive AM - Seasonal Area Closure (Alternative 2)

This alternative would close a specified area for a period of time with higher bycatch rates of SNE/MA windowpane flounder. This AM would apply to all scallop vessels, LA and LAGC IFQ vessels. The PDT used a variety of sources of information to identify which areas should be included in this AM alternative. Appendix 1 is a detailed summary of the data sources and methods used by the PDT for development of WP AM alternatives. In general, a statistical model was created (GAM model) that estimates scallop and WP catch rates independently based on observer data from FY2006-2012. Data were binned into ten minute squares by month. A mean d:k ratio was calculated across years and a target decrease in WP bycatch of 30% was used to help identify candidate AM areas.

The main source of information used to identify the season of the AM alternative was also observer data. A separate GAM model was developed that predicts bycatch by month and depth using all observed scallop trips from 1999-2011. Analyses were broken out by depth as well as month. During most months, bycatch is highest at 20 fathoms. However, during the fall, bycatch seems to be higher at 30 fathoms. Based on these results the PDT developed seasons for each of the AM areas developed, which are during the months with highest bycatch ratios.

The current AM areas are in **Figure 6**

- Area 1 would be implemented if AMs were triggered and the overage was >0 and <=5% of the sub-ACL. Area 1 would be closed to all LA and LAGC scallop vessels between August 1 and November 30.

- Area 1 and 2 would be implemented if AMs were triggered and the overage was >5% and <=10% of the sub-ACL. Area 1 would be closed to all LA and LAGC scallop vessels between August 1 and November 30 and Area 2 would be closed to all LA and LAGC vessels in August and September. Note that Area 2 overlaps with part of the Elephant Trunk Access Area. This area would NOT be impacted by this AM, only the part of Area 2 that is in open areas.

- Area 1, 2, and 3 would be implemented if AMs were triggered and the overage was >10% of the sub-ACL. Area 1 would be closed to all LA and LAGC scallop vessels between August 1 and November 30; Area 2 would be closed to all LA and LAGC vessels in August and September; and Area 3 would be closed to all LA and LAGC vessels in February and March. Note that Area 2 overlaps with part of the Elephant Trunk Access Area. This area would NOT be impacted by this AM, only the part of Area 2 that is in open areas.

After the PDT developed these areas NMFS Enforcement reviewed the polygons and raised some concern about the overall enforceability of these areas. Therefore, boundaries were adjusted to have more north/south and east/west boundaries.

These updated areas were still being developed when this document was printed – see separate document being brought to meeting

Figure 6 – WP AM areas under consideration (Area 1, 2, and 3 based on the percentage overage)

The WP catch reduction and % of effort expected to be displaced by these various areas are summarized below.

Note that 2008 estimates are likely not as accurate as other years since VMS data for summer months in 2008 are not available.

Table 14 – Summary of estimated WP reduction and % of scallop fishery effort displaced by the three AM alternative areas

				Effort displacement							
5% Scenario		WP Catch									
	Year	Reduction		LA_Open	LAGC_AA	LAGC_Open	LAGC_UnClass	RSA_AA	RSA_Open	RSA_UnClass	SAA_AA
	2007	1.6%		4.0%	0.3%	0.0%	6.4%	0.0%	0.0%	0.0%	0.0%
	2008	0.1%		0.6%	0.0%	6.5%	0.0%	1.7%	0.1%	0.0%	0.7%
	2009	1.1%		0.6%	0.0%	2.2%	0.0%	0.3%	0.0%	0.0%	0.0%
	2010	19.9%		4.7%	0.0%	7.7%	0.0%	0.0%	30.3%	0.0%	0.0%
	2011	3.1%		1.0%	0.0%	11.7%	0.0%	0.0%	47.0%	0.0%	0.0%
	2012	1.6%		2.0%	0.0%	4.1%	0.0%	12.5%	35.7%	0.0%	0.1%
	mean	4.6%		2.1%	0.1%	5.4%	1.1%	2.4%	18.9%	0.0%	0.1%
10% Scenario											
	Year	Reduction		LA_Open	LAGC_AA	LAGC_Open	LAGC_UnClass	RSA_AA	RSA_Open	RSA_UnClass	SAA_AA
	2007	27.4%		5.6%	0.6%	0.0%	12.5%	0.0%	0.0%	0.0%	0.0%
	2008	3.3%		1.6%	0.0%	14.3%	0.0%	1.7%	0.1%	0.0%	0.7%
	2009	8.1%		2.8%	0.0%	4.0%	0.0%	0.3%	0.0%	0.0%	0.0%
	2010	20.1%		5.0%	0.0%	10.5%	0.0%	1.0%	30.3%	0.0%	0.0%
	2011	3.1%		1.0%	0.2%	12.1%	0.0%	0.0%	47.0%	0.0%	0.0%
	2012	1.7%		2.1%	0.0%	5.6%	0.0%	12.5%	35.7%	0.0%	0.1%
	mean	10.6%		3.0%	0.1%	7.8%	2.1%	2.6%	18.9%	0.0%	0.2%
20% Scenario											
	Year	Reduction		LA_Open	LAGC_AA	LAGC_Open	LAGC_UnClass	RSA_AA	RSA_Open	RSA_UnClass	SAA_AA
	2007	28.2%		6.1%	2.1%	0.0%	14.9%	0.0%	0.0%	0.0%	0.0%
	2008	6.1%		5.7%	1.7%	14.3%	8.4%	1.7%	0.9%	0.0%	0.7%
	2009	14.0%		4.4%	0.4%	5.4%	0.0%	0.3%	0.0%	0.0%	0.1%
	2010	31.8%		6.8%	0.0%	11.0%	0.0%	1.0%	30.3%	0.0%	0.0%
	2011	9.1%		6.0%	0.3%	17.3%	0.0%	0.0%	47.0%	0.0%	0.1%
	2012	7.8%		4.3%	0.1%	7.9%	0.0%	12.5%	36.4%	0.0%	0.1%
	mean	16.2%		5.6%	0.8%	9.3%	3.9%	2.6%	19.1%	0.0%	0.2%

PDT Recommendations for AM Alternative Details

1. When are WP sub-ACLs considered exceeded?

    a. If total ACL was exceeded and the scallop fishery sub-ACL was exceeded by any amount

    b. If total ACL was not exceeded BUT scallop fishery exceeded its sub-ACL by 50% or more

2. What is the AM area?

    a. Same areas for all permit types and gear types

    b. Same areas for gear modification area alternative (or a larger area? – could be entire SNE/MA WP stock area, waters west of TDD line (71 W) – excluding MA scallop access areas)

3. When do AMs go into effect?

    -If reliable info available mid-year to determine need to implement AMs – AMs would start the following FY.
    -If reliable info NOT available mid-year NMFS would wait a full FY (if overage in 2013 – AMs effective in 2015)

2.2.3 Reactive AM - Seasonal gear restricted area (Alternative 3)

This alternative would implement a gear restricted area for a specified period of time with higher bycatch rates of SNE/MA windowpane flounder. The specific gear modification has two elements: 1) shorter apron in the dredge bag; and 2) reduced twine top hanging ratio. Figure 7 is a drawing of typical scallop dredge gear. The two gear elements involved with this gear modified area are highlighted in the margin of the figure. See Appendix 1 for a summary of the research used by the PDT to complete analyses related to this gear modification alternative.

First, the maximum number of rows allowed in the apron of the topside of the dredge would be five rows. A vessel could fish with fewer rows of rings, but the maximum number of rows would be restricted to five. Second, the maximum hanging ratio for the dredge would be 1.5:1 overall; that is an average of 1.5 meshes per ring for the width of the twine top. The twine top is usually connected to the topside of the dredge frame by several rows of rings called the skirt. Individual meshes of the twine top are connected to each ring across the skirt of the dredge. Some vessels use a hanging ratio of 2:1, which means 2 meshes per ring. Some vessels fish with a lower hanging ratio, and some with a greater ratio of 3:1 or even 5:1. An overall hanging ratio of 1.5:1 means that the twine top is hung alternating 2 meshes per ring and 1 mesh per ring, for an overall average of 1.5 meshes per ring for the entire width of the twine top.

A dredge would be in compliance if the ratio did not exceed 1.5 based on the total number meshes in the twine top (counted at the bottom where the twine top connects to the apron) divided by the total number of rings that the twine top is connected to in the apron. For example, an apron that is 40 meshes wide (not including any ring in the side pieces) would only be able to use a twine top with 60 or fewer meshes so that the overall ratio of meshes to rings did not exceed 1.5 (60 meshes/40 rings = 1.5). The regulation would not be based on the number of meshes across the top of the twine top connected to the skirt of the dredge, because some vessels connect the twine top to the frame with chain instead of rings.

This AM would apply to all scallop vessels, LA and LAGC IFQ vessels.

2.2.3.1 Option 1 – Trawl vessels would not be affected by this AM

This Option would not include scallop trawl vessels; these vessels would be exempt from this potential gear restricted area AM.

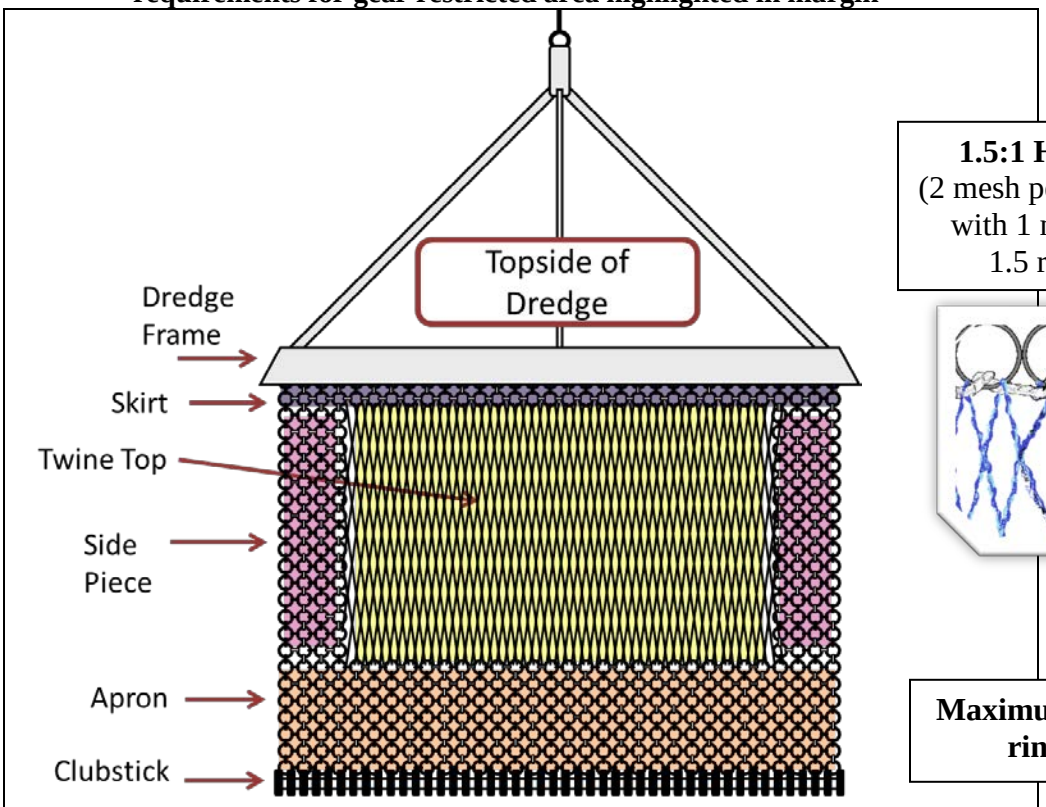
2.2.3.2 Option 2 – Scallop trawl gear would be prohibited within the seasonal gear restricted area for the time of year the AM is effective

If triggered, a vessel with trawl gear would be prohibited from fishing for scallops within the gear restricted area while the AM is effective.

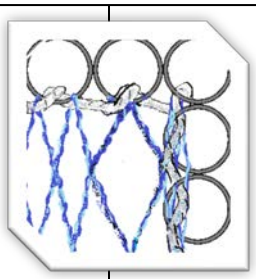
Council needs to identify the area, season, and trigger for this seasonal gear restriction AM.

AP and Committee worked on these details at the January 2014 meeting – see recommendations and additional information brought to the meeting.

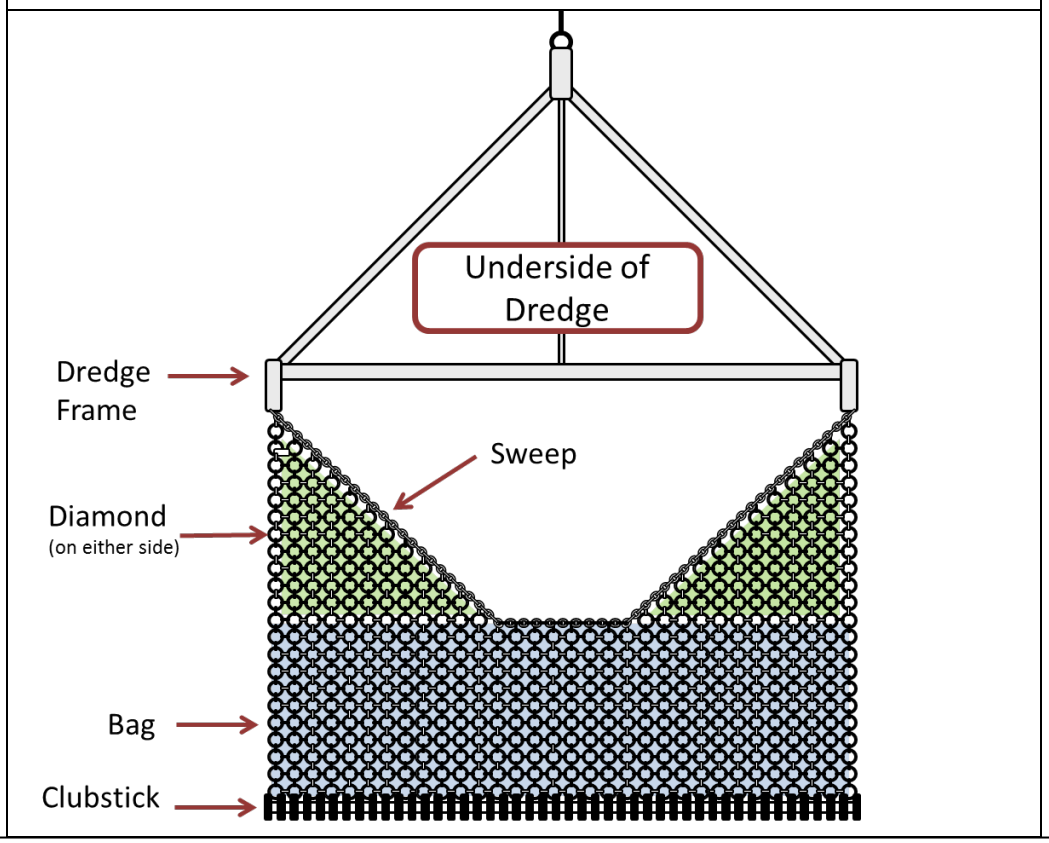
Figure 7 – Typical Scallop dredge gear (topside of gear on top and underside on bottom) Gear requirements for gear restricted area highlighted in margin



1.5:1 Hanging Ratio
(2 mesh per ring alternating with 1 mesh per ring = 1.5 ratio overall)



Maximum of five rows of rings in Apron



Source: Goff, K. D. 2002. Ring diameter and closed area scallop fisheries. Masters thesis, Virginia Institute of Marine Science, College of William and Mary. (Note: labels and colors added to original figure).
Insert figure of hanging ratio courtesy of Coonamessett Farm Foundation.

2.2.4 Proactive AM – Modify gear regulations to include a maximum of seven rings in the apron of a dredge in all areas (Alternative 4)

Within the current twine top restrictions in Section 648.51 of the scallop regulations it states that a dredge greater than 8 feet in width, must have at least seven rows of rings between the terminus of the dredge (clubstick) and the twine top. Framework 5 implemented this regulation in 1995 to protect against the overharvest of small scallops. At that time some vessels were running twine top along the topside of the dredge all the way down to the clubstick. Since the mesh used for twine top was much smaller than it is today this practice essentially turned the dredge bag into a net, which has higher mortality on small scallops.

Now that twine top mesh is a required to be a minimum of 10 inches there is less incentive to run it back to the terminus of the dredge. However, recent gear research has shown that a shorter apron, for example 5 rows of rings from the clubstick, may reduce flatfish bycatch. This action is considering a seasonal gear restriction AM that would require vessels to use a shorter apron, but that will only be implemented f an AM is triggered, and would only be required in the specified AM area and season. In contrast, this measure would modify the current requirement to have at least a seven row apron, and instead require vessels to have a maximum of seven rows. This measure may reduce flatfish bycatch by enabling vessels to voluntarily fish with a shorter apron, less than seven rings, to proactively reduce flatfish bycatch in any area or season. This measure would apply to all scallop vessels (LA and LAGC IFQ) in all areas (access and open areas).

This gear restriction is outdated and is no longer necessary with larger mesh size restrictions. In addition, it is counter to innovations that could help reduce flatfish bycatch. Therefore, modifying this dated regulation is a proactive AM. The combination of a shorter apron and lower hanging ratio has been shown to be more selective for larger scallops.

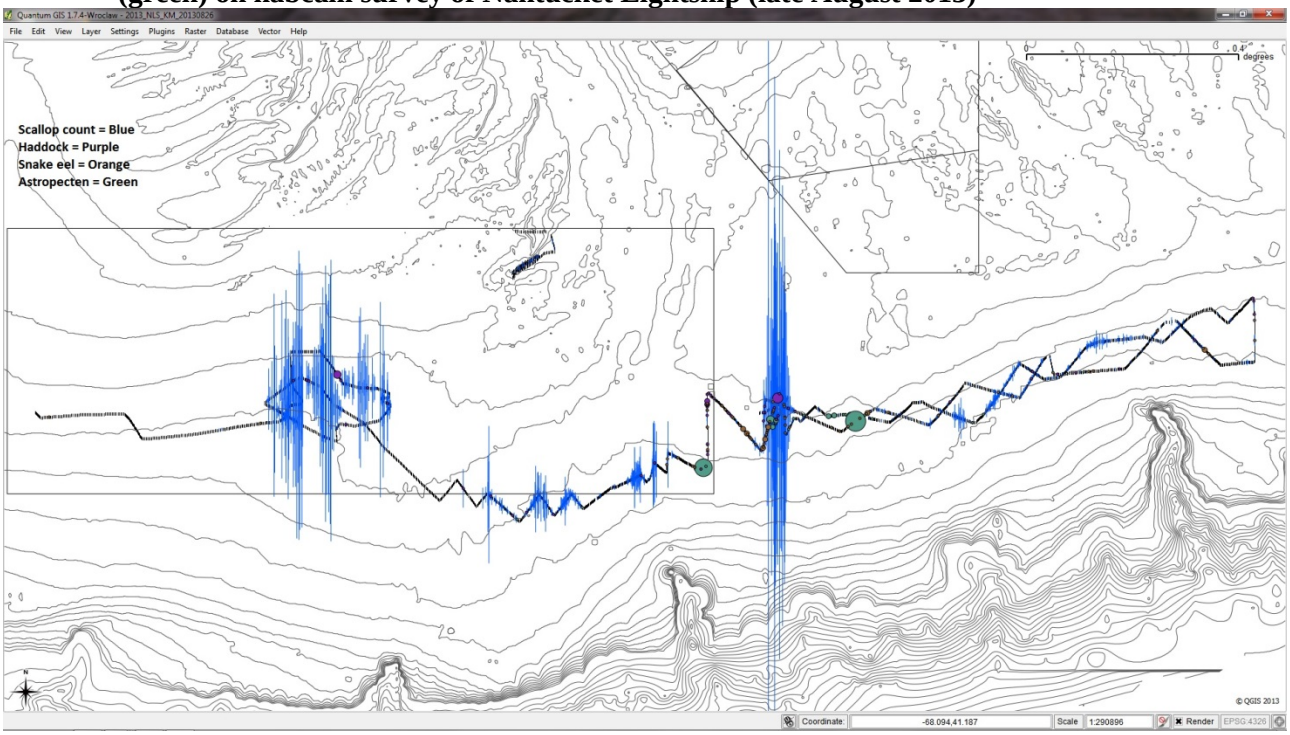
2.3 CONSIDERED AND REJECTED ALTERNATIVES

2.3.1 New scallop access area closure in and around NL

Based on the results of 2013 scallop surveys there seems to be a very large year class of small scallops in and around the current NL access area. The PDT discussed that an alternative could be developed that would encompass these small scallops in a new access area. The area would remain closed for several years and then reopen as a scallop access area. The precise boundaries were not defined, but the idea discussed was that it would include the southern part of the access area as well as potions of the existing EFH closed area in NL and some area to the east that is currently open to the scallop fishery. The average size of scallops observed was 17mm.

Following the PDT meeting in August 2013 when this area was first discussed Arnie's Fisheries surveyed the general area to help delineate how widespread the recruitment was. Habcam was towed for five days in and around NL and large densities were observed within a depth of 60-70 fathoms within the EFH closed area in NL and around 80 fathoms in the NL access area and waters to the east in open areas (Figure 8).

Figure 8 – Abundance of scallops (blue), haddock (purple), snake eel (orange) and astropecten (green) on habcam survey of Nantucket Lightship (late August 2013)



Rationale for Rejection: It is very difficult to assess scallops that are very small. There is higher predation and mortality on these scallops and they are in deeper waters than typical. Therefore, their survivability is more uncertain. These small scallops are in an area that is not heavily fished by the scallop fishery, so incidental impacts should be limited. The average size is 17mm; therefore these small scallops will go through commercial gear. There are some larger scallops mixed in these areas and it may be better to access the exploitable scallops now before the smaller scallops grow larger and incidental impacts may be greater. Closing more open area now

to be part of a future access area will potentially reduce DAS further for FY2014, and the allocation for 2014 DAS will likely be lower than 2013 already; therefore, timing of this closure is not preferred. The Council can revisit this area as a potential closed area next year and decisions can be made based on more information after another survey season.

2.3.2 Option 3 – Scallop access area trips prohibited in southeast corner of CA2 access area

Small scallops were also observed in the surveys of CA2 (SMAST and NEFSC survey). Length frequency of all measured scallops on SMAST survey of CA2 in Figure 9. Number of scallops less than and larger than 100 mm displayed in Figure 10. The PDT developed a range of potential boundary options for a recruitment protection area within CA2 south (Figure ???).

Figure 9 – Number of scallops by shell height (5mm bins) from 2013 SMAST survey of CA2 south

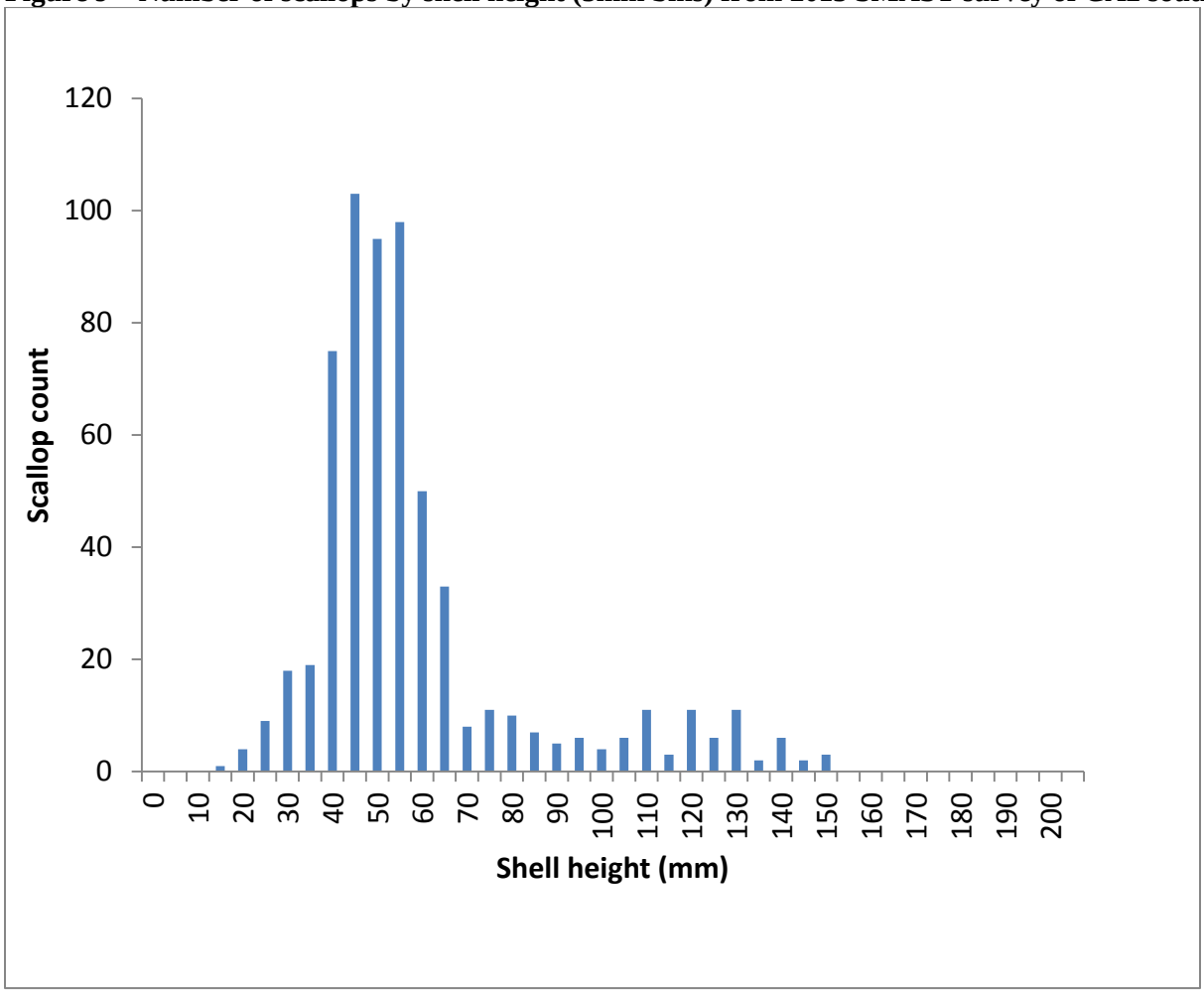


Figure 10 – Number of scallops less than 100 mm (TOP) and larger than 100 mm (BELOW) measures from SMAST 2013 survey of CA2 south

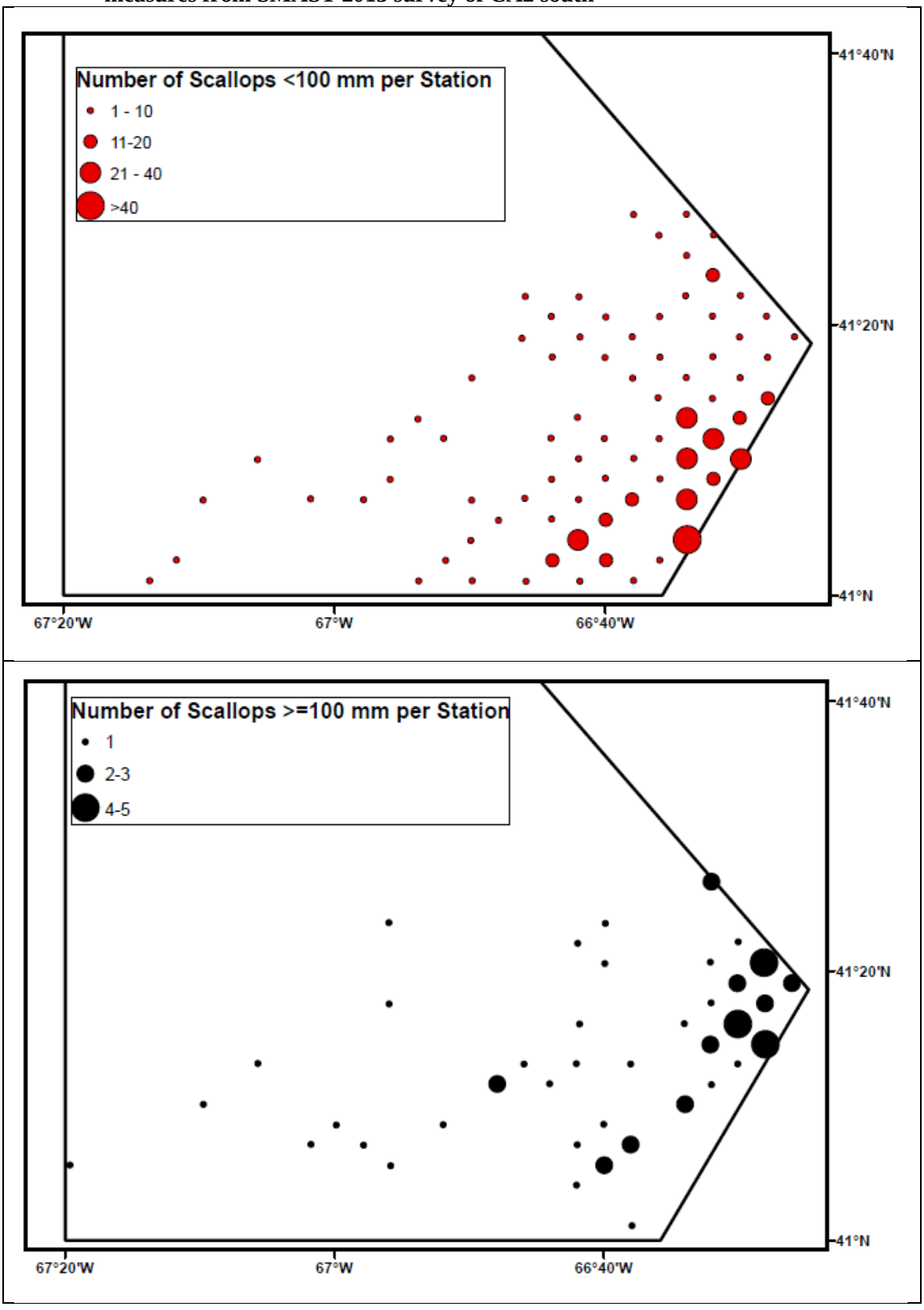


Figure 11 – Adult (left) and recruit (right) scallop biomass from two surveys (2013). Possible closure area in southeast corner highlighted in blue

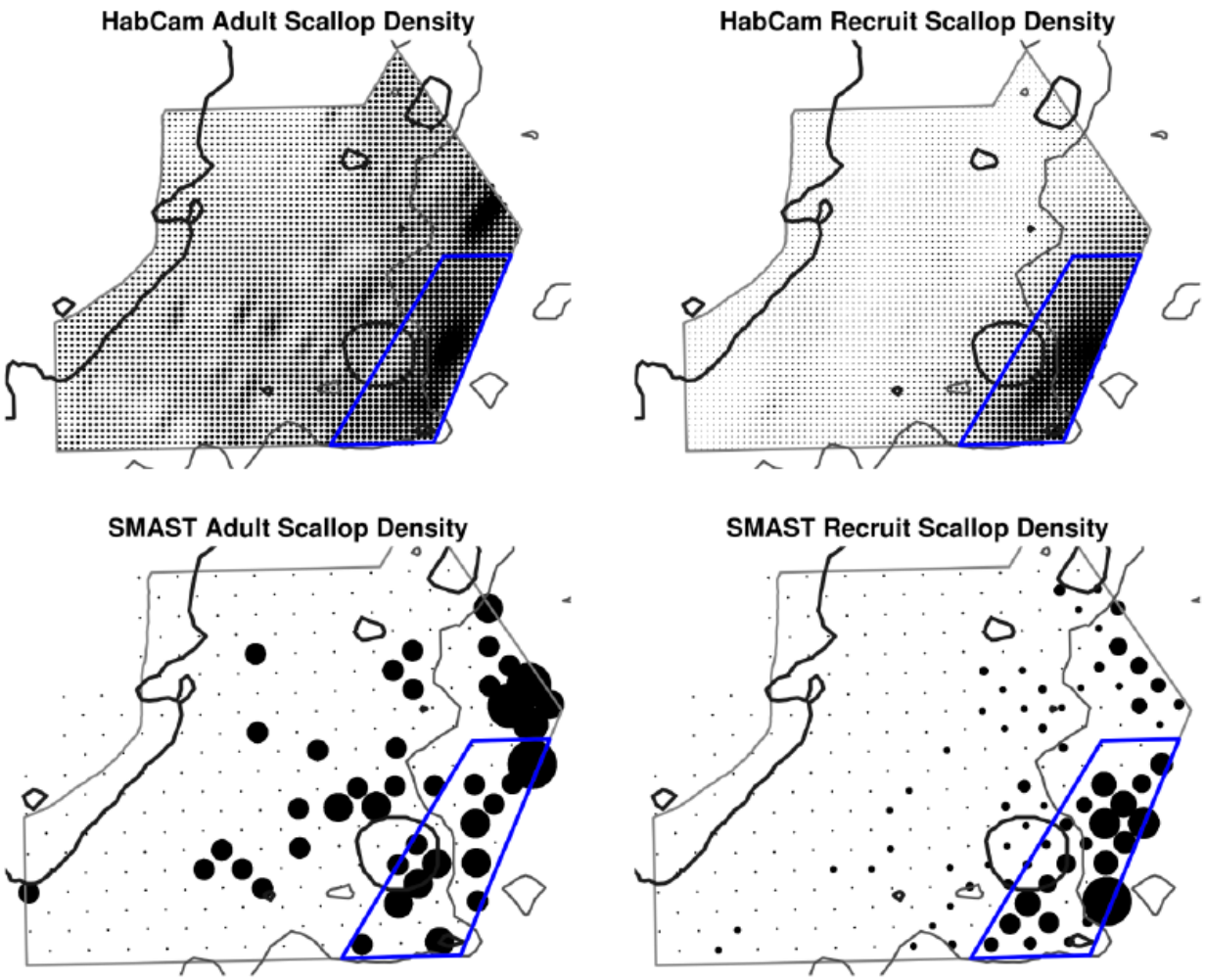


Figure 12 – Several possible scenarios developed by the PDT for consideration for boundaries within CA2 south to protect recruitment in southeast corner of access area

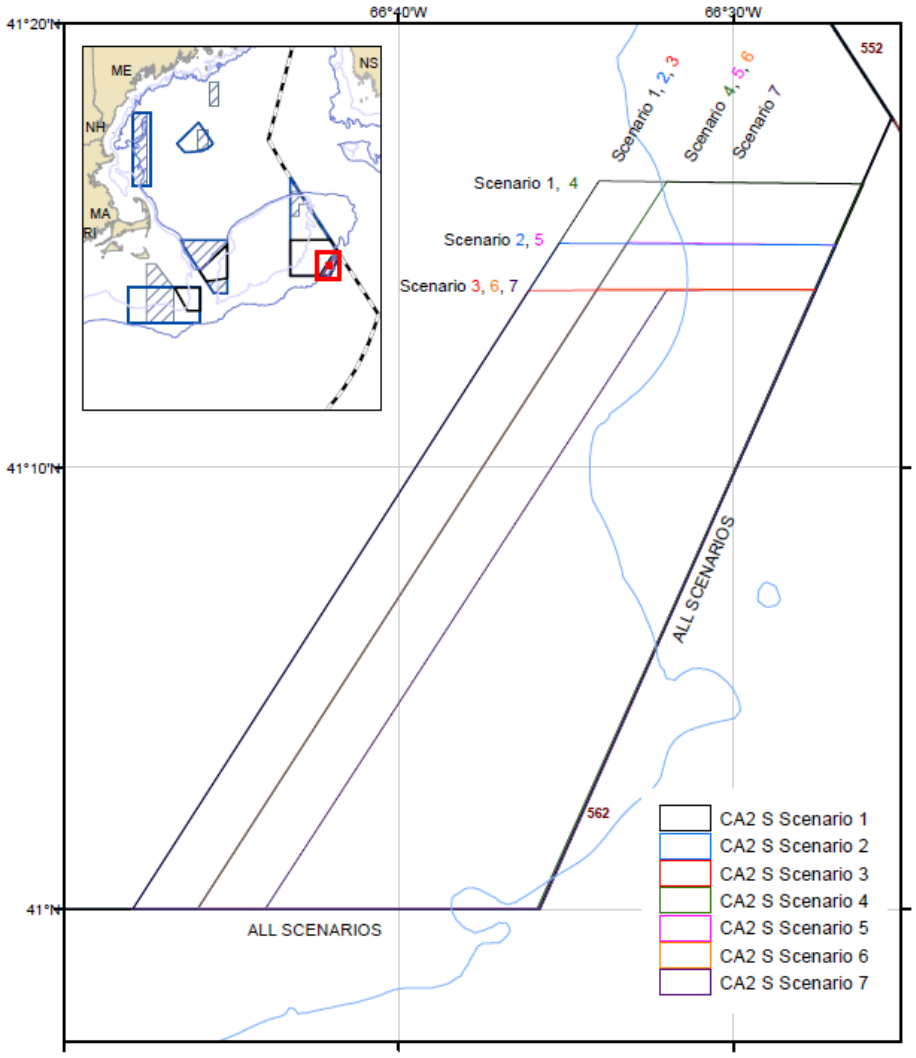


Table 15 – Estimate of the percentage of scallop recruitment and adult biomass within and outside of possible boundaries within CA2 south.

Scenario	HABCAM		SMAST	
	%Recruits Included	% Adults Included	%Recruits Included	% Adults Included
1	73	28	79.7	37.9
2	70.6	26.6	79.7	37.9
3	67.7	25.2	76.2	28.8
4	65.8	24.2	73.6	33.3
5	64	23.2	73.6	33.3
6	61.7	22.1	70.1	24.2
7	51.8	18	54.5	13.6

Rationale for Rejection: The Scallop AP and Committee reviewed this proposal form the PDT and decided not to include it for consideration at this time. There is a substantial amount of larger scallops mixed within the area that has smaller scallops. There are concerns that scallops are not dense in this area and the fleet will need access to more of the adult population. More importantly, the southeast portion of CA2 is general a low YT bycatch region, and since the YT allocation for 2014 is very small, the fleet may need to concentrate in that area to avoid YT. The AP also commented that CA2 may not be open in 2015 so it would be important to harvest larger scallops now if the area is not open for several years.

2.3.3 Alternatives for unused Closed Area I access areas – Allow vessels with unused FY2013 Closed Area I catch to fish that allocation in a different access area

This alternative would allow a vessel with an unused FY2013 trip to harvest that catch from a different access area. Two options are being considered in terms of the deadline vessels would need to complete unused Closed Area I trips: Option 1 is through FY2014; and Option 2 is through FY2015. The PDT will identify the appropriate access area in this action, or in a future scallop action, particularly if Option 2 is selected.

Rationale for Rejection: There are no access areas available in FY2014 that can support additional catch. All available catch is already being allocated for FY2014 access.

2.3.4 Proactive AM – Include a maximum twine top hanging ratio of 1.5:1 for all areas (Alternative 5)

Currently there is no limit on the number of meshes a scallop dredge vessel can use in the twine top of their dredge, so long as the opening is at least 10 inches. The more meshes that are used, the tighter the meshes pull together when fished. For example, many vessels fish with 60 meshes across a 15 ft. dredge, but some fish with as many as 80 or 90 meshes across. As meshes pull tighter there is less space for scallops and fish to escape the gear.

Twine top mesh is connected to the topside of the dredge frame by either rings or chains. In the case of rings, the number of meshes per ring is referred to as the hanging ratio. Some vessels fish a 2:1 hanging ratio which means 2 meshes per ring. Some vessels fish a lower ratio than this (fewer mesh per ring), and other vessels fish a higher ratio (more meshes per ring).

The most effective way to regulate the gear so that the twine top is fished as it was intended to with greater openings for escapement of finfish is to restrict the hanging ratio. Research has shown that lower hanging ratios increase finfish escapement. This alternative would require a maximum hanging ratio of 1.5 meshes per ring, on average for the entire width of the twine top. <u>This measure would apply to all scallop vessels (LA and LAGC IFQ) in all areas (access and open areas).</u>

Rationale for Rejection: The Committee decided not to include this alternatives as a proactive AMs at this time based on a recommendation from the Advisory Panel. It was argued that scallop vessels are now required to use turtle deflector dredges in the Mid-Atlantic and the potential benefits of that new gear requirement are still uncertain. It is possible the TDD gear modification will reduce windowpane bycatch levels substantially. Therefore, the Advisory

Panel argued that before more proactive gear modifications are required more time and resources should be spent evaluating the impacts of current gear requirements. There was also concern voiced that reducing bycatch of other flatfish before sub-ACLs are assigned could have negative impacts on the scallop fishery in terms of future allocations.

2.3.5 Proactive AM – Maximum of five rows of rings in the apron of dredge gear in all newly opened access areas on GB (NL, CA1, and CA2) (Alternative 6)

This alternative would require a maximum of five rows in the apron of dredge gear on all scallop vessels (LA and LAGC IFQ) in all access areas on GB, including NL, CA1, and CA2. If new scallop access areas are developed on GB and this measure is adopted, this gear restriction should be considered for new access areas as well. Vessels would not be subject to this proactive AM when fishing in open areas.

Rationale for Rejection: The Committee decided not to include this alternatives as a proactive AMs at this time based on a recommendation from the Advisory Panel. It was argued that scallop vessels are now required to use turtle deflector dredges in the Mid-Atlantic and the potential benefits of that new gear requirement are still uncertain. It is possible the TDD gear modification will reduce windowpane bycatch levels substantially. Therefore, the Advisory Panel argued that before more proactive gear modifications are required more time and resources should be spent evaluating the impacts of current gear requirements. There was also concern voiced that reducing bycatch of other flatfish before sub-ACLs are assigned could have negative impacts on the scallop fishery in terms of future allocations.

2.3.6 Proactive AM – Maximum twine top hanging ratio of 1.5:1 in all newly opened access areas on GB (NL, CA1, and CA2) (Alternative 7)

This alternative would require a maximum hanging ratio of 1.5 meshes per ring, on average for the entire width of the twine top. All vessels (LA and ALGC IFQ) would be required to fish with this hanging ratio, or less, in all access areas on GB, including NL, CA1, and CA2. If new scallop access areas are developed on GB and this measure is adopted, this gear restriction should be considered for new access as well. Vessels would not be subject to this proactive AM when fishing in open areas.

Rationale for Rejection: The Committee decided not to include this alternatives as a proactive AMs at this time based on a recommendation from the Advisory Panel. It was argued that scallop vessels are now required to use turtle deflector dredges in the Mid-Atlantic and the potential benefits of that new gear requirement are still uncertain. It is possible the TDD gear modification will reduce windowpane bycatch levels substantially. Therefore, the Advisory Panel argued that before more proactive gear modifications are required more time and resources should be spent evaluating the impacts of current gear requirements. There was also concern voiced that reducing bycatch of other flatfish before sub-ACLs are assigned could have negative impacts on the scallop fishery in terms of future allocations.

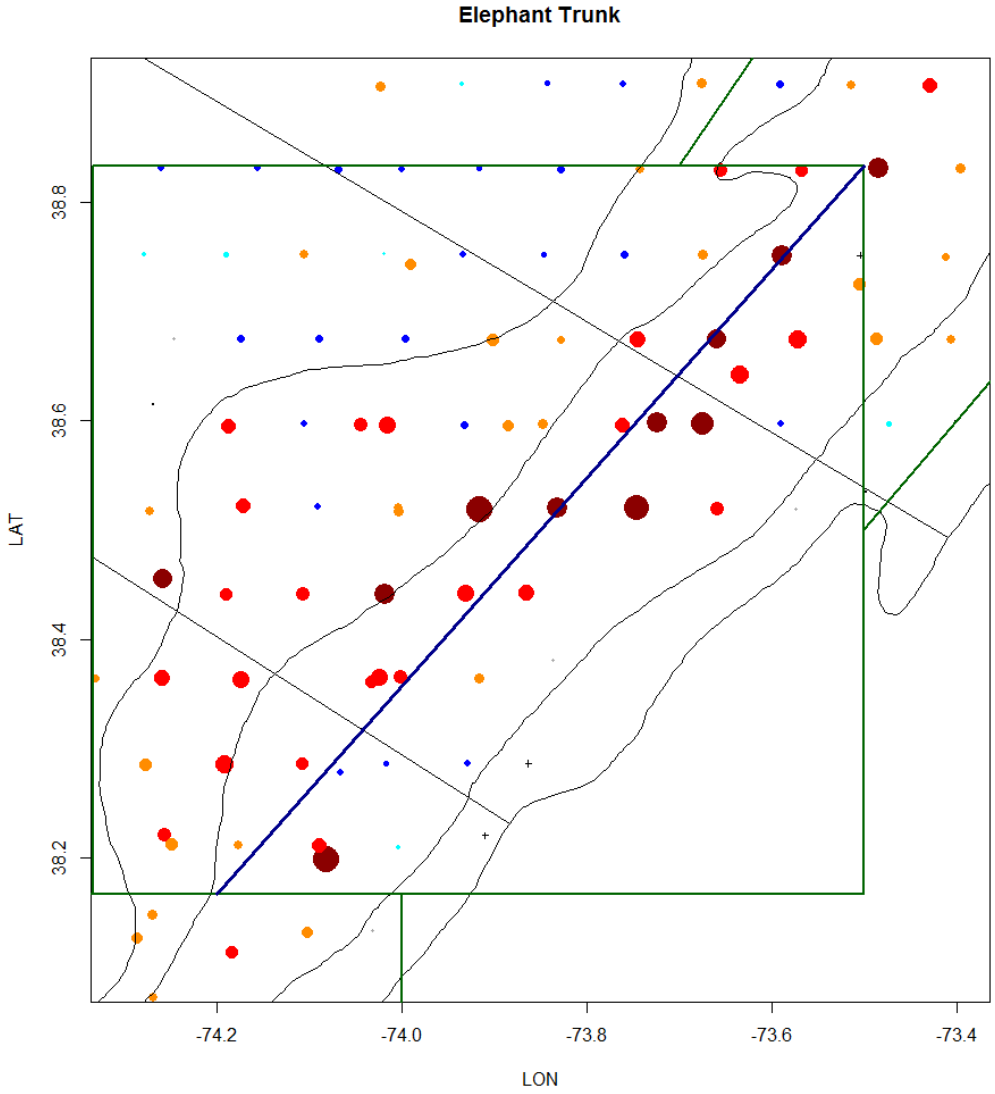
2.3.6.1.1 Alternative 4 – Allow unused Closed Area I allocation to be fished in deeper waters of ET in FY2014

ET is not ready to be an access area for the directed fishery. However, if this action is looking for a place to fish unused CA1 trips and not impact the open areas it may be possible to send this

effort into the deeper waters of ET. The PDT is not comfortable opening all of ET for this effort because the risk of negative impacts on scallops in that area is too high. Scallops do not grow as large in deeper waters so the growth potential in that area is not as great as the shallower portions of ET.

The PDT is still working on a more refined boundary for this alternative. If this is included in FW25 a more specific boundary will be developed.

Figure 13 – Proposed boundary for potential deep-water access in ET in 2014 for unused CA1 trips



Rationale for Rejection: The PDT developed this alternative to find a place to send unused trip in 2014. The Scallop AP and Committee reviewed this idea but expressed concern that the future of the fishery for the next few years is in ETA, and accessing that area too early could be very risky. Therefore, this option was not included in the document for further consideration.

3.0 REFERENCE INFORMATION RELATED TO FISHERY SPECIFICATIONS (COUNCIL ACTION AND ANALYSES NOT REQUIRED)

This section does not include any alternatives under consideration in this action. Rather, the information presented in this section only summarizes reference material related to fishery specifications or supporting analyses. For example, there are various set-asides that are automatically set based on overall catch limits set in this fishery so Section 3.1 and 3.2 have been included here to help clarify the various components of the fishery that are more automatic. These set-asides do not require Council action or analysis, as the processes that set these specific allocations have already been analyzed in previous scallop actions or they are specified through other fishery actions.

Similarly, the Council approves specific research priorities relative to the RSA set-aside program in the Scallop FMP, Section 3.2.1. Finally, the PDT estimates YT and WP projected catch for the various fishery specification alternatives under consideration. Even though the GF FMP now allocated a set percentage of the available ACL to the scallop fishery, these analyses are still completed to evaluate potential impacts. They have been included in a separate section primarily for future reference.

3.1 SUMMARY OF ACLS AND OTHER REFERENCE TERMS

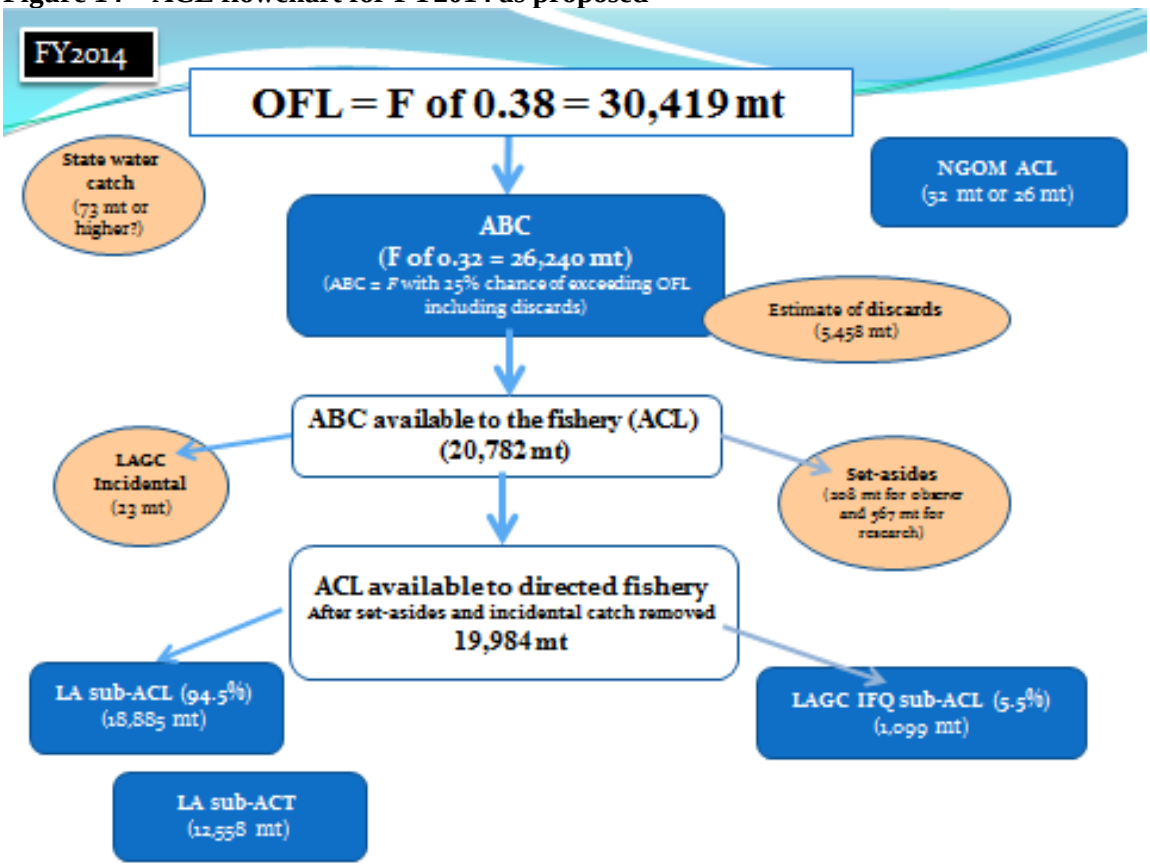
Paragraph about table

Paragraph about flowchart

Table 16 – Summary of ACL related terms for Framework 25 (FY2014 and FY2015(default))

Will be filled in after final specification alternative selected

Figure 14 – ACL flowchart for FY2014 as proposed



3.2 SPECIFICATIONS FOR LIMITED ACCESS GENERAL CATEGORY INCIDENTAL CATCH VESSELS

Amendment 15 included 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 to the directed fisheries. 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. In 2011 total catch from these vessels was 38,700 pounds, about 77% of the target TAC. Finally, in the NMFS yearend report for FY2012 the total catch from vessels was estimated at 61,869 pounds, about 24% above the 50,000 pound target TAC. The PDT discussed if a higher value should be considered in this action but recommended it be left at 50,000 pounds for now. This level of catch is very small and will not have impacts on the overall resource, and 2012 is the first time it has exceeded the target. The PDT will continue to monitor this source of mortality and recommend a higher TAC

in a future action if necessary. Based on these analyses, the Council did not develop alternatives for setting a target TAC for incidental catch; instead the target allowable catch will remain at 50,000 pounds and will be re-evaluated in the future.

3.3 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, or 567 mt. 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 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 total set-aside for observers in FY2014 is ???, and ??? for FY2015(default), equivalent to 1% of the ABC=ACL. Because the compensation rates are based on pounds-per-area, the observer set-aside is divided proportionally (Table 17).

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 17). However, since FW24 the observer set-aside is no longer area specific. NMFS can adjust set-aside per area to provide more compensation being used in one area and less in another.

Table 17 – 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)

3.3.1 Research priorities (Approved by the Council in April 2013)

The research priorities used for the RSA set-aside are defined by the Council. In April 2013 the Council approved research priorities to be used in the next funding announcement, usually June 2013 for the 2014 fishing year. These priorities were set for two years, but they may get revisited and adjusted in the next scallop action for a possible announcement in 2014.

Scallop research priorities approved by the Council for 2013 and 2014

HIGHEST PRIORITIES (not listed in order of importance):

- An intensive industry-based survey of each of relevant scallop access areas (Closed Area I, Closed Area II, Nantucket Lightship, Delmarva, Elephant Trunk, 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. Areas scheduled to be open in the following fishing year generally have a higher priority than other areas.
- 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).
- Broad, resource wide industry-based survey of entire scallop resource area.

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, mortality from predation (i.e. starfish, dogfish, etc.), and seasonal growth of scallops.
- Research aimed at describing the occurrence as well as understanding the mechanisms of processes that affect scallop product quality and marketability (i.e grey meats, diseases). Related to that, research that would evaluate the potential magnitude of impacts on scallop mortality from “scallop quality” discarding (while shucking).
- Research aimed at the effects of chemicals, water quality, and other environmental stressors on reproduction and growth of scallops (i.e. jet fuel, pesticides, ocean acidification, etc.).

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 that 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.).

3.4 UPDATED PROJECTIONS OF FLATFISH BYCATCH (YT AND WINDOWPANE)

This section includes a summary of the updated YT and windowpane flounder bycatch projections based on FW25 allocations. The Groundfish FMP is the plan that sets the YT and WP flounder sub-ACLs for the scallop fishery. Framework 48 recently changed the allocation method to a fixed percentage of the total ACL for GB YT (16% of the US ABC). The sub-ACL for SNE/MA YT is not based on a method that is set in the regulations like it is for GB YT. Most recently the Council set the sub-ACL at 90% of the high estimate of scallop fishery catch of SNE/Mid-Atlantic yellowtail flounder for 2013-2015. But this method could vary. Modifying the 2014 allocation of SNE/MA YT for the scallop fishery sub-ACL is not currently under consideration in Framework 51.

Finally, for SNE/MA windowpane the sub-ACL allocation method is set in the GF regulations at 36% of the total ACL. The sub-ACL 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.

Table 18 – Summary of sub-ACLs allocated to the scallop fishery under the Multispecies FMP

	2014	2015
GB YT	50.9	Not available
SNE/MA YT	66	64
SNE/MA WP	183	183

The final estimates of projected YT catch by the scallop fishery for 2014 and 2015 are summarized below (**Table 20**) and the associated bycatch rates used to generate these projections are summarized in Table 19. Similarly, the bycatch rates for WP are in Table 21, and the projected catch of WP in 2014 and 2015 are in Table 22.

Table 19 – 2014 estimated bycatch rates by area based on both 2012 and 2013 observer data

	GBC2	**GBOp**	**SNEOp**	**Maop**	**NLS**
2012 Y:S	0.0675	0.0125	0.0059	0.0073	0.0065
2014 Y:S	0.0626	0.0104	0.0041	0.0083	0.0145
2013 Y:S	0.0298	0.0092	0.0044	0.0076	0.0098
2014 Y:S	0.0321	0.0088	0.0044	0.0077	0.0106

Table 20 – 2014 estimated YT catches based on both 2012 and 2013 observer data

Alternative		**GBC2**	**GBOp**	**GB**	**MASNEOp**	**NLS**	**MA/SNE**
NA	2014 YT (from 2012)	0.0	26.6	**26.6**	45.6	0.0	**45.6**
NA	2014 YT (from 2013)	0.0	22.4	**22.4**	42.4	0.0	**42.4**
Alt2 (23 DAS)	2014 YT (from 2012)	70.0	26.6	**96.6**	45.6	9.2	**54.8**
Alt2 (23 DAS)	2014 YT (from 2013)	35.9	22.4	**58.2**	42.4	6.7	**49.1**
Alt3 (23 DAS Del flex)	2014 YT (from 2012)	70.0	27.7	**97.7**	47.5	9.2	**56.7**
Alt3 (23 DAS Del flex)	2014 YT (from 2013)	35.9	23.3	**59.2**	44.3	6.7	**50.9**
Alt 4 (31DAS)	2014 YT (from 2012)	70.0	33.7	**103.7**	58.5	9.2	**67.7**
Alt 4 (31DAS)	2014 YT (from 2013)	35.9	28.4	**64.2**	54.5	6.7	**61.1**
Alt 5 (28DAS)	2014 YT (from 2012)	70.0	31.3	**101.3**	54.0	9.2	**63.2**
Alt 5 (28DAS)	2014 YT (from 2013)	35.9	26.3	**62.2**	50.3	6.7	**57.0**
Alt 6 (37DAS/DmvCl)	2014 YT (from 2012)	70.0	38.5	**108.5**	67.3	9.2	**76.5**
Alt 6 (37DAS/DmvCl)	2014 YT (from 2013)	35.9	32.4	**68.2**	62.7	6.7	**69.3**

Table 21 - 2014 estimated bycatch rates by area, as well as observed bycatch rates from 2012 and 2013 observer data

	2012	2013	2014
maop	0.011	0.014	0.012
sneop		0.001	0.001
dmv			3.50E-05
nls	0.042	0.063	0.066

Table 22 – 2014 estimated WP catches based on 2012 observer data

	maop	sne	nls	dmv	Total
Alt 1 NoAction	21.3	3.9	0	0	25.2
Alt 2 - 23DAS	21.3	3.9	41.9	0.1	67.2
Alt3	23.4	4	41.9	0.1	69.4
Alt4 - 31DAS	27.4	5	41.9	0.1	74.4
Alt 5 - 28DAS	25.2	4.6	41.9	0.1	71.8
Alt 6 - 37 DAS nodmv	31.4	5.8	41.9	0	79.1

4.0 AFFECTED ENVIRONMENT

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^{o} 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 1977 that has sampled the resource using a stratified random design. More recently, the NEFSC 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 in portions of the scallop resource area. VIMS conducts an intensive grid design survey towing two dredges in several areas that vary year to year. Finally, Arnie's Fisheries has completed very intensive optical surveys of discrete areas that also change each year using a towed camera similar to the one used by NEFSC (Habcam). The Scallop PDT combines the results from all available surveys to estimate sea scallop biomass and recruitment on an annual basis.

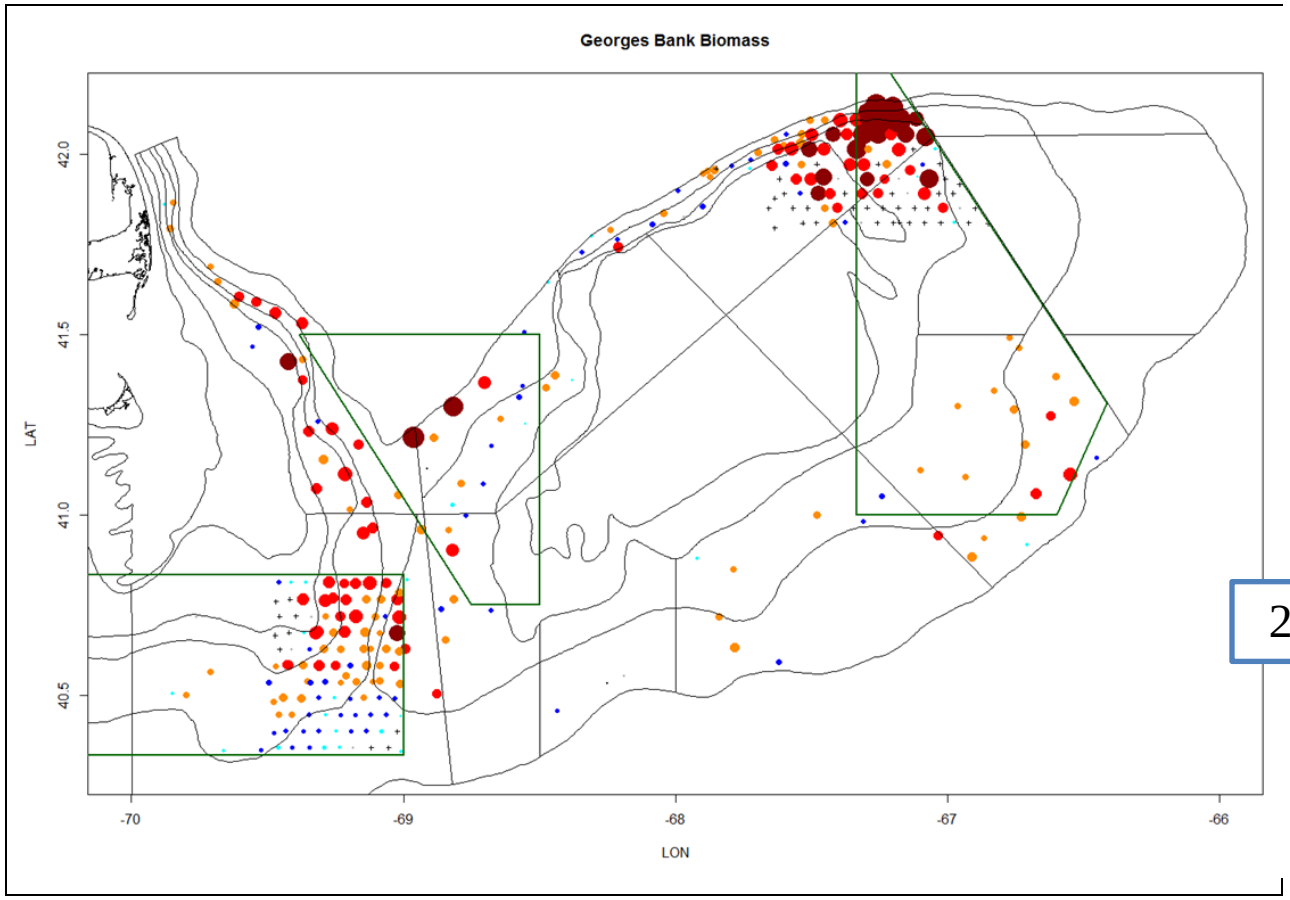
4.1.1 Biomass

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.

In 2012, GB biomass was primarily concentrated in NL, the Channel, and cod HAPC within CA2. In 2013, GB biomass declined in all areas, especially the Channel. Figure 15 - Figure 17 shows the survey results for scallop biomass and abundance for GB. Note the SMAST figure is in numbers and the other two are biomass. Overall, GB biomass has been declining since 2010 (Figure 21). The total biomass estimate for the Channel in 2013 is about 10,000 mt lower than it was in 2012, primarily due to high levels of fishing that went on in that area in 2013.

Figure 15 - Total scallop biomass (g/tow) on Georges Bank from the 2013 NEFSC dredge tows as well as 2013 VIMS dredge tows in NL and in Closed Area II "north" and west of cod HAPC (TOP) compared to 2012 biomass estimates (BOTTOM)



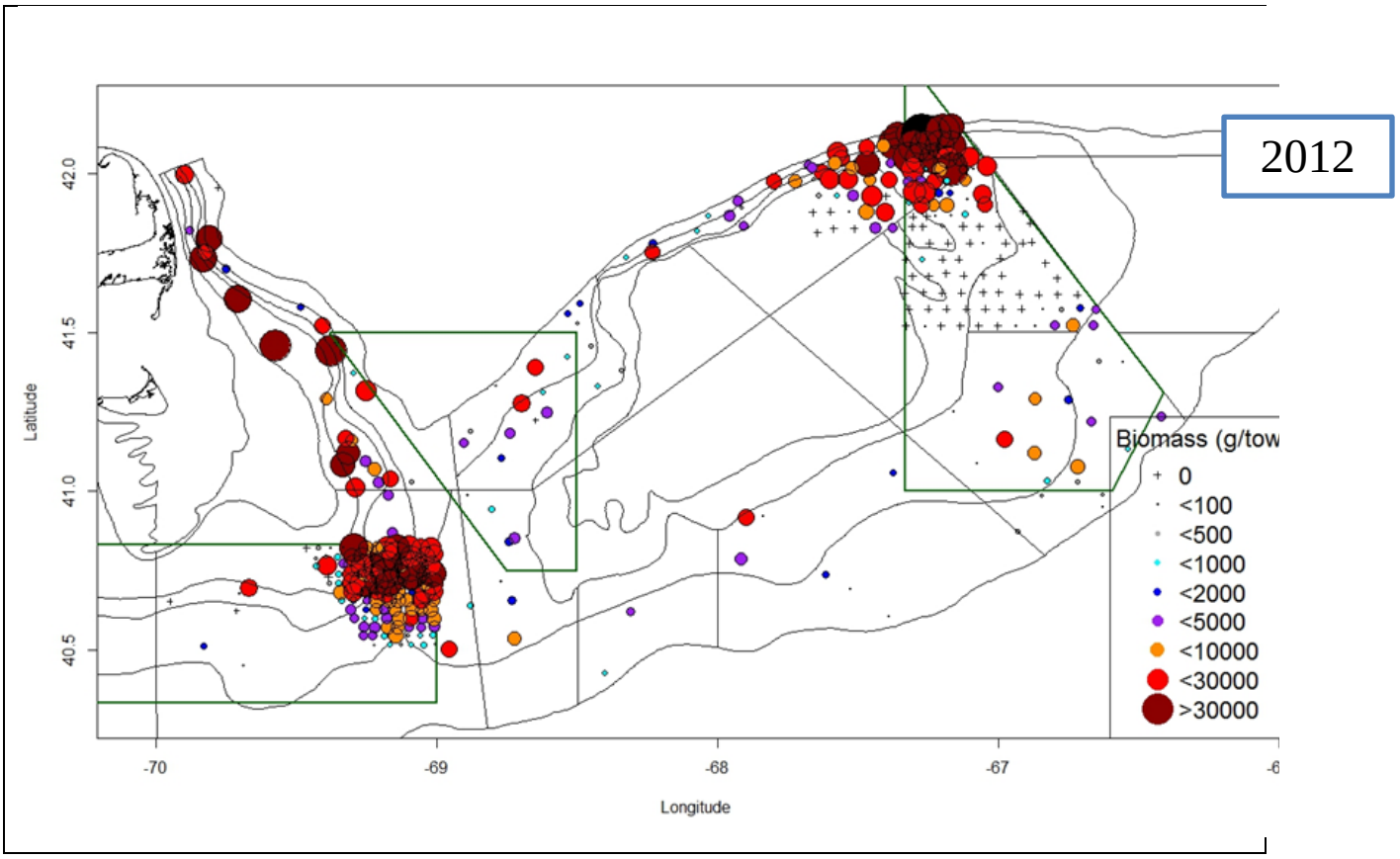


Figure 16 - Total scallop abundance (numbers per station) on in CA2 south (2013 SMAST video survey)

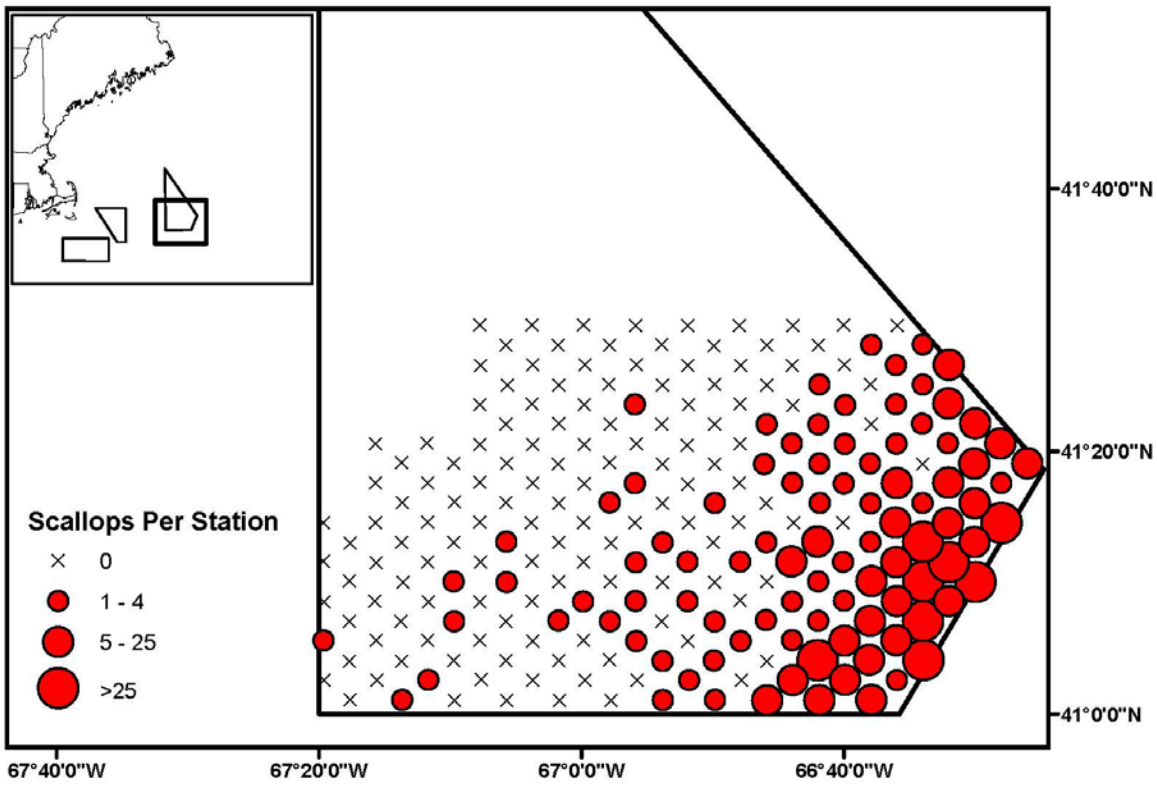
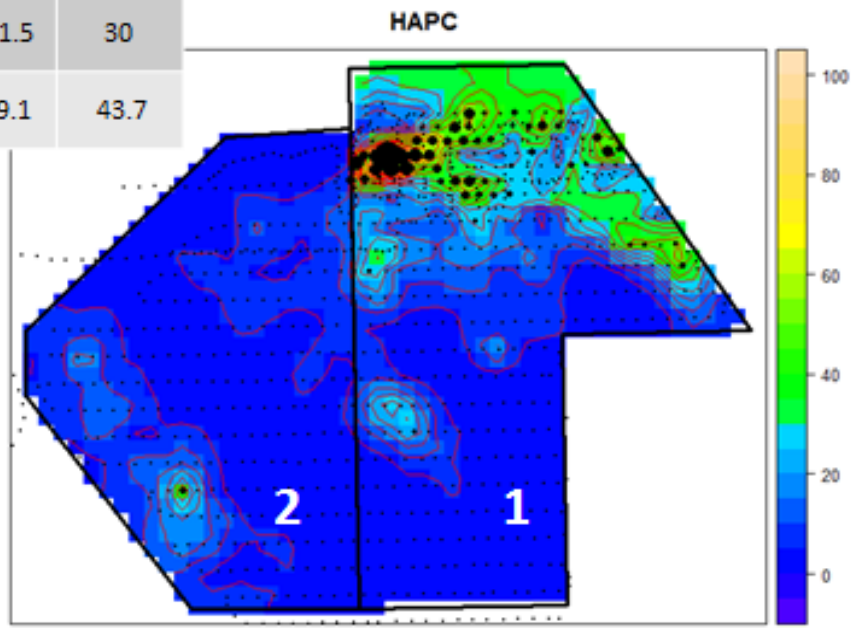
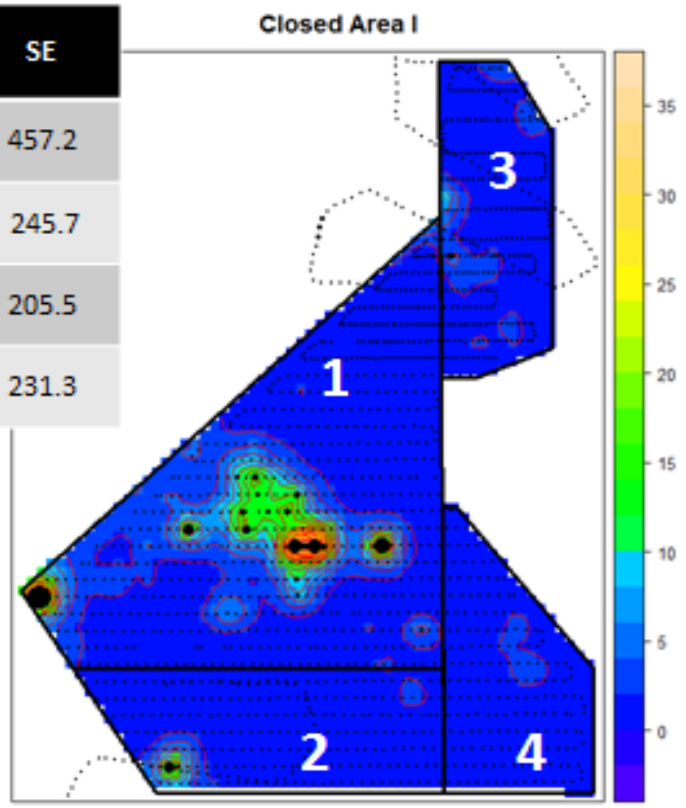

Scallops Per Station
0
1 - 4
5 - 25
>25
41°40'0"N
41°20'0"N
41°0'0"N
67°40'0"W
67°20'0"W
67°0'0"W
66°40'0"W

Figure 17 - Total scallop biomass in areas on GB combining optical survey results from 2013 NEFSC and Habcam

Area	Size (k²)	Biomass (mt)	SE
1	633.42	9101.5	30
2	539.29	2709.1	43.7



Area	Size (k²)	Biomass (mt)	SE
1	1241.61	3473.9	457.2
2	464.06	575.3	245.7
3	372.77	551.6	205.5
4	363.4	406.7	231.3



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). However, stronger recruitment has been observed in 2012 and 2013. Once these scallops grow larger biomass in the Mid-Atlantic is expected to increase. Figure 18 through Figure 20 show survey results for MA biomass with highest concentrations in Elephant Trunk. The large number of small scallops observed in 2012 in all three MA access areas seems to have survived, but these animals are too small for harvesting. Note the SMAST figure is in numbers and the other two are biomass. Overall MA scallop abundance is widespread, but density is relatively low for larger animals and has declined in recent years (Figure 21).

Figure 18 - 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

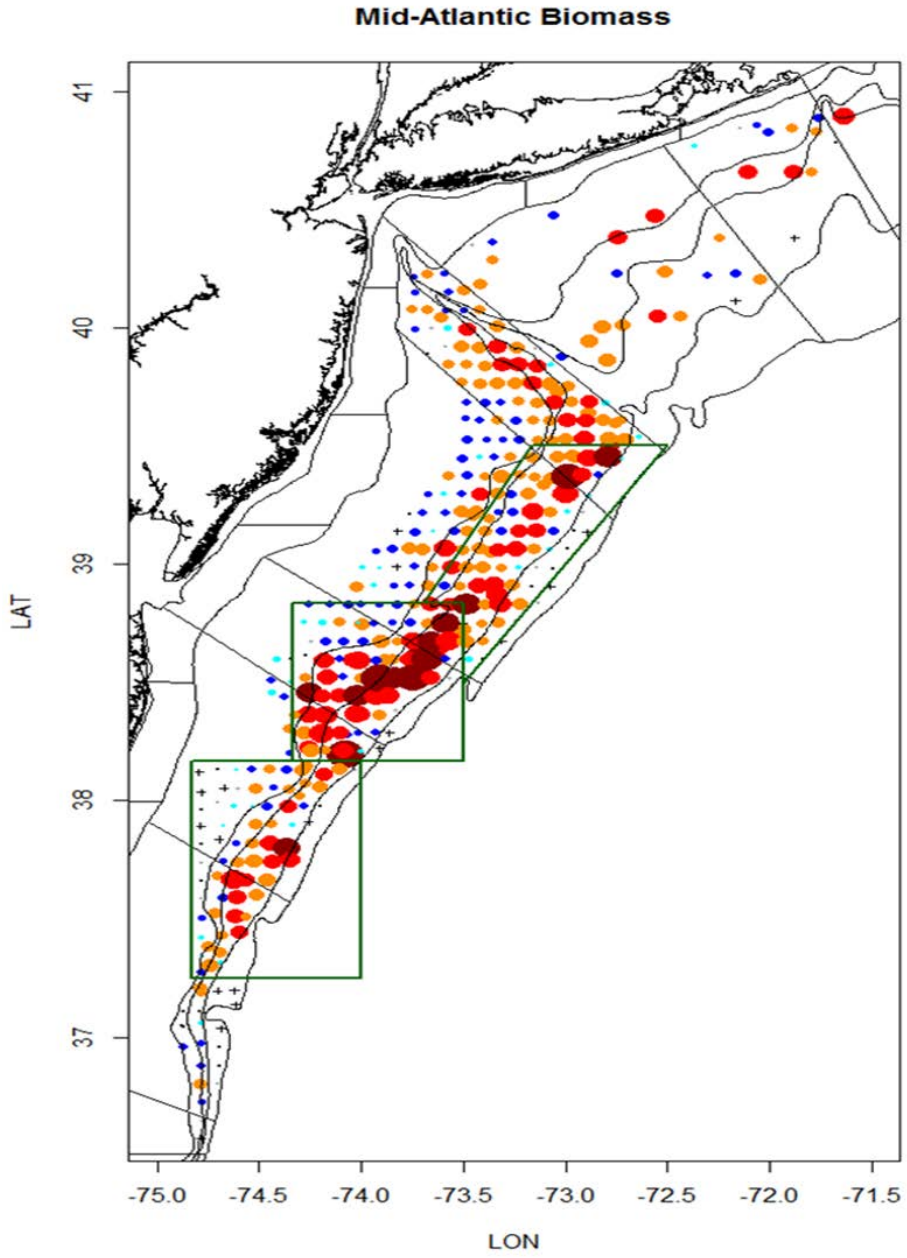

Mid-Atlantic Biomass
LAT
41
40
39
38
37
-75.0
-74.5
-74.0
-73.5
-73.0
-72.5
-72.0
-71.5
LON

Figure 19 - Total scallop abundance (numbers per station) for Delmarva from the 2013 SMAST video survey

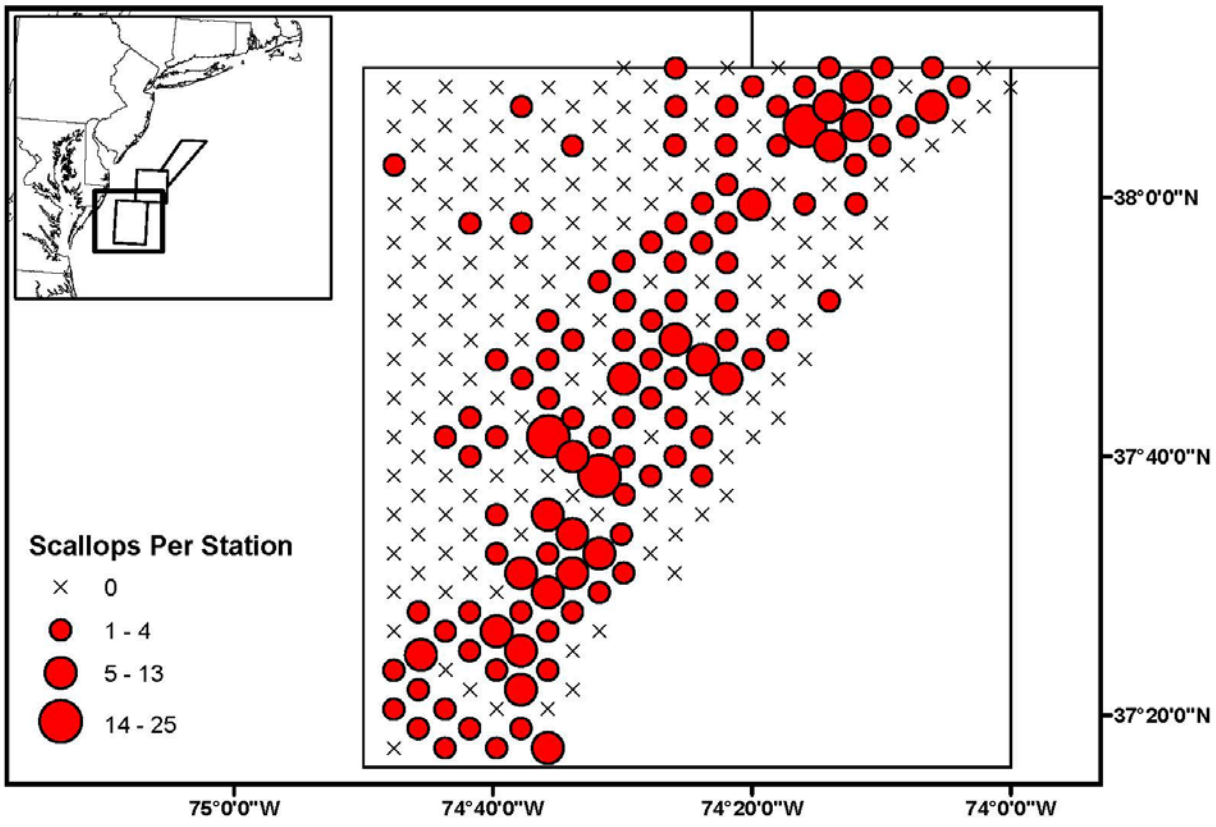

Scallops Per Station
0
1 - 4
5 - 13
14 - 25
38°0'0"N
37°40'0"N
37°20'0"N
75°0'0"W
74°40'0"W
74°20'0"W
74°0'0"W

Figure 20 - Total scallop biomass for the Mid-Atlantic from the 2013 NEFSC optical survey (Seahorse)

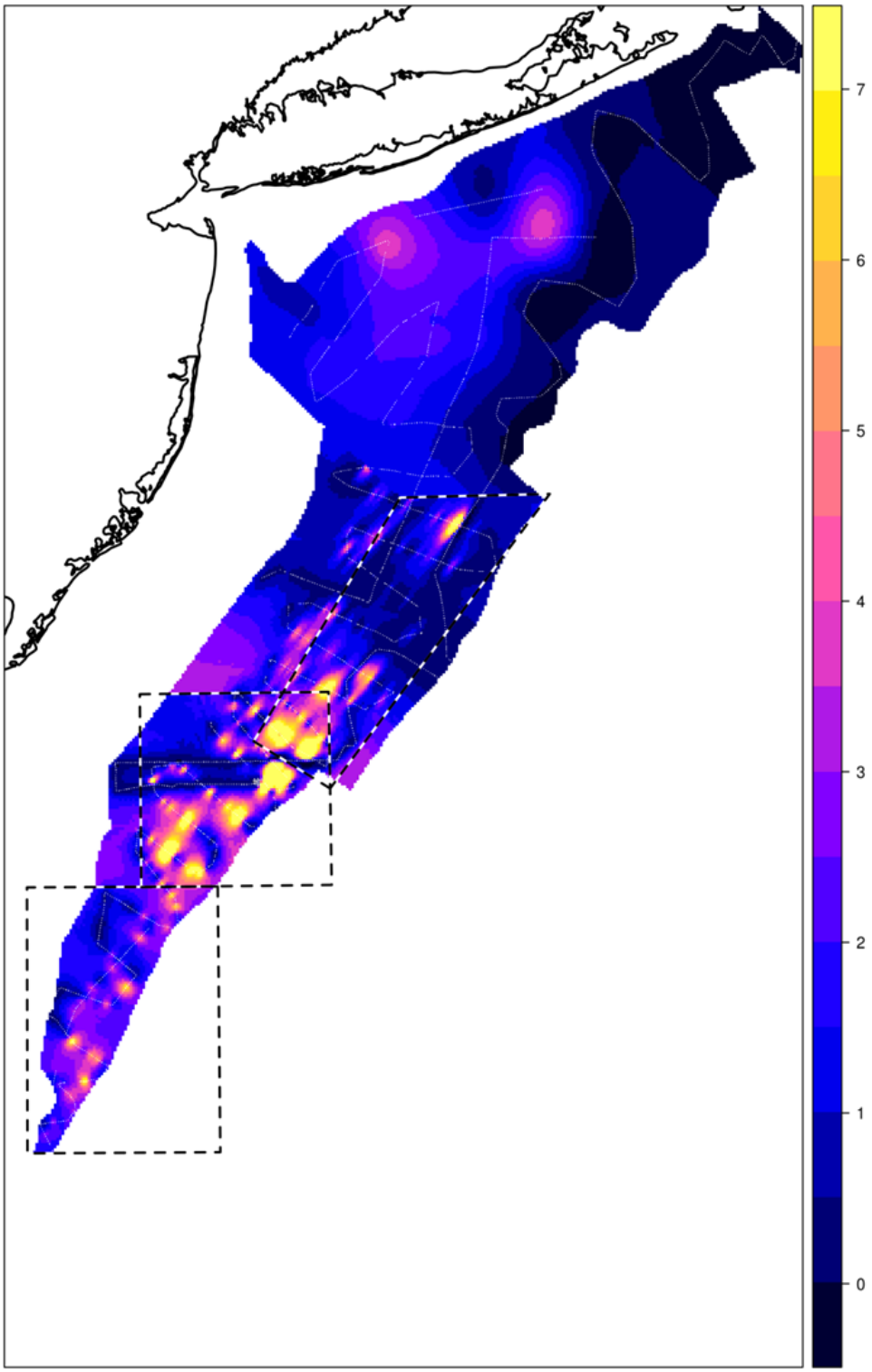
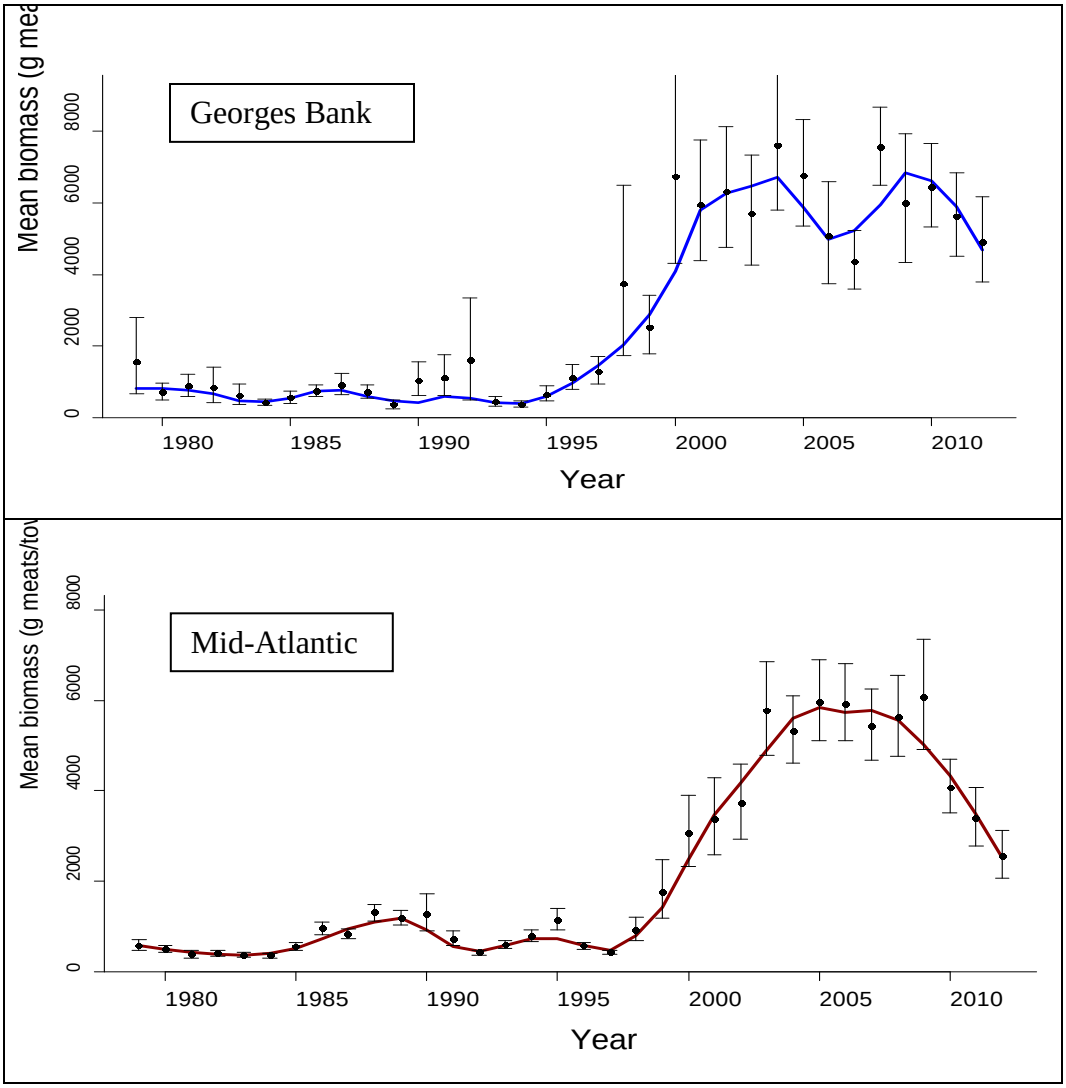


Figure 21 – NEFSC biomass survey indices (through 2012)



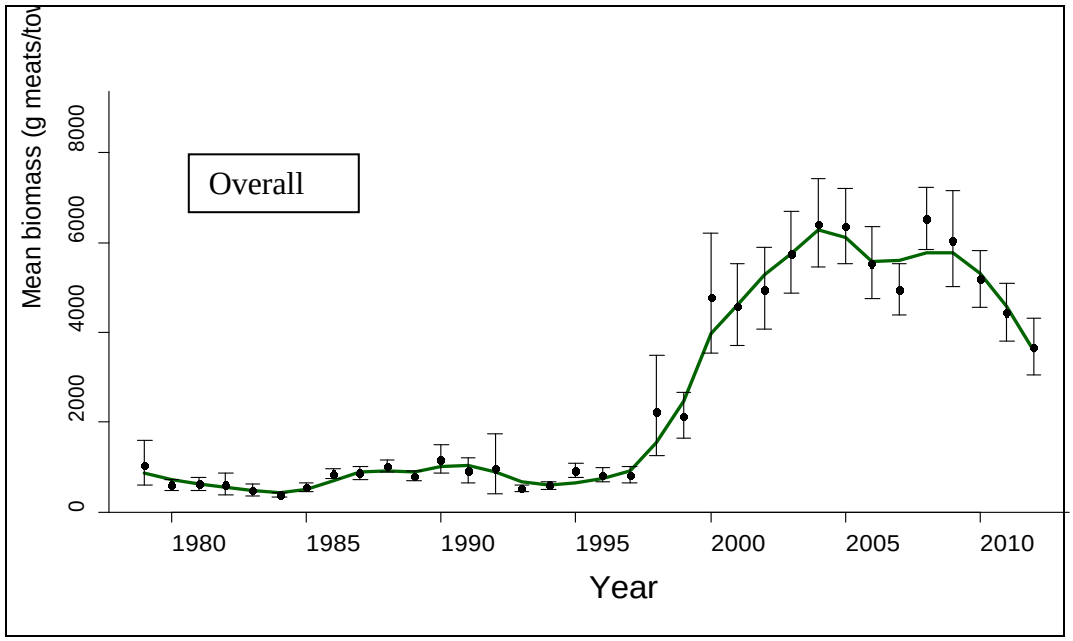

Mean biomass (g meats/to
0
2000
4000
6000
8000
Overall
1980
1985
1990
1995
2000
2005
2010
Year

Table 23 – Summary of biomass estimates by SAMS area (2013 surveys)

Mid-Atlantic Bight	Dredge	SE	Habcam	SE	SMAST	SE	Mean	SE
Hudson Canyon South	7839	1126	7528	1097			7684	786
Delmarva	4559	605	6067	655	6249	803	5625	400
Elephant Trunk	14317	1758	19063	1993			16690	1329
Inshore of ET	109	421	868	825			489	463
Virginia Beach	1208	605	395	388			802	359
NYB/LI (includes str 21)	20662	2468	29816	2485			25239	1751
Block Island	N/S	N/S	1655	364			1655	364
TotalMA Rotational	26715	2173	32658	2367			29687	1607
TotalMA Open	21979	2575	31079	2647			26529	1847
Total MidAtlantic	**48694**	**3370**	**63737**	**3551**			**56216**	**2338**
Georges Bank								
Closed Area I Acc	494	108	3340	401			1917	208
Closed Area I NA	16940	5750	4553	747			10747	2899
Closed Area II Acc	5552	1042	9845	1221	5148	1049	6848	639
Closed Area II NA	9041	1220	8497	765			8769	720
NLS Acc	3271	342	4098	584			3685	338
NLS NA	90	28	N/S	N/S			90	28
S Channel	11711	2842	13496	1130			12603	1529
Southern Flank	5704	1197	11445	1946			8575	1142
Northern Edge	4425	580	3160	537			3793	395
Total GB Clsd/Acc	35389	5980	30333	1771			32861	3119
Total GB Open	21840	3138	28101	2313			24970	1949
Total Georges Bank	**57229**	**6754**	**58434**	**2913**			**57027**	**7899**
TOTAL	**105923**	**7548**	**122171**	**4593**			**113242**	**8238**

Table 24 – Summary of biomass estimates by SAMS area (2012 surveys)

			Summary of 2012 Survey Results							
	Dredge		SMAST Video		Habcam		Mean	SE	IVM	SE
MidAtlantic	**Bms(mt)**	**SE**	**Bms(mt)**	**SE**	**Bms(mt)**	**SE**				
Delmarva	2299	220	4762	674	3005	798	3355	356	2566	202
HCSAA	6791	530	6532	1082	7139	642	6821	455	6882	382
ET	4570	803	7021	1419	8130	847	6574	612	6366	539
VB	102	55	NS	NS	NS	NS	102	55	102	55
NYB	11803	2084	4673	810	8750	1015	8408	819	6728	606
LI	13196	1273	13053	1147	10351	185	12200	575	10476	181
Stratum21	2077	265	2632	709	1540	426	2083	290	1992	214
Block Island	NS	NS	1803	463	821	NA	1803	463	1803	463
MidAtl	**40837**	**2648**	**40476**	**2516**	**39736**	**1736**	**41346**	**1418**	**36915**	**1068**
									40169	**1257**
Georges Bank										
CL1ACC	4431	716	5789	1180	3054	356	4425	475	3494	307
CL1NA	1768	729	6990	3572	10230	877	6330	1250	5266	554
CL-2(N)	11207	1233	14921	4036	8183	2240	11437	1593	10799	1044
CL-2(S)	7007	1110	6014	1000	7404	707	6808	551	6955	512
NLS-Access	8598	699	4401	722	4434	324	5811	352	5062	273
NLS-NA	23	13	2412	857	NS	NS	2412	857	2412	857
SCC	12420	1353	10873	2610	10230	877	11174	1023	10878	708
SCH	6924	1011	11370	3649	14195	1201	10830	1324	10002	757
NEP	4004	1163	3933	983	5836	481	4591	532	5291	405
SEP	1027	124	2226	390	7111	NA	2226	390	2226	390
Georges Bank	**57408**	**2916**	**68930**	**7345**	**70677**	**2994**	**65672**	**2953**	**62385**	**1988**
									64248	**2009**
Total	**98246**	**3939**	**109406**	**7764**	**110413**	**3460**	**107018**	**3276**	**99299**	**2257**
									104417	**2370**

4.1.1.3 Northern Gulf of Maine

The last survey of the federal portion of NGOM management area was completed in 2012 from 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 22 - Figure 24). 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 level of scallop fishing in federal waters in the NGOM remains very low; catches have been about 8-15,000 per year since 2008 when the limited access NGOM fishery was first implemented.

Figure 22 – NGOM estimate of biomass from 2012 NGOM dredge survey

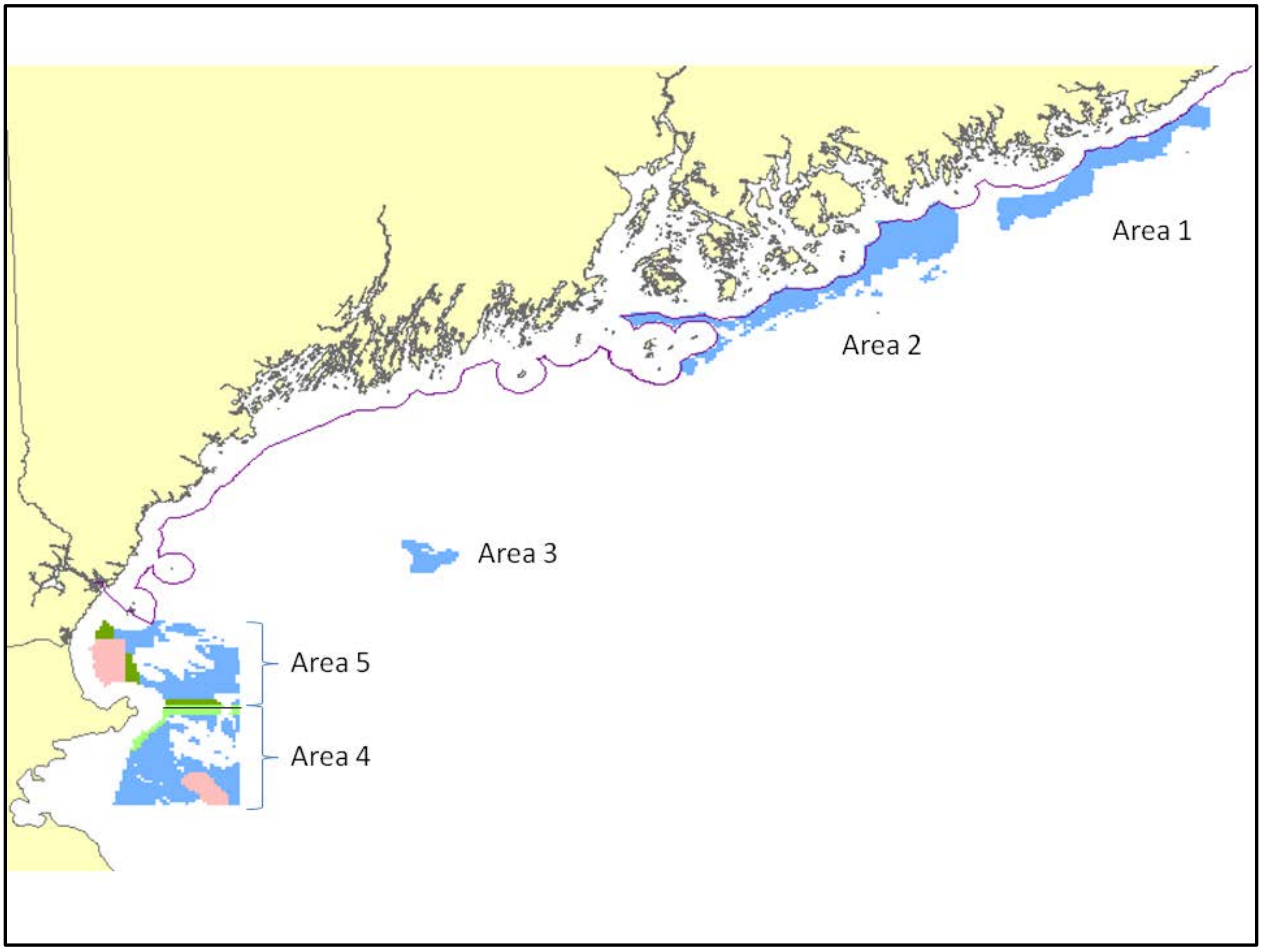


Figure 23 – Mean biomass per survey area within NGOM

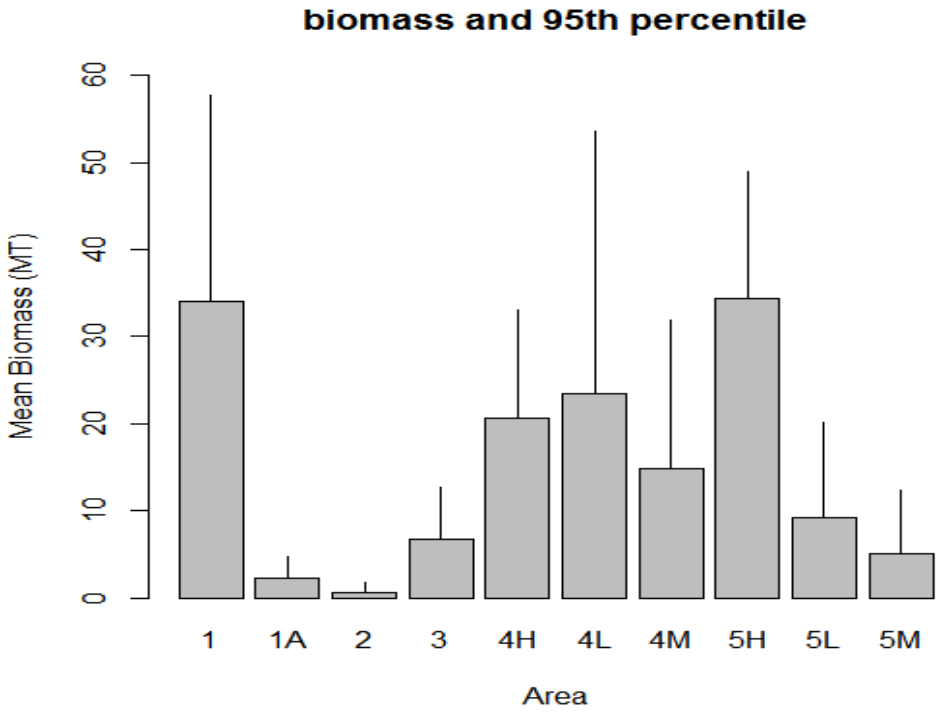
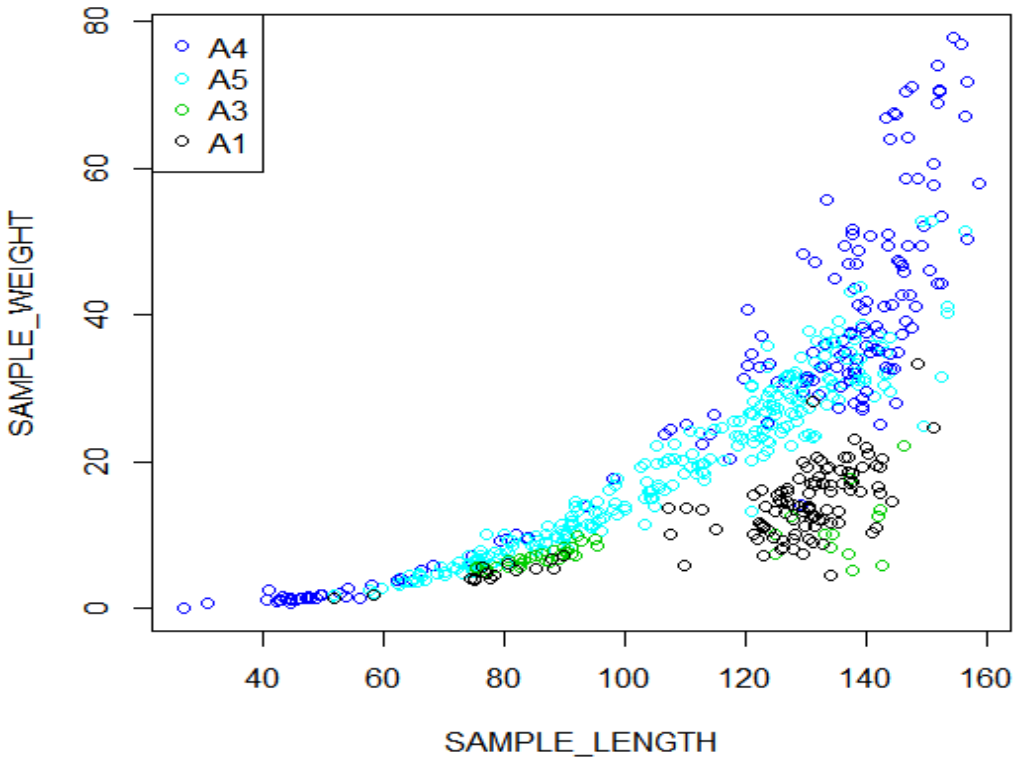


Figure 24 – Individual shell height meat weight relationships by survey area (1, 3, 4, and 5)

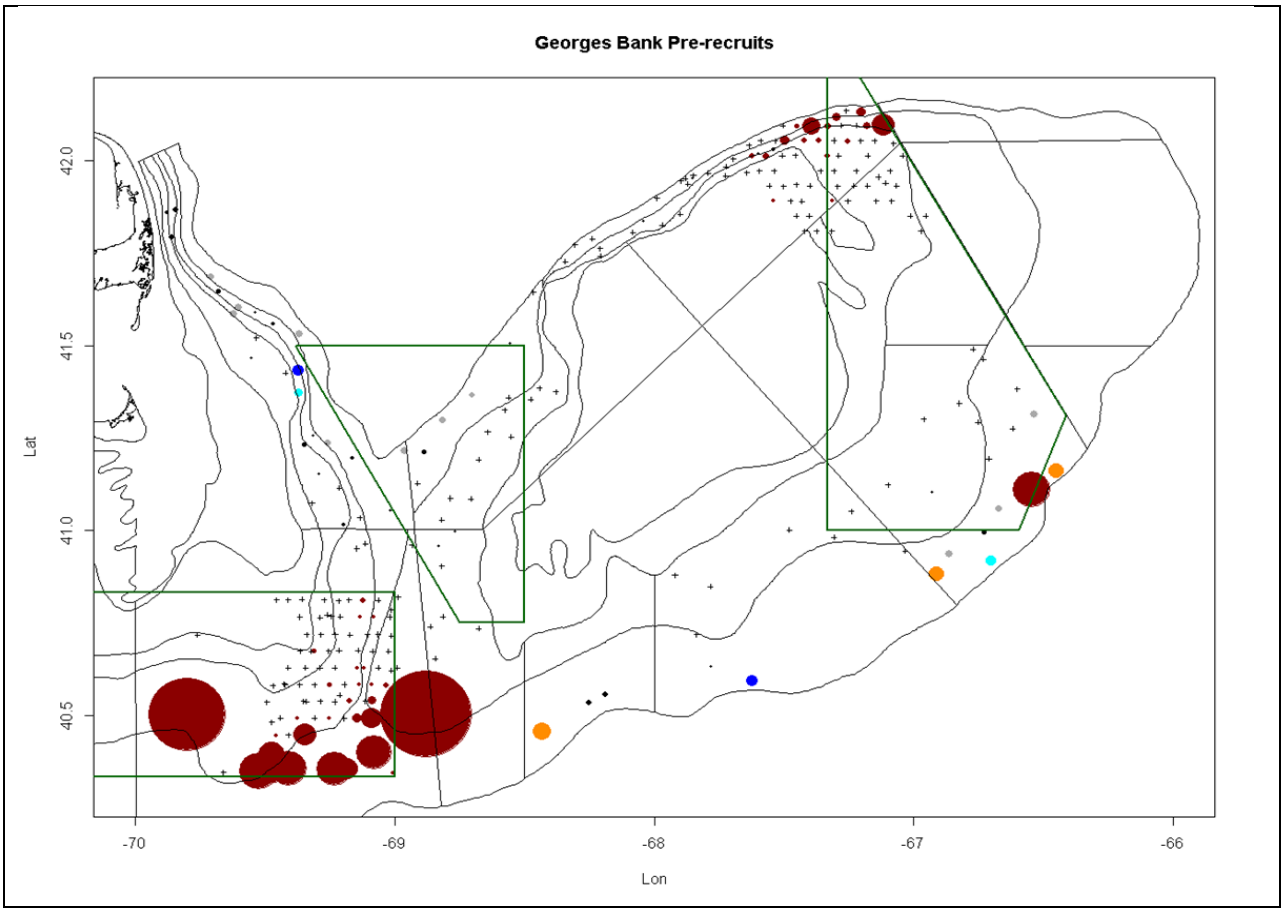


4.1.2 Recruitment

Recruitment was strong on GB for several years (2008-2010) but declined with very little signs of recruitment in 2011 and 2012. However, in 2013 a very large number of small scallops were observed in and around the Nantucket Lightship access area (Figure 25). The largest tow on record from the NEFSC dredge survey database was collected just east of the access area, over 60,000 scallops in one tow. It is very difficult to get a quantitative estimate of biomass from scallops this small. Many are assumed to escape the survey gear.

Recruitment in the MA was unusually high during 1998-2008. MA recruitment then declined for several years, but improved again in 2011 and 2012. According to all 2012 survey results, recruitment was very widespread in the MA and dense in all MA access areas, especially ETA. There was some concern that these high levels of recruitment would not materialize, but many two year old scallops are still present (**Figure 26**). Overall, recruitment in 2013 is still relatively high (**Figure 27**).

Figure 25 – Recruitment on GB from 2013 NEFSC and VIMS dredge surveys combined (TOP) and NEFSC habcam survey (BOTTOM)



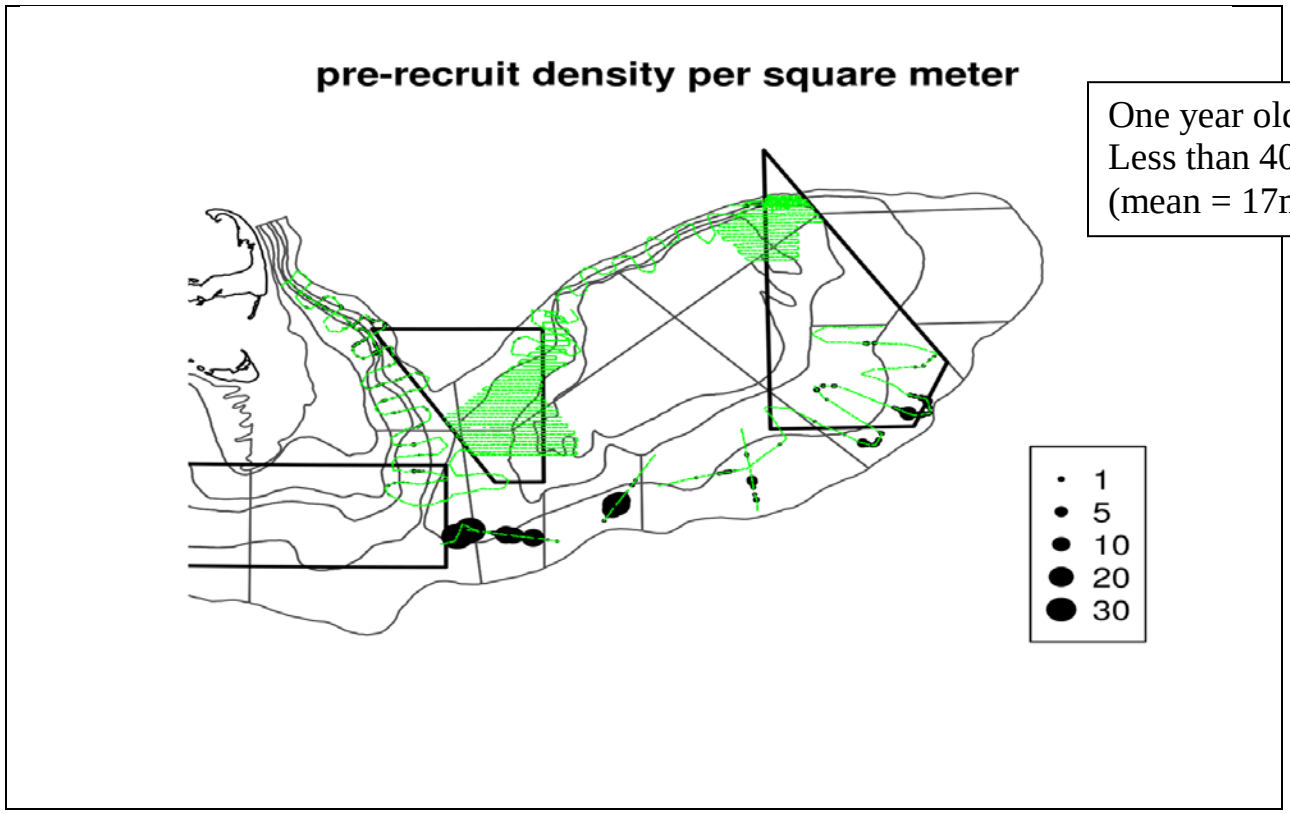


Figure 26 Two year old recruit density in MA from 2013 NEFSC optical survey

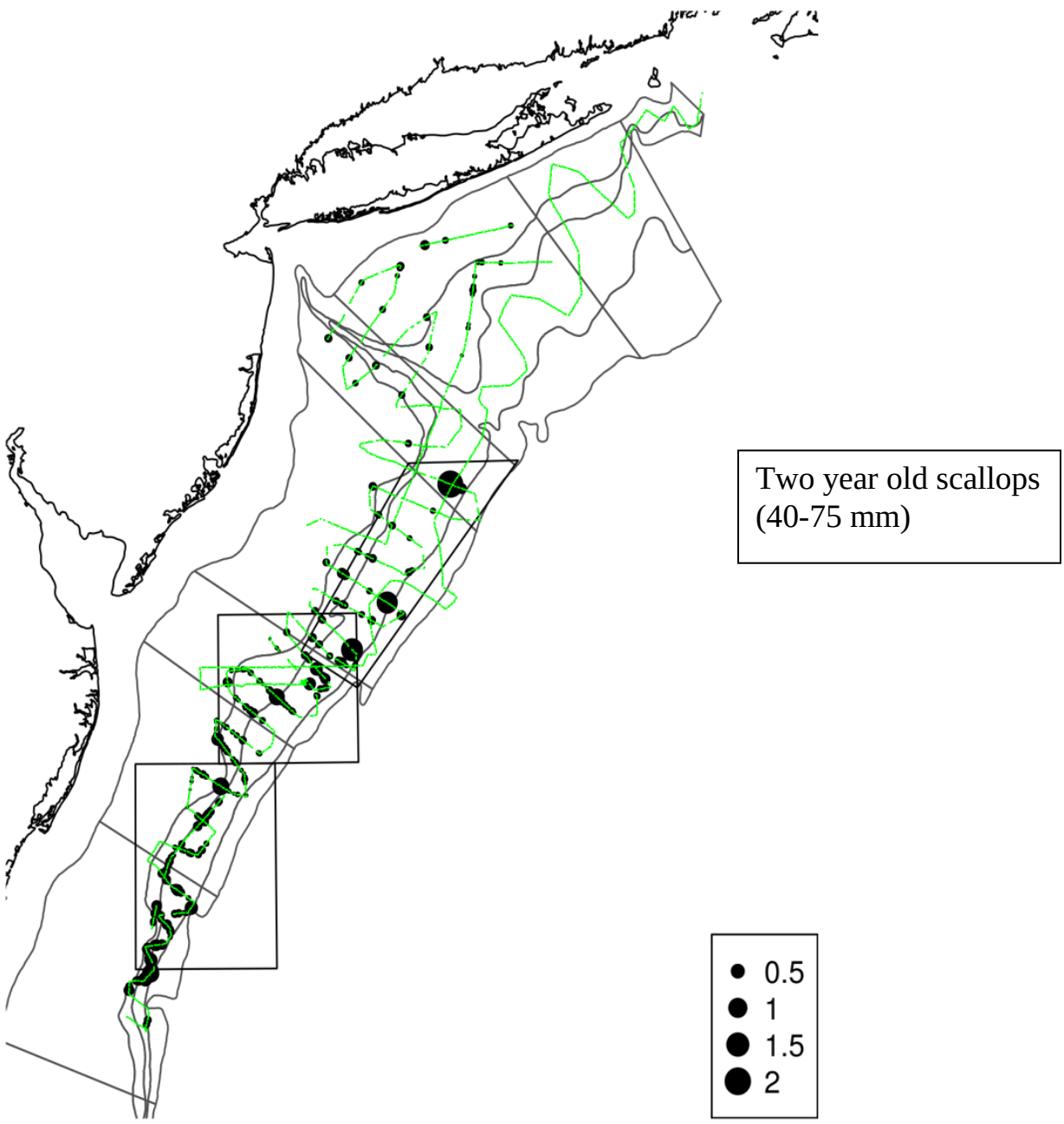
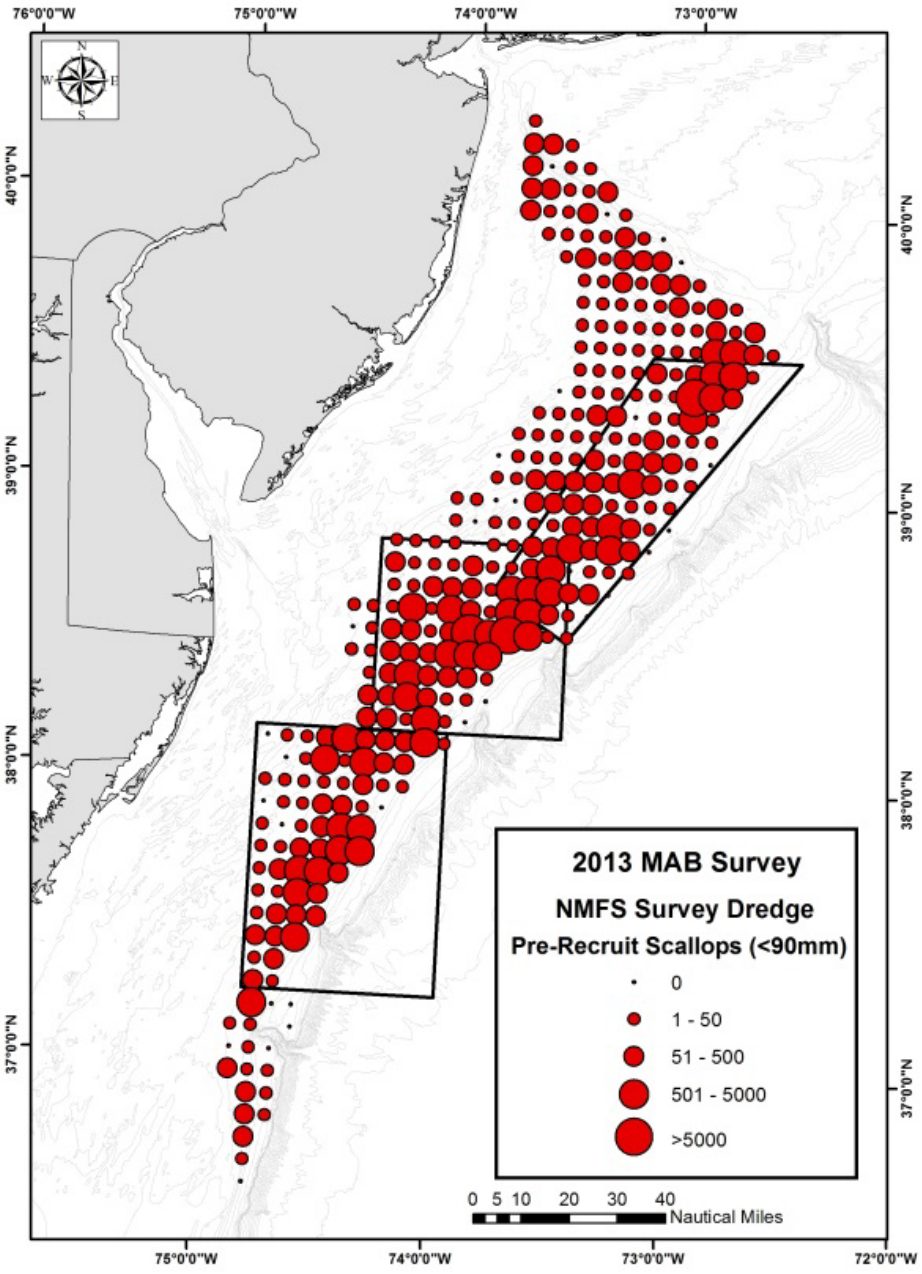

recruit density per square meter
Two year old scallops
(40-75 mm)
0.5
1
1.5
2

Figure 27 – 2013 Abundance of small scallops (pre-recruits less than 90mm) from the VIMS survey using the NMFS survey dredge



4.1.3 Fishing mortality and status of the stock

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 last benchmark 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, is 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 12). Figure 13 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 12 - 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

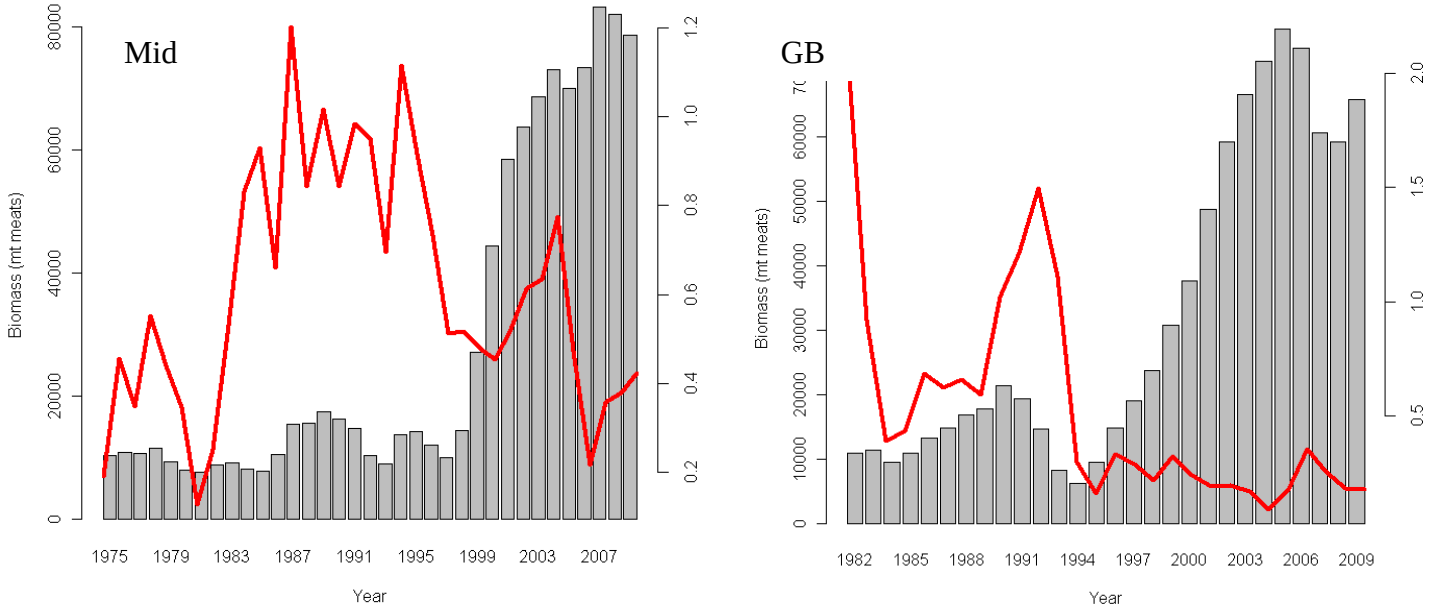
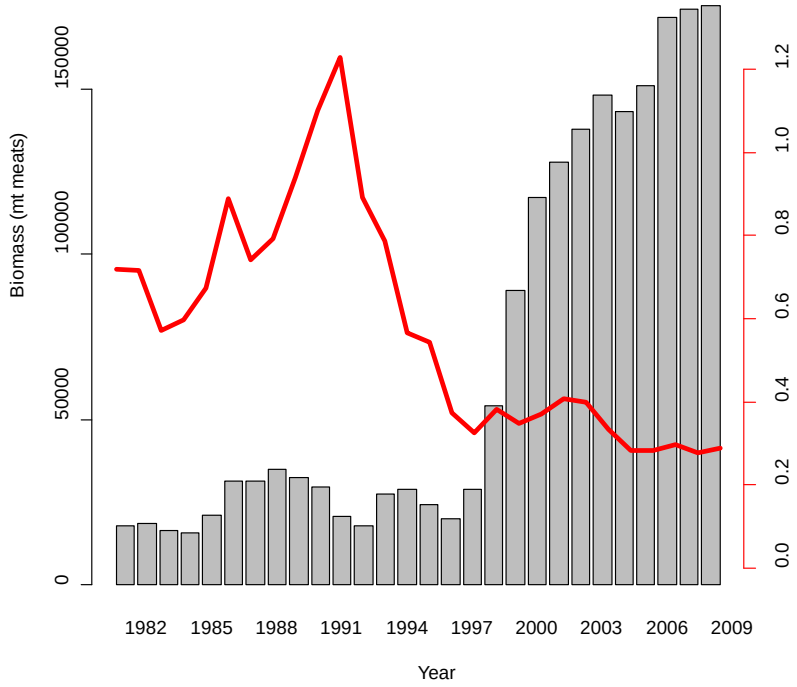


Figure 13 - Fishing mortality (red line) and biomass estimates (y^{-1}, gray bars) from the CASA model for sea scallop resource overall (Georges Bank and Mid-Atlantic combined) through 2009



The Scallop PDT met in May 2013 to review updated biomass and fishing mortality estimates developed for Framework 25. The results are not an official stock status update, but were completed for the purposes of setting fishery allocations for FY2014-2015 in Framework 25. 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) surveys, as well as complete FY2012 fishery data. Habcam surveys were not used in CASA estimate for 2012, but will likely be included next year.

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. Since the last benchmark assessment (2010) three full years of observer, survey and fishery data have been added 2010-2012. Total biomass in MA and GB are almost unchanged from 2011, but exploitable biomass is down in MA. The total biomass estimate for 2012 is over 100,000 mt, well above the overfishing threshold of 62,679 – therefore, the stock is not overfished.

Fishing mortality increased on GB, and fishing effort shifted there from the MA for the first time since 2006. Fishing mortality increased in MA as well, MA catch declined but estimated F is actually higher because there is less exploitable biomass is in that area overall. Therefore, the estimate of overall F increased compared to recent years (0.377). This estimate is just below the overfishing threshold of 0.38 so overfishing is not occurring. Total F was about 0.32 in 2010 and 0.33 in 2011.

Table 25 – 2012 sea scallop stock status – overfishing is not occurring and the resource is not overfished

	Total 2012 Estimate	Stock Status Reference Points
Biomass (in 1000 mt)	119	½ Bmsy = 62,679
F	0.377	OFL = 0.38

Figure 30 – CASA estaimte of biomass through 2012

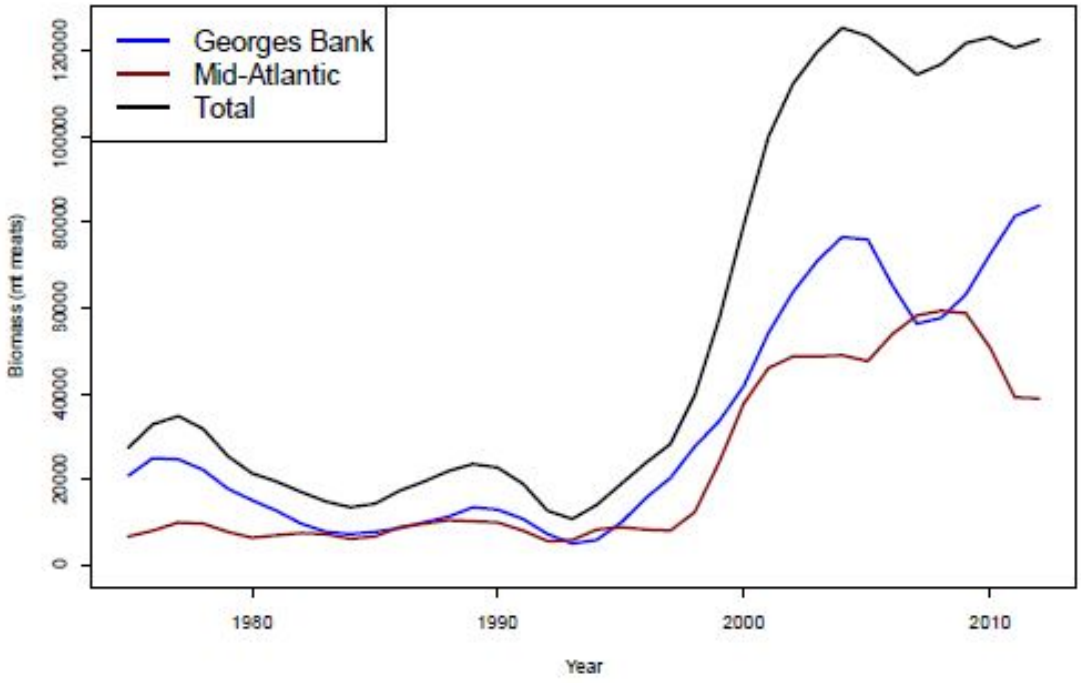
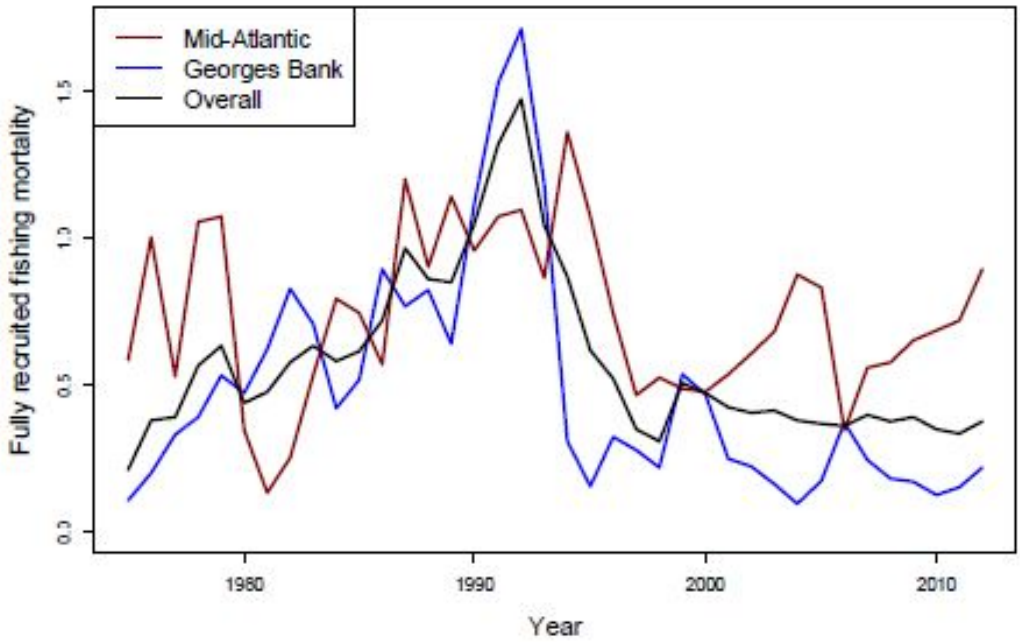


Figure 31 – CASA estimte of fishing mortaltiy through 2012



4.2 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).

4.2.1 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 32**). 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 (including limited access general category landings by LA vessels, and vessels with incidental and NGOM permits), 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 2012 from its levels in 2010 due to a higher projected catch and a higher ACT for all permit categories.

Figure 32. Scallop landings by permit category and fishing year (in lb., dealer data)

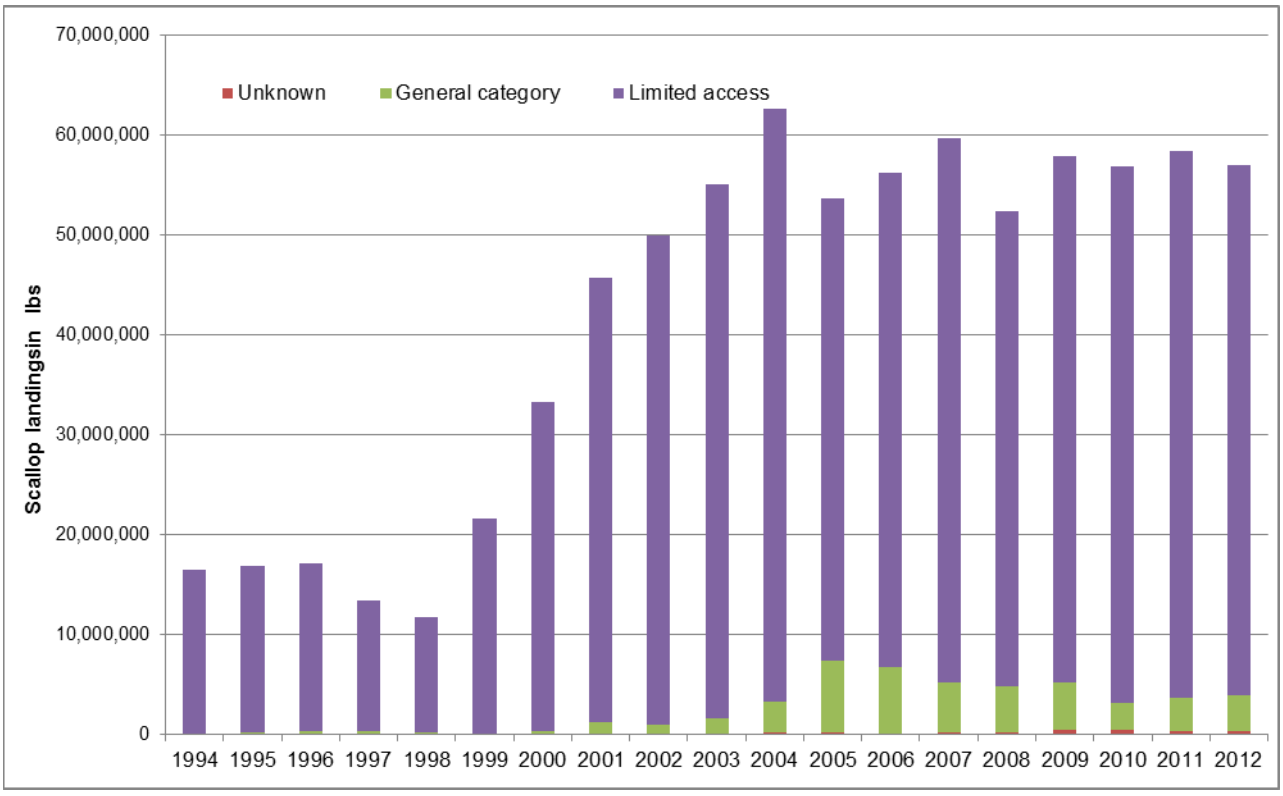
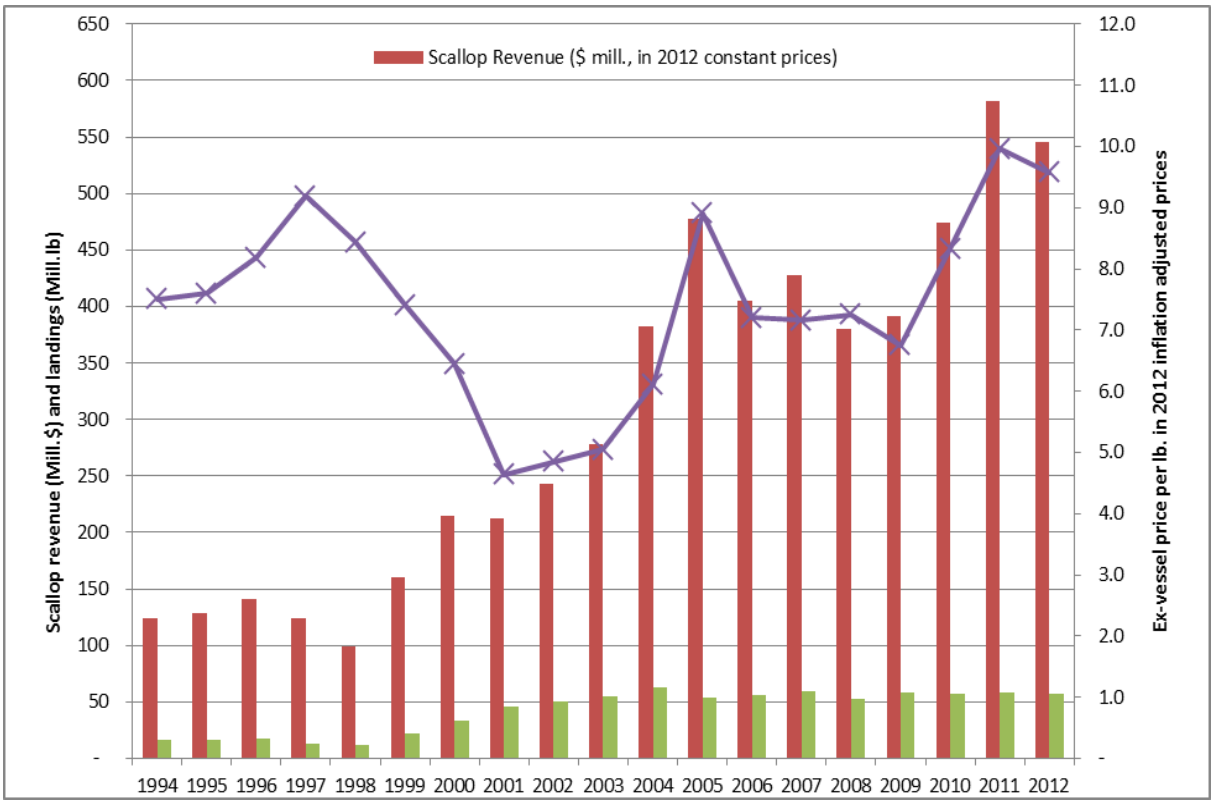


Figure 33 shows that total fleet revenues more than quadrupled in 2011 ($582 million) fishing year from its level in 1994 ($123 million, in inflation adjusted 2011 dollars). Scallop ex-vessel prices increased after 2001 as the composition of landings changed to larger scallops that in general command 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 33). 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 significantly to about $10 per pound of scallops in 2011 fishing year, 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 33**). Total scallop revenue for the fleet declined to $546 million in 2012 fishing year as a result of the drop in price and landings.

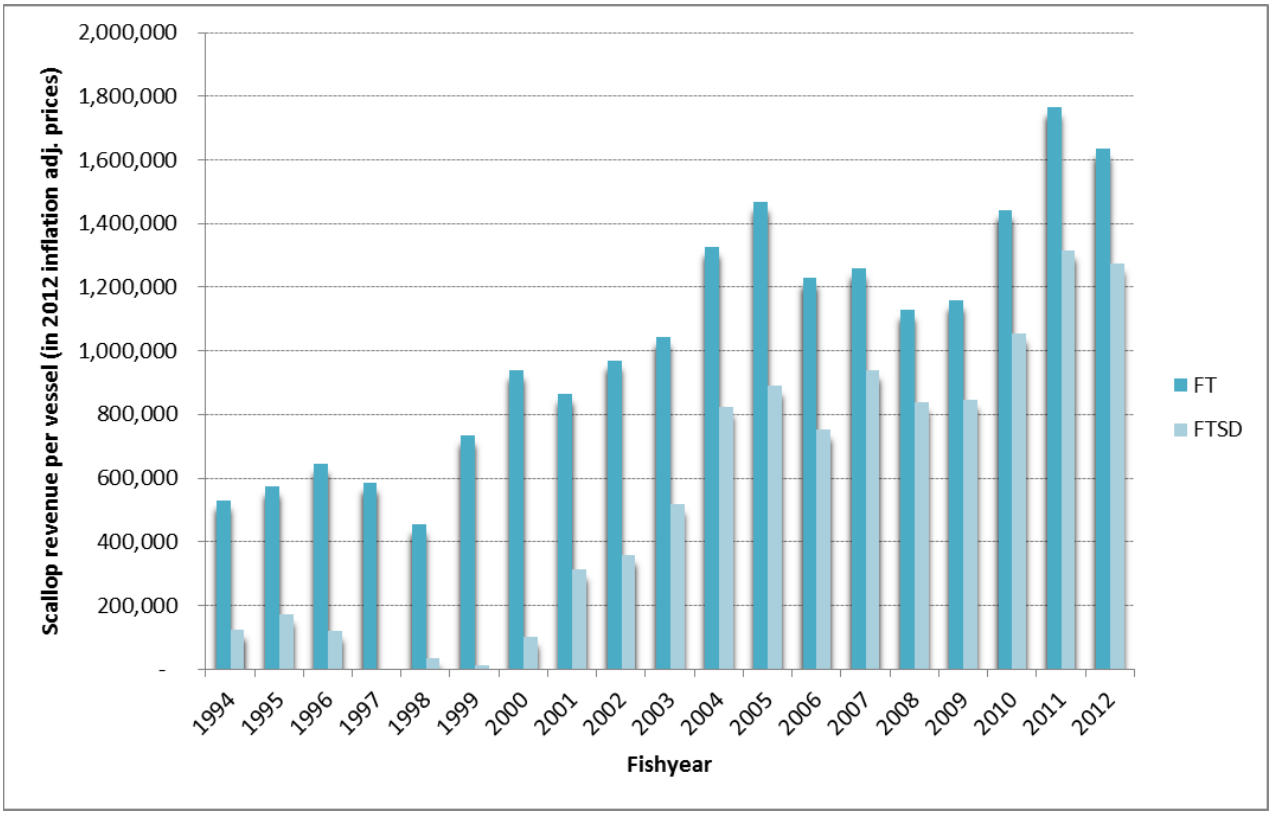
Figure 33. Trends in total scallop landings, revenue and ex-vessel price by fishing year (including limited access and general category fisheries, revenues and prices are expressed in 2011 constant prices)



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 $530,000 in 1994 to over $1,764,000 in 2011 as a result of higher landings combined with an increase in ex-vessel price to about $10.00 per pound of scallops. In 2012 fishing year, average annual revenue per full-time dredge vessel amounted to about $1,634,000 and average annual

revenue per full-time dredge vessel was about 1,275,000, slightly down from the levels in 2011 fishing year (Figure 34).

Figure 34. Trends in average scallop revenue per full-time (FT) and full-time small dredge (FTSD) vessel



Although general category landings declined after 2009, the revenue per active limited access general category vessel increased in 2012 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 26. Estimated Average annual revenue per limited access general category vessel (includes LA vessels with LAGC permits, Dealer Data)

Values	Fishyear	IFQ	INCI	NGOM
Number of permits	2009	231	73	12
	2010	179	67	12
	2011	170	76	15
	2012	159	88	16
Average scallop lb. per vessel	2009	18,650	2,685	2,038
	2010	13,319	2,255	595
	2011	19,608	797	757
	2012	19,992	561	1,707
Average scallop revenue per vessel	2009	116,164	16,192	12,915
	2010	117,567	18,106	4,727
	2011	202,737	7,741	6,885
	2012	203,712	5,296	12,119

4.2.2 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 35 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 35 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 35). 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 27 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 35. Total DAS-used (Date landed – Date sailed from VTR data) by all limited access vessels and LPUE

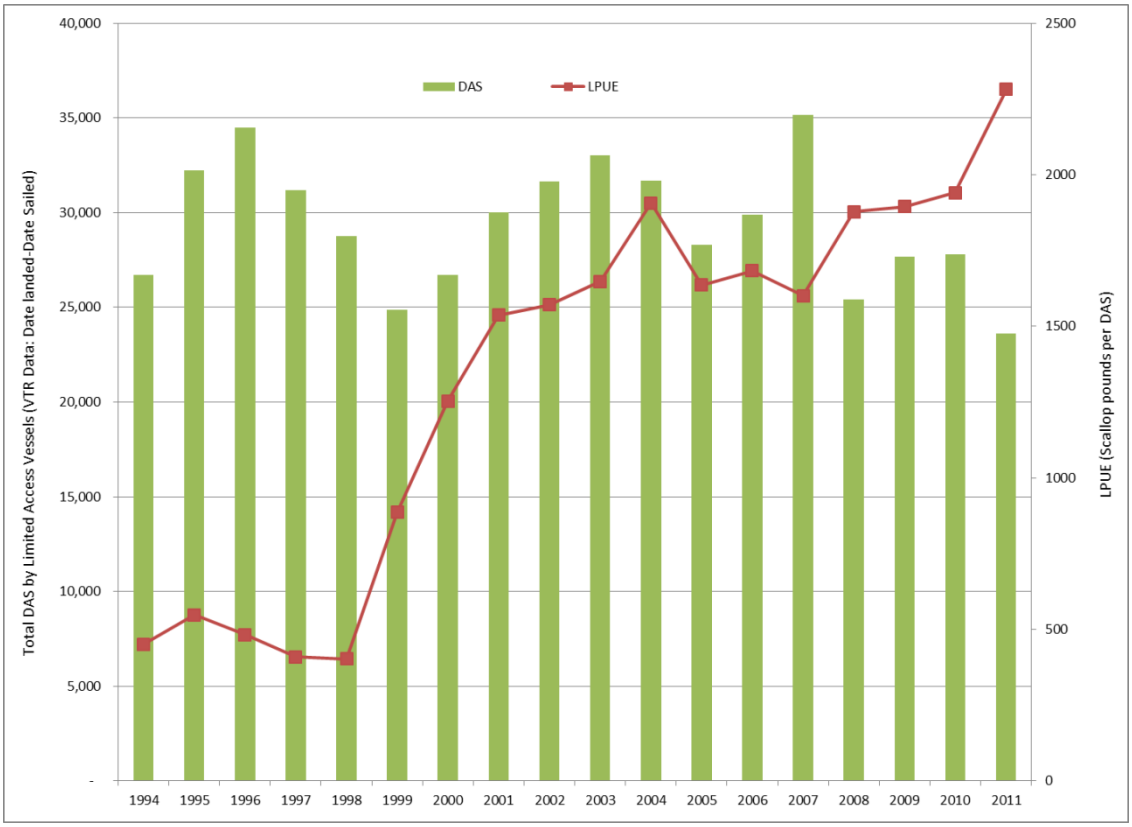


Table 27 – LPUE by area and fish year (Limited access vessels, dealer and DAS data)

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

4.2.3 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, to about 15% in 2009-2011 and to 19% in 2012 fishing year compared to less than 10% in

2000-2004. The share of 11-20 count scallops increased from 13% in 1999 to 75% in 2012 peaking to 79% in 2011 fishing year. On the other hand, the share of 31to 40 count scallops declined from 23% in 1999 to 1% or less since 2008 (

Table 28) and the share of 41 + count scallops declined to near 0% since 2001 from 14% in 1999.

Larger scallops priced higher than the smaller scallops contributed to the increase in average scallop prices in recent years despite larger landings (Table 29**).** 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. It seems that the premium for the U10 scallops increased a little in 2012 relative to the prices of smaller scallops.

Table 28. Size composition of scallops

Fishyear	UNDER 10 COUNT	11-20 COUNT	21-30 COUNT	31-40 COUNT	41+ COUNT
1998	2%	23%	28%	19%	28%
1999	19%	13%	31%	23%	14%
2000	8%	22%	47%	22%	2%
2001	4%	26%	59%	11%	0%
2002	5%	16%	74%	5%	0%
2003	7%	25%	64%	4%	0%
2004	9%	49%	42%	1%	0%
2005	14%	62%	22%	2%	0%
2006	25%	54%	20%	1%	0%
2007	26%	57%	13%	4%	0%
2008	24%	55%	20%	1%	0%
2009	15%	63%	22%	0%	0%
2010	16%	65%	20%	0%	0%
2011	15%	79%	6%	1%	0%
2012	19%	75%	6%	0%	0%

Table 29. Price of scallop by market category (in 2012 inflation adjusted prices)

Fishyear	UNDER 10 COUNT	11-20 COUNT	21-30 COUNT	31-40 COUNT	41+ COUNT
1998	10.2	9.2	8.9	8.5	7.5
1999	8.2	8.3	7.7	7.0	6.4
2000	9.1	6.9	6.1	6.2	6.4
2001	7.6	4.8	4.5	4.6	4.5
2002	7.0	5.1	4.8	5.5	4.7
2003	6.1	5.1	5.1	5.7	5.4
2004	7.3	6.3	5.9	6.1	7.2
2005	9.2	9.1	9.0	8.8	9.5
2006	6.7	7.5	7.9	7.8	6.5
2007	7.6	7.3	7.0	6.5	5.6
2008	7.6	7.3	7.2	7.0	5.8
2009	8.5	6.6	6.5	6.2	6.8
2010	11.0	7.9	8.6	8.9	6.9
2011	10.4	10.1	10.5	10.0	8.4
2012	10.2	9.7	9.8	9.7	NA

4.2.4 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 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 30).

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 31).

Table 30. Scallop Permits by unique right-id and category by application year

Permit category	2009-2012
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 31. LAGC Permits (may include duplicate records for replaced vessels with different permit numbers)

Permit Category	Application Year	LA and LAGC permit	LAGC permit only	Grand Total
IFQ	2009	41	303	344
	2010	40	293	333
	2011	41	247	288
	2012	41	237	278
NGOM	2009	28	99	127
	2010	28	94	122
	2011	27	76	103
	2012	27	69	96
Incidental	2009	116	185	301
	2010	113	172	285
	2011	114	165	279
	2012	117	162	279
Grand Total		**733**	**2102**	**2835**

4.2.5 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).

4.2.6 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.).

4.2.7 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 1994-2012. The share of fuel costs increased amounted to about 80% of the total trip costs and average trip cost per DAS for the full-time dredge vessels amounted to over $2154 per day-at-sea in 2012 (See Table 34, Appx.I, FW24 for values in 1994-2011). However, there has been a decline in the fuel costs in the East Coast an average of 4.3% during the 2013 fishing year upto November 2013 and an increase in the food and other products by an 1.17% in the same period, it was estimated that the total trip costs for a FT dredge vessel would be about $2,085 in 2013.

4.2.8 Trends in Foreign Trade

One of most significant change 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.

4.2.9 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).

4.2.10 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.).

4.2.11 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.

4.2.12 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.).

In terms 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).

4.3 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.

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/planamen/efh_amend_2/appendices%20-%20dec2013/Appendix%20D%20-%20Swept%20Srea%20Seabed%20Impact%20approach.pdf.

During 2014, 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 2014, the action should be implemented by summer 2015.

Figure 36 – Northeast U.S Shelf Ecosystem and geographic extent of the US sea scallop fishery