

DRAFT

Framework 26 to the Scallop FMP

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

Draft Alternatives for Final Council Meeting
(Nov 20, 2014)

Post October PDT, AP, and Cmte meetings

Issues from October highlighted in yellow
List of October Committee motions on reverse page
New issues to address in Blue

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

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Initial Council Meeting: June 19, 2014
Final Council Meeting: November 2014
Submission of Preliminary EA:
Submission of Final EA:

New Committee Recommendations (from October 2014 meeting)

1. Sissenwine/Quinn
Committee agrees to add an alternative in Framework 26 that would allocate a poundage to LAGC vessels in access areas equivalent to the proportion of catch from access areas overall (Option 4) (Supports AP Motion 5).
Vote: 7:0:0, carries
2. Kaelin/Quinn
Committee clarifies the transiting provisions for new scallop access area closures under consideration in Framework 26: support status quo for GB closures (transiting allowed for NL extensions and transiting prohibited for CA2 south) and prohibit transit for all scallop vessels in ETA closure (Supports AP Motion 4).
Vote: 8:0:0, carries
3. Kaelin/Kendall
Revise Framework 26 document to allow either a flexible or lottery method of allocation for all specification alternatives, and not specify that lottery allocation be the only allocation method for specification alternatives 2 and 4.
Vote: 7:0:1, carries
4. Alexander/Preble
Clarify that the default measure in Framework 26 for FY2016 be 75% of the projected DAS, and adopt a 20 day minimum if 75% of projected DAS are less than 20 DAS (Supports AP Motion 6).
Vote: 8:0:0, carries
5. Robins/Kaelin
Recommend inclusion of an alternative in Framework26 that would allow any LA vessel on an open area trip to declare out of fishery (DOF) with product on board and clock out at VMS demarcation line between Cape Henlopen and Cape May, NJ when bound for ports south of that area. The same requirements A-E listed under Alternative 2.8.3 should apply for this alternative as well, as clarified based on Enforcement Committee input (zero in-shell scallops on board and increased VMS polling (every 5 minutes)) (Supports AP Motion 8).
Vote: 7:0:0, carries
6. Robins/Kendall
Recommend Alternative 2.8.2 (VMS corridor) move to the considered and rejected section in Framework 26 to help facilitate analysis of the other two options in this section, as well as No Action.
Vote: 7:0:0, carries

There may be others to consider based on final Committee Meeting (November 14, 2013)

Table of Contents

1.0	Background and purpose.....	9
1.1	background.....	9
1.2	purpose and need.....	10
1.3	Summary of Scallop Fishery management plan	12
1.3.1	Summary of past actions	12
1.3.2	Summary of the scallop area rotation program.....	15
1.3.2.1	Guidelines for fully adaptive area rotation scheme	16
1.4	summary of scallop fishery specifications and various annual catch limits	19
1.4.1	Default measures for FY2015 approved in previous scallop action (Framework 25) 21	
2.0	management Alternatives Under Consideration	24
2.1	OVERFISHING LIMIT AND ANNUAL BIOLOGICAL CATCH	24
2.1.1	Alternative 1 - No Action for OFL and ABC	24
2.1.2	Alternative 2 - Updated OFL and ABC for FY2015 and FY2016 (default).....	24
2.2	fishery specifications	26
2.2.1	Overall fishery allocations	26
2.2.1.1	Alternative 1 (No Action – Default measures from Framework 25)	26
2.2.1.2	Alternative 2 (Specifications based on basic run using fishing mortality target principles in the FMP with no modifications to scallop access area boundaries)	26
2.2.1.3	Alternative 3 (Specifications based on basic run using fishing mortality target principles in the FMP with modifications to scallop access area boundaries)	28
2.2.1.4	Alternative 4 (Specifications based on basic run using fishing mortality target principles in the FMP, but reduce fishing mortality target for MA access areas lower than allowable limits to reduce incidental mortality on small scallops in those areas)	39
2.2.2	Allocation of LAGC IFQ trips in access areas	42
2.2.2.1	Option 1 – No Action – No access area trips allocated for LAGC IFQ vessels.....	42
2.2.2.2	Option 2 - Allocate fleetwide trips equivalent to 5.5% of catch per access area open to the fishery.....	42
2.2.2.3	Option 3 – Allocate fleetwide trips equivalent to 2 million pounds from access areas open to the fishery	42
2.2.2.4	Option 4 – Allocate fleetwide trips to LAGC vessels in access areas equivalent to the overall proportion of total catch from access areas compared to total catch.....	42
2.2.3	Additional measures to reduce impacts on small scallops.....	43
2.2.3.1	Option 1 – No Action – No crew limits in scallop access areas	43
2.2.3.2	Option 2 - Restrict crew limits in Mid-Atlantic access areas as an additional measure to reduce incidental and discard mortality on small scallops open in 2015	43
2.3	ALLOCATION METHOD FOR MID-ATLANTIC ACCESS AREA TRIPS in 2015 only	44
2.3.1	No Action (lottery allocation).....	44
2.3.2	Flexible allocation for Mid-Atlantic access area trips	45
2.3.3	Background on calculation of possession limit for 2015 access areas (not an alternative)	45
2.4	Adjustments to provisions related to allocating and monitoring access area trips	47
2.4.1	No Action (trip allocations continue and broken trip procedures)	47
2.4.2	Remove broken trip process and replace with prelanding reports	47

2.4.2.1	Option 1: Require vessels cross the VMS demarcation line and submit a preland within last 60 days of the fishing year in order to fish those pounds in the first 60 days of the following fishing year.	48
2.4.2.2	Option 2: Allow for all unlanded access area pounds to be carried over without any action from vessels.....	49
2.5	Measures to allow fishing in state waters after federal ngom tac is reached.....	50
2.5.1	No Action.....	52
2.5.2	All vessels with both a state scallop permit and federal NGOM permit allowed to fish in state waters after the federal TAC is reached	52
2.5.3	Revise the state water exemption program provisions to allow a state to request a specific exemption related to fishing in state waters after the NGOM TAC is reached.....	52
2.6	measures to make turtle regulations consistent.....	52
2.6.1	No Action.....	52
2.6.2	Revise season and area for turtle chain mat and turtle deflector dredge to be consistent (waters west of 71W and during the months of May through November)	53
2.7	measures to develop New Accountability measures for northern windowpane flounder and modify existing accountability measures for gb and sne/ma yellowtail flounder.....	55
2.7.1	AM for northern windowpane flounder.....	55
2.7.1.1	No Action.....	55
2.7.1.2	Reactive AM for northern WP – Seasonal gear restricted area	56
2.7.1.3	Proactive AM for northern WP – Modify the restriction on the number of rings in apron of dredge	58
2.7.1.4	Proactive AM for northern WP - Eliminate the restriction on the number of rings in apron of dredge	59
2.7.2	Modify GB and SNE/MA yellowtail flounder AMs.....	59
2.7.2.1	No Action.....	59
2.7.2.2	Reactive AM for GB YT – Seasonal gear restricted area.....	62
2.7.2.3	Proactive AM for GB YT – Modify the restriction on the number of rings in apron of dredge	63
2.7.2.4	Proactive AM for GB YT - Eliminate the restriction on the number of rings in apron of dredge	63
2.7.2.5	Reactive AM for SNE/MA yellowtail flounder – Seasonal gear restricted area 63	
2.7.2.6	Proactive AM for SNE/MA YT – Modify the restriction on the number of rings in apron of dredge	64
2.7.2.7	Proactive AM for SNE/MA YT - Eliminate the restriction on the number of rings in apron of dredge	64
2.8	measures to allow a limited access vessel to declare out of fishery on return to homeport	66
2.8.1	No Action.....	66
2.8.2	Implement an inshore transit corridor.....	67
2.8.2.1	Corridor area	67
2.8.3	Implement a separate VMS declaration code for steaming back to port	68
2.8.4	Implement a separate VMS declaration code for steaming back to port south of Cape May only	69
2.9	modify regulations related to flaring bar provision for turtle deflector dredge	71

2.9.1	No Action.....	71
2.9.2	Modify the flaring bar provision for TDD.....	71
2.10	considered and rejected alternatives	72
3.0	reference information related to fishery specifications (council action and analyses not required).....	72
3.1	update reference points based on recent benchmark assessment results	73
3.2	Specifications for LAGC Incidental catch vessels.....	73
3.3	TAC set-asides for observer and research programs	74
3.3.1	Research Priorities for 2015.....	75
3.4	Updated projections of flatfish bycatch (YT and WP)	78
4.0	AFFECTED ENVIRONMENT – SEE SEPARATE DOCUMENT #2-	78
4.1	ATLANTIC SEA SCALLOP RESOURCE	78
4.2	Physical Environment and Essential Fish Habitat	78
4.3	Protected Resources	78
4.4	ECONOMIC AND SOCIAL TRENDS IN THE SEA SCALLOP FISHERY.....	78
4.5	Non-Target Species.....	78
5.0	IMPACTS OF ALTERNATIVES UNDER CONSIDERATION – SEE SEPARATE DOCUMENT #3	78
6.0	COMPLIANCE WITH APPLICABLE LAW	78
7.0	Glossary	78
8.0	literature cited	78
9.0	index.....	78

Appendices

Table of Tables

Table 1 – Summary of the purpose and need for measures developed in Framework 26 including section number with specific alternatives	11
Table 2- General management structure for area rotation management as implemented by Amendment 10.....	16
Table 3 - Example of ramped fishing mortality targets for re-opened areas, compared to mortality targets with no rotation and simple rotation with constant fishing mortality targets when re-opened.....	19
Table 4 - ACL related values and allocations for 2015 (default measures approved in FW25)...	23
Table 5 – Summary of FY2015 default allocations for LA vessels (approved in FW25)	23
Table 6 – Summary of OFL and ABC FY2014 (default) values approved by the SSC in Framework 24 (in metric tons)	24
Table 7 – Proposed OFL and ABC for FY2015 and 2016 (default) reviewed by the SSC (in mt)	25
Table 8 – Final OFL and ABC for FY2015 and 2016 (default) for Framework 26 (in mt)	25
Table 9 – Summary of ACL related values for the scallop fishery based on updated OFL and ABC values approved by the SSC	25
Table 10 – Potential boundaries of Closed Area II scallop access area extension	30
Table 11 – Potential boundaries of Nantucket Lightship scallop access area extension	30
Table 12 – Potential boundaries of 7 ten minute square closure within Elephant Trunk scallop access area.....	31
Table 13 – Potential boundaries of 6 ten minute square closure within Elephant Trunk scallop access area.....	31
Table 14 – Summary of overall specification alternatives.....	41
Table 15 – Summary of alternative under consideration for LAGC IFQ trip allocations in access areas in FY2015.....	43
Table 16 – Summary of trip allocations for full-time and part-time limited access vessels.....	44
Table 17 – Summary of various model assumptions and associated catches for 2015 catch estimates.....	46
Table 18 – Summary of various model assumptions and associated catches for 2015 catch estimates assuming 2 million pound catch from access areas for LAGC.....	47
Table 19 – Area “TAC” in million pounds compared to actual landings per access area (LA vessels only).....	49
Table 20 – Summary of NGOM scallop catch.....	51
Table 22 – YT AM seasons for LA fishery	61
Table 23 – YT AM season for LAGC IFQ dredge fishery	61
Table 24 – Summary of 2014 observer set-aside by area – will update after final areas are known	75

Table of Figures

Figure 1 – Scallop management areas (past and present).....	14
Figure 2 – Example of how catch limits are set in the Scallop FMP using FY2015, with updated reference points from the recent benchmark assessment (SARC59).....	21
Figure 3 – Potential alternatives for GB access area modification – Closed Area II – Option 1.....	33

Figure 4 - Potential alternatives for GB access area modification – Nantucket Lightship – Option 2.....	34
Figure 5 - Potential alternatives for GB access area modifications with 2014 survey data (Habcam on left and SMAST on right).....	35
Figure 6 - Potential alternatives for MA access area modification – ETA (2 options) – Option 3.....	36
Figure 7 - Potential alternatives for MA access area modification with 2014 survey data (VIMS on left and SMAST on right).....	37
Figure 8 – Projected growth rates and exploitable biomass per ten minute square using 2014 VIMS data.....	38
Figure 9 – 2012 and 2013 VTR fishing locations within the NGOM (all scallop permit types)..	51
Figure 10 – Images of turtle chain mat (left) and turtle deflector dredge (right).....	53
Figure 11 – Management areas for TDD (beige) and chain mat (hatched) regulations in the scallop fishery	54
Figure 12 – Typical Scallop dredge gear (topside of gear on top and underside on bottom)	
Gear requirements for gear restricted AM alternative highlighted in margin	57
Figure 13 – AM seasonal closed areas for SNE/MA and GB YT for limited access fishery (SNE/MA AM area is the same for LAGC IFQ dredge fishery).....	60
Figure 14 – No Action SNE/MA YT AM seasonal closed area and season for LAGC IFQ trawl fishery	62
Figure 15 Stock boundaries for windowpane and yellowtail flounder stocks	65
Figure 16 – Potential VMS corridor boundary (2 nautical miles east of VMS demarcation line from Montauk, NY to Cape Henry, VA).....	67
Figure 17 – VMS demarcation line.....	68
Figure 18 – DOF area near Cape May, NJ for vessels steaming south only	70
Figure 19 – Example of a “flaring u” bar	72

LIST OF ACRONYMS

1.0 BACKGROUND AND PURPOSE

1.1 BACKGROUND

This framework to the Scallop Fishery Management Plan (FMP) sets fishery specifications for fishing year (FY) 2015 and default measures for FY 2016. The New England Fishery Management (Council) decided to develop a one-year action only, including default measures for Year 2 only (FY2016). This decision was made to set specifications for one year only since another action, the EFH Omnibus Amendment, is considering changes to closed areas that may or may not have impacts on scallop fishery specifications in the future.

A benchmark assessment for the scallop resource was recently conducted in July 2014. The status of the stock was reviewed and new models and reference points were considered and approved. The final report from that assessment is expected to be available in September, and any updates will be included in this action.

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 (LA) and limited access general category (LAGC) 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) for the LA fishery;
- 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 and research set-aside program.

In addition to specifications, the Council included five additional issues to consider in this action. First, measures to allow fishing in state waters after the federal NGOM hard TAC is reached for vessels that hold a federal NGOM permit only. Second, measures to make the turtle chain mat and turtle deflector dredge requirements consistent in terms of season and area. Third, measures to develop accountability measures for northern windowpane flounder, as well as measures to modify the existing seasonal area closures accountability measures for GB and SNE/MA YT flounder sub-ACLs. Forth, measures to allow a limited access vessel to steam back to port and not be charged DAS. Finally, related to turtle deflector dredge requirements, a clarification specific to the “flaring bar”.

A benchmark assessment was recently completed for this resource (SRC59) and results are summarized in this document. There are no regulatory changes required based on the results of the assessment, but the reference points for this fishery have been updated based on the assessment (Section ???). The PDT met in August to begin developing alternatives and reviewing updated survey results from various scallop surveys conducted in 2014. There are large sets of small scallops that were observed in the 2014 scallop surveys and measures were specifically developed in this action to protect those areas under area rotation provisions (i.e. modify access areas to include new recruitment and reduce impacts on smaller scallops within existing access areas).

Framework 54 to the Multispecies FMP is considering a sub-ACL of northern windowpane flounder for 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 under consideration is ???. This allocation is based on the 90th percentile of the scallop fishery catches from 2001-2010, the years used in the last assessment of this stock.

At the September 2014 Council meeting the alternatives were prioritized due to the additional work needed to develop specific measures to protect small scallop observed in the 2014 scallop surveys. The PDT, Advisory Panel, and Scallop Committee will continue working on all these items, but priority will be given to items farther up on the list, and some of the items at the bottom of the list may need to be moved to a future action if there is not sufficient time to develop and analyze alternatives.

By consensus the committee prioritized work items in Framework 26 if the PDT is not able to complete all the analyses for November. The Council made a slight modification and split out proactive and reactive accountability measures, and agrees with the overall prioritization of items.

- 1. Specifications including modifications to scallop access areas*
- 2. Revise TDD regulations related to flaring bar*
- 3. NGOM and state water fishery issue*
- 4. Making turtle regulations consistent*
- 5. Develop proactive AMs for bycatch sub-ACLs*
- 6. Measures to allow Limited Access FT DAS off the clock on return to port*
- 7. Develop reactive AMs for Northern Window Pane flounder and revise reactive AMs for Georges Bank and SNE/MA Yellowtail flounder sub-ACLs*

*The motion **carried** unanimously on a show of hands (17/0/0).*

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 fishery ACLs and ACTs including associated set-asides, day-at-sea (DAS) allocations, general category fishery allocations, and area rotation schedule and allocations for the 2015 fishing year, as well as default measures for FY2016 that are expected to be replaced by a subsequent action.

The second need identified for this action is to reduce bycatch of northern windowpane flounder if the scallop fishery exceeds their annual limits (sub-ACL) and improve current measures in place to reduce bycatch of other flatfish species with sub-ACLs (i.e. GB YT and SNE/MA YT). The purpose is to implement AMs for northern WP, including both proactive AMs, and reactive AMs, if time permits. This action will also revise AMs already in place for GB and SNE/MA YT flounder stocks, if time permits.

The final need identified for this action is to adjust several aspects of the overall program to make the scallop management plan more effective for participants in the fishery. This action includes four distinct purposes related to the third overall management need. First, one purpose is to allow vessels with both a federal NGOM and a state water scallop permit to fish in state waters after the federal NGOM TAC is reached. Second, it may be more effective for the two turtle related regulations to have consistent boundaries to potentially reduce impacts on turtles and reduce regulatory confusion for the industry. Third, this action is considering measures to allow limited access vessels off the clock for open area trips on their return to port to potentially reduce negative impacts on vessels from ports farther away from primary open area fishing grounds. Finally, another purpose related to effectiveness for participants in the fishery is a small adjustment to a gear restriction that prohibits safe operation of dredges on some vessels (i.e. flaring bar regulations on turtle deflector dredges).

Table 1 – Summary of the purpose and need for measures developed in Framework 26 including section number with specific alternatives

Need	Purpose	Section
1. To achieve the objectives of the Scallop FMP to prevent overfishing and improve yield-per-recruit from the fishery	To set specifications for FY2015 and FY2016 (default): OFL, ABC, ACLs, LA ACT, DAS, general category allocations, and area rotation schedule and related allocations.	2.2
2. To reduce bycatch of northern windowpane flounder if the scallop fishery exceeds their annual limit (sub-ACL) and improve current measures in place to reduce bycatch of other flatfish species with sub-ACLs (i.e. GB YT and SNE/MA YT).	1. Develop AMs for the northern WP flounder sub-ACL	2.5.1
	2. Modify AMs for GB and SNE/MA YT AMs	2.5.2
3. To adjust several aspects of the overall program to make the scallop management plan more effective for participants in the fishery	1. Allow fishing in state waters after the federal NGOM hard TAC is reached for vessels that hold a federal NGOM permit only	2.3
	2. Make the turtle chain mat and turtle deflector dredge requirements consistent in terms of season and area.	2.4
	3. Allow a limited access vessel to steam back to port and not be charged DAS.	2.6
	4. Clarify regulations related to flaring bar restriction for turtle deflector dredges.	2.7

1.3 SUMMARY OF SCALLOP FISHERY MANAGEMENT PLAN

1.3.1 Summary of past actions

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.

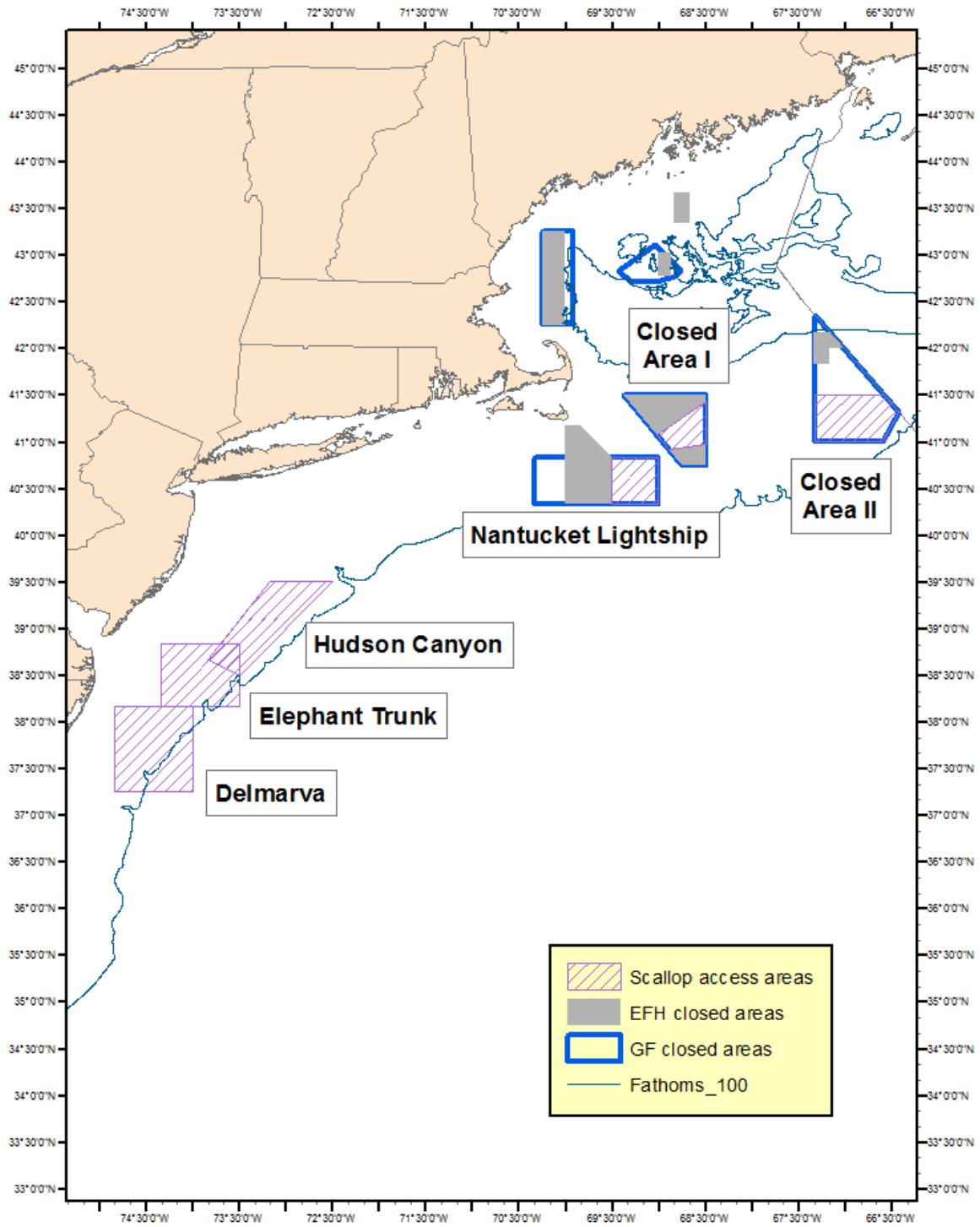
In 2004, Amendment 10 to the Scallop FMP formally introduced rotational area management and changed the way that the FMP allocates fishing effort for limited access scallop vessels.

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 1.3.2 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. A more detailed summary of the various annual catch limits and how fishery specifications are set in this fishery are described in Section 1.4.

Figure 1 – Scallop management areas (past and present)



1.3.2 Summary of the scallop area rotation program

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 FY2015, and any of these potential changes from the EFH action will only be effective during the latter part of FY2015 or the 2016 fishing year (under the current schedule); Framework 26 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.

1.3.2.1 Guidelines for fully adaptive area rotation scheme

The Council considered various approaches to area rotation in Amendment 10 and ultimately adopted an approach that provides flexibility to define future rotational areas. The final rule implemented a “fully adaptive area rotation scheme,” which allows more specific area definitions and management controls compared to the fixed-boundary alternatives considered. While the fully adaptive approach is more complicated and probably more costly to administer, it is expected to produce higher benefits by protecting small scallops during their highest growth rates. Adaptive boundaries and frequent surveys will be able to earlier and better identify concentrations of small scallops.

The fully adaptive area rotation scheme in Amendment 10 established no pre-defined conditions for area closures and reopenings, except that areas will close when the expected annual increase in exploitable biomass in an area exceeds 30 percent, and areas will re-open when the expected annual increase in exploitable biomass in an area is less than 15 percent. There are no standard closure area boundaries, dimensions, or durations. The fully adaptive area rotation scheme includes guidelines as part of the biennial framework process that should be used to establish the rotational areas, but they are not requirements for the program. The guidelines are described below for reference, but they are not binding in any way. The Council and NMFS may deviate from these guidelines to achieve optimum yield or achieve other plan objectives.

- ***Boundaries and distribution of rotational closures***

Amendment 10 set up the area rotation program to be as flexible as possible, and allow boundaries to be established in future frameworks, rather than prescribed fixed boundaries and schedules. Amendment 10 guidelines describe that the size of areas should be large enough in shape to be effective, while allowing flexibility. Amendment 10 considered five scallop management regions, each approximately 75 square nautical miles in area. The five “regions” are: Gulf of Maine, Georges Bank, South Channel, Hudson Canyon, and Southern. The boundaries are described below.

- Gulf of Maine – [all blocks north of 42°20’N].
- Georges Bank – [all blocks south of 42°20’N and east of 68°30’W].
- South Channel – [all blocks south of 42°20’N, west of 68°30’W and east of 72°30’W].
- Hudson Canyon – [all blocks west of 72°30’W and north of 38°30’N].
- Southern – [all blocks south of 38°30’N]

Overall the guidance recommends no more than one scallop rotational closure in each region at any time, except the Gulf of Maine. In that region there may be zero or one at any time. Areas indefinitely closed to scalloping are not considered rotational closures, but areas temporarily closed to scalloping by measures outside of the scallop rotational system may be considered for this purpose. Specific size minimums were described in Amendment 10 as well, suggesting that new areas should be at least six or nine contiguous ten-minute squares depending on the region.

Amendment 10 guidance also suggests maximum closure guidance. First, all closures combined should not close more than 25% of the total exploitable biomass for the entire resource when a new closure is considered. Second, new closures should not result in total area closed to scalloping (including all closed areas, not just scallop rotational areas) to exceed more than 50% of the productive blocks in a particular region, or 75% of more of the scallop biomass in a sub-region. Guidelines are included for incorporating seasonally closed areas as well.

Amendment 10 guidelines suggests that straight lines form all boundaries, and the internal angles between lines should not exceed 180 degrees. And when possible, the boundaries should follow edges of ten minute square blocks.

- ***Guidance for closures***

Rotational area closures will be implemented by ad hoc or standard framework adjustments. Identification of appropriate areas should be based on either a combination of NMFS survey and industry based surveys, or industry based surveys alone. When possible closures should be selected to include as many blocks with annual potential growth increase has been estimated to be above 30% in the absence of fishing, plus as many as possible of blocks closed in the previous year with annual potential growth of 15% or more, while incorporating as few other blocks as possible. When it is not possible to include all of the blocks with high annual potential growth, preference should be given to closing those with higher values.

Blocks abutting a block in either the Georges Bank or South Channel regions that itself meets the annual potential increase requirements of the basic rule may be included in a closure if the directions of water movement are such that dispersal of scallops into the additional block from a

closure is probable. Other blocks will only be added to closures when essential to meet the requirements of the invariable rules.

- ***Monitoring and Re-opening***

1. All closed blocks will be surveyed annually by a commercial scallop vessel with a NMFS survey dredge to determine current biomass, size composition and growth rates. These surveys will also extend over all blocks immediately adjacent to a closed one. They will also cover all blocks currently subject to re-opening TACs.
2. NMFS receives the data and calculates the “annual potential increase” of the scallops in each closed rotation area.
3. Block closures re-open on when appropriate and defined by framework adjustment or whenever the Council sets as a default opening date when the area closes, unless:
 - a: The discovery of additional seed of younger year-classes, during the period of a closure, requires extension of that closure,
 - b: The shaping of new closures requires re-opening in advance of the expected year, or
 - c: An early re-opening is made under an Emergency Action (e.g. if mass mortality of scallops in closure is suspected).No other alterations to the timing of re-opening may be made without a Plan Amendment.
4. For each re-opening, a TAC will be set, based on survey estimates (corrected for catchability) of harvestable biomass and, for most blocks, a target fishing mortality rate calculated by applying time averaged mortality calculations. The biomass estimates will include scallops in all blocks immediately adjacent to the re-opening, provided that they will be open in the coming year. Such blocks will then be subject to the same TAC control as those in the re-opened area.
5. Based on the annual fishing mortality target for a re-opened area, a TAC will be calculated and the number of trips to allocate will be determined using a scallop possession limit which the Council will determine. Controlled access day-at-sea allocations will be calculated using a DAS/possession limit tradeoff that the Council establishes.

- ***Setting Fishing mortality in access areas***

Amendment 15 to the Scallop FMP implemented the hybrid overfishing definition, which includes a method for setting fishing mortality targets for the fishery. Specification packages consider what fishing mortality rates should be set at under the principles approved in Amendment 10 and Amendment 15. For access areas, the F_{target} can fluctuate over time to allow more fishing pressure when they are open due to the increased biomass accumulated while they are closed. While the PDT does not suggest a very high F for access areas, it is suggesting that the access areas can sustain a higher F than open areas that receive constant fishing pressure. For example, the Elephant Trunk Access Area was closed for 2004-2006, receiving an F of 0.0 for those years. In 2007 when the area opened it could sustain an average F of $(2 * FMSY)$ for about three years, and then potentially close again to allow growth of recruited scallops if high recruitment levels reoccur. It is preferred that the actual target be below the threshold set by time averaging (e.g., be below $2 * FMSY$).

The time-averaging within specific areas can result in various strategies that yield similar results. Below, each row will have similar yields and biomasses for a given (unspecified) area, but the rotational strategies will have slightly higher yields (between 2% and 8% higher than constant *F*):

- 1) F, F, F ...
- 2) 0, 2F, 0, 2F ...
- 3) 0, 0, 3F, 0, 0, 3F ...
- 4) 0, 0, 0, F, 2F, 3F, 0, 0, 0, F, 2F, 3F ...
- 5) $\frac{1}{2}F, \frac{3}{2}F, \frac{1}{2}F, \frac{3}{2}F \dots$

For the most part, the strategy the PDT has used since Amendment 10 is to “ramp-up” fishing mortality targets in reopened access areas. For example, after an opening an area could be fished at 0.4 for three years, or the fishing mortality target could be set below 0.4 in year 1, at 0.4 in year 2, and higher than 0.4 in year three. Over the three years the fishing mortality targets come out the same, but the latter, “ramped up” approach is considered more risk averse and reduces variability in landings, as shown in the 4th line of the example above. The first year might be fished at a rate of 80% of the time averaged target, the second year at 100%, and the third year at 120%. This approach is consistent with the adaptive area rotation strategy considered in Amendment 10. The following table shows how this would work; the “ramped rotation” example is described on the bottom row (Table 3).

Table 3 - Example of ramped fishing mortality targets for re-opened areas, compared to mortality targets with no rotation and simple rotation with constant fishing mortality targets when re-opened.

Year	Year N	1	2	3	4	5	6	7 - N	1	All
Status	Open	CL	CL	CL	Re-open	Re-open	Re-open	Open	CL	AVG
No rotation	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Simple rotation	0.20	0.00	0.00	0.00	0.40	0.40	0.40	0.20	0.00	0.20
Ramped rotation	0.20	0.00	0.00	0.00	0.32	0.40	0.48	0.20	0.00	0.20

1.4 SUMMARY OF SCALLOP FISHERY SPECIFICATIONS AND VARIOUS ANNUAL CATCH LIMITS

Amendment 15 established a method for accounting for all catch in the scallop fishery and included designations of Overfishing Limit (OFL), ABC, ACLs, and Annual Catch Targets (ACT) for the scallop fishery, as well as scallop catch for the Northern Gulf of Maine (NGOM), incidental, and state waters catch components of the scallop fishery. The scallop fishery assessment will determine the exploitable biomass, including an assessment of discard and incidental mortality (mortality of scallops resulting from interaction, but not capture, in the scallop fishery).

Based on the assessment, OFL is specified as the level of landings, and associated *F* that, above which, overfishing is occurring. OFL will account for landings of scallops in state waters by

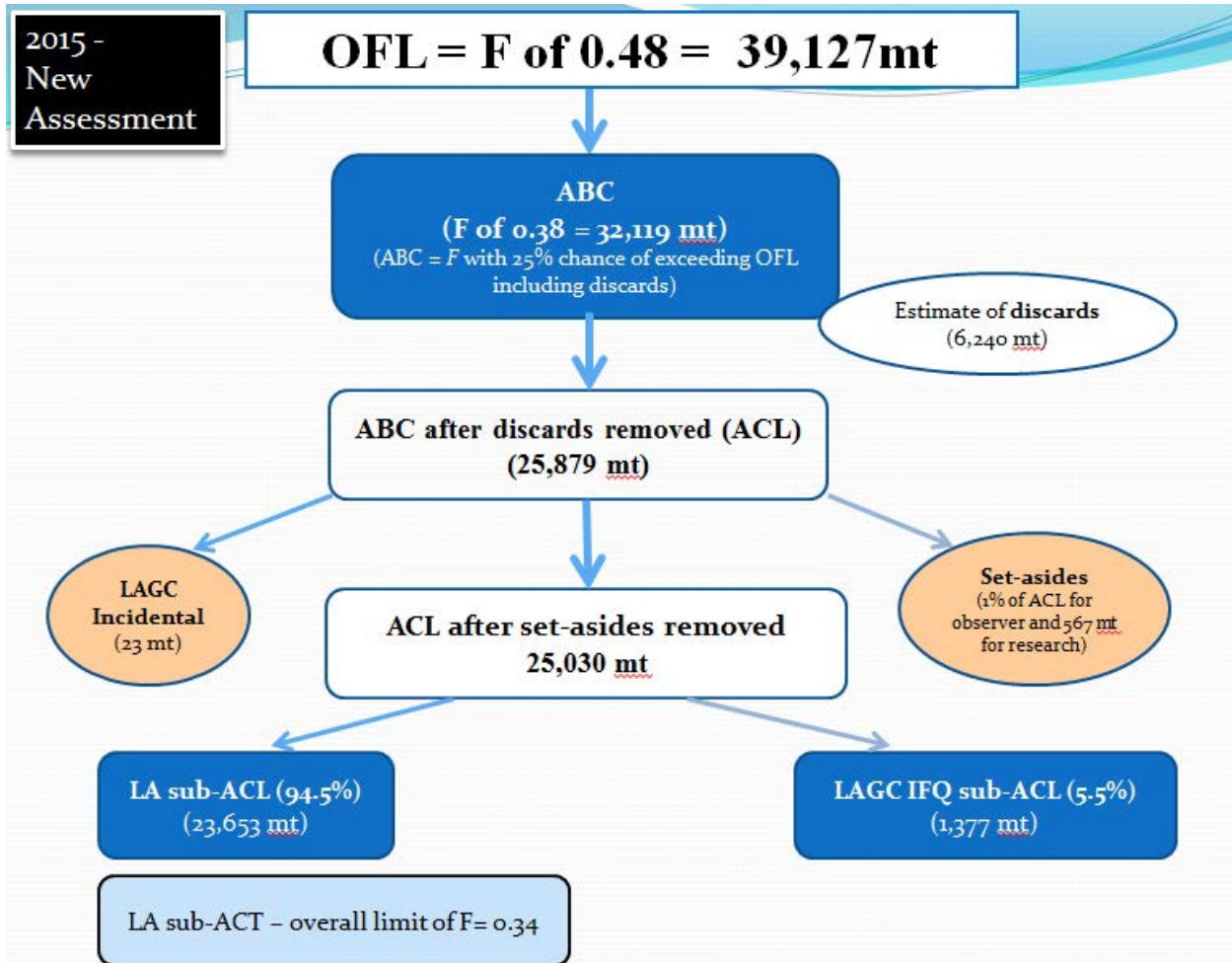
vessels without Federal scallop permits. The current assessment of the scallop fishery (SAW 50, 2010) determined that the F associated with the OFL is 0.38. The updated assessment, SARC59, approved a higher OFL equivalent to 0.48. To account for scientific uncertainty, ABC is set at a level with an associated F that has a 25-percent probability of exceeding F associated with OFL (i.e., a 75-percent probability of being below the F associated with OFL).

In the Scallop FMP ACL is equal to ABC. SAW 50 determined that the F associated with the ABC/ACL is 0.32. The updated assessment, SARC 59, approved a higher OFL; therefore, the F associated with ABC/ACL is higher as well, $F = 0.38$. Set-asides for observer and RSA are removed from the ABC (1 percent of the ABC/ACL and 1.25 M lb (567 mt) respectively). After those set-asides are removed, the remaining available 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.

To account for management uncertainty, Amendment 15 established ACTs for each fleet. For the LA fleet, the ACT will have an associated F that has a 25-percent chance of exceeding ABC. The major sources of management uncertainty in the LA fishery are carryover provisions including the 10 DAS carryover provision, and the ability to fish unused access area allocation within the first 60 days of the following fishing year. The F associated with this ACT for the LA fishery is currently estimated to be 0.28. The fishery specifications allocated to the fishery may be set at an F rate lower than this level based on available resource, but fishery specifications may not exceed this level. For example, in FY2014 several specification alternatives were considered that had various estimated of overall F ranging from 0.10 to 0.21. Again, because the updated assessment, SARC59 approved a higher OFL, the F associated with ACT is higher as well. The new ACT will be based on applying an overall fishing mortality of 0.34. For the LAGC fleet, the ACT will be set equal to the LAGC fleet's sub-ACL, since that fishery is quota managed and has less management uncertainty.

Finally, catch from the NGOM is established at the ABC/ACL level, but is not subtracted from ABC/ACL. Since the NGOM portion of the scallop fishery is not part of the scallop assessment, the catch will be added and specified as a separate Total Allowable Catch (TAC), in addition to ABC/ACL.

Figure 2 – Example of how catch limits are set in the Scallop FMP using FY2015, with updated reference points from the recent benchmark assessment (SARC59)



1.4.1 Default measures for FY2015 approved in previous scallop action (Framework 25)

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 only allocated DAS to the limited access fishery as default measures for FY2015; no access area trips were assigned to limited access vessels or general category vessels.

Therefore, if Framework 26 is delayed past March 1, 2015, scallop vessels would be restricted to fishing their FY2015 default allocations in open areas until final FY 2015 specifications are implemented. However, vessels would be able to fish FY 2014 compensation trips in the access areas that were open in FY 2014 (e.g., DMV, NLS, and CA2) for the first 60 days of FY2015 (i.e., March 1 through April 29, 2015). 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, 2015, and that may be different than the ultimate number of DAS awarded under FW26.

The default measures for 2015 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, 2015 until FW26 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 FY2015 may ultimately change based on the final sub-ACL approved in FW26. LAGC IFQ vessels are responsible to payback any overage the following year if the ultimate IFQ for FY2015 is lower than the allocation under the default sub-ACL.

If FW26 is not adopted these allocations would remain in place for all of FY2015 and beyond until replaced by a subsequent action.

Table 4 - ACL related values and allocations for 2015 (default measures approved in FW25)

	2015*
OFL	34,247 mt (75,501,724 lb)
ABC	23,982 mt (52,871,269 lb)
incidental	22.7 mt (50,000 lb)
RSA	567 mt (1,250,000 lb)
OBS	240 mt (529,110 lb)
ACL after set-asides/incidental removed (= ABC-(incidental + RSA +OBS))	23,152 mt (51,042,084 lb)
LA sub-ACL (94.5% of ACL)	21,879 mt (48,234,778 lb)
IFQ-only (5% of ACL)= sub-ACL = ACT	1,158 mt (2,552,105 lb)
IFQ + LA (0.5% of ACL)=sub-ACL=ACT	116 mt (255,210 lb)

* 2015 measures are default and expected to be adjusted based on FW26

Table 5 – Summary of FY2015 default allocations for LA vessels (approved in FW25)

	LA FT	LA PT	LA Occasional
2015	17	7	1

* Default DAS is 75% of the total DAS projected for FY2015 (23DAS)

2.0 MANAGEMENT ALTERNATIVES UNDER CONSIDERATION

2.1 OVERFISHING LIMIT AND ANNUAL BIOLOGICAL CATCH

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

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

2.1.1 Alternative 1 - No Action for OFL and ABC

Under “No Action”, the overall OFL and ABC would be equivalent to default 2015 values adopted in Framework 25 (Table 6). 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 equivalent to F_{msy} ; and 2) ABC is set at the fishing mortality rate 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. 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 6, column to the far right).

Table 6 – 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)
2015 (default)	34,247	29,683	5,701	23,982

2.1.2 Alternative 2 - Updated OFL and ABC for FY2015 and FY2016 (default)

The SSC first met on September 15, 2014 to review updated estimates of OFL and ABC for Framework 26. The PDT presented an update of stock status for 2014 as well as updated estimates of OFL and ABC for FY2015 and FY2016.

The SSC reviewed the estimates and approved the values prepared by the PDT. The values approved by the SSC are summarized in Table 7. A small error was identified in the calculation of OFL/ABC at the SSC meeting. The SSC noted that the final estimates would be adjusted slightly and the PDT revised the estimates at their subsequent meeting. The final values for OFL and ABC for this action are summarized in Table 8.

Table 7 – Proposed OFL and ABC for FY2015 and 2016 (default) reviewed by the SSC (in mt)

Year	OFL (including discards)	ABC (including discards)	Discards at ABC	ABC available to fishery = ACL (after discards removed)
2015	39,127	32,119	6,240	25,879
2016	48,489	39,836	5,964	33,872

Table 8 – Final OFL and ABC for FY2015 and 2016 (default) for Framework 26 (in mt)

Year	OFL (including discards)	ABC (including discards)	Discards at ABC	ABC available to fishery = ACL (after discards removed)
2015	38,061	31,459	6,107	25,352
2016	45,456	37,903	6,096	31,807

Once OFL and ABC are established, associated ACLs for the fishery can be defined. The table below summarizes the various ACL allocations for the fishery based on decisions made in Amendment 15 when ACLs were implemented (Table 9).

Table 9 – Summary of ACL related values for the scallop fishery based on updated OFL and ABC values approved by the SSC

	2015		2016 (default)	
	MT	lbs	MT	lbs
OFL	38,061	83,910,156	45,456	100,213,343
ABC/ACL (discards removed)	25,352	55,891,602	31,807	70,122,444
incidental	23	50,045	23	50,045
RSA	567	1,250,021	567	1,250,021
OBS	254	558,916	318	701,224
ACL for fishery	24,509	54,032,620	30,899	68,121,153
LA ACL	23,161	51,060,826	29,200	64,374,490
LAGC ACL	1,348	2,971,794	1,699	3,746,663
LAGC IFQ	1,225	2,701,631	1,545	3,406,058
LA with LAGC IFQ	123	270,163	154	340,606
LA ACT	<i>Varies based on specification alternative selected</i>			

2.2 FISHERY SPECIFICATIONS

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.

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).

The PDT has several meetings and conferences calls to finalize a range of potential specifications alternatives based on input from the AP and Committee.

2.2.1 Overall fishery allocations

2.2.1.1 Alternative 1 (No Action – Default measures from Framework 25)

Under No Action, the sub-ACL for the LA fishery would be 21,879 mt (48,234,778 lb). The specifications would include default measures approved in Framework 25 for FY2015 which are 75% of the projected DAS for that year. For full-time vessels that is equivalent to 17 DAS (75% of 23 DAS) and 7 DAS for part-time vessels. There are no access area allocations under No Action. These measures would remain in place until replaced by another action.

Under FY2015 default measures the LAGC IFQ allocation is 1,274 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 FY2015 from FW25. This alternative does not include any access area trips for LAGC IFQ vessels. On March 1, 2014 LAGC vessels will be allocated an individual quota based on default measures that will likely be different than the allocation LAGC IFQ vessels will ultimately be allocated under FW26. Similar to FY2013 and 2014, LAGC vessels will need to be aware that final allocations for FY2015 are likely to be different than allocations received on March 1, 2015 before FW26 is implemented.

No action for the NGOM hard TAC is 70,000 pounds and the target TAC for vessels with a LAGC Incidental permit is 50,000 pounds.

2.2.1.2 Alternative 2 (Specifications based on basic run using fishing mortality target principles in the FMP with no modifications to scallop access area boundaries)

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 fishery are:

- 1) fishing mortality in open areas cannot exceed F_{msy} ;
- 2) a spatially averaged fishing mortality target is limited to the value considered to the ACT for the fishery 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 FY2015 the allocations for full-time LA vessels are:

- 31 DAS for FT vessels in open areas (when open area F is set at 0.48); and
- Some level of access would be allocated in all three of the MA scallop access areas (Delmarva, Elephant Trunk and Hudson Canyon). A target F of 0.35 was applied in all areas with sufficient exploitable biomass and lower growth potential. When F is set at 0.35 in all three areas the total landings from access areas is 8,700 mt (19.2 million pounds), corresponding to three trips per FT LA vessels at 17,000 pounds per trip.
- The remaining scallop access areas would be closed to the scallop fishery in 2015: Closed Area I, Closed Area II, and Nantucket Lightship.
- Total projected catch for Alternative 2 from all sources of catch (including set-asides and LAGC catch) is about 45 million pounds.
- Under 2016 default measures, the access areas would be closed in 2016 (but LA compensation trips could occur in the first 60 days in any area a vessel has compensation pounds left in) and DAS would be set at 75% of the projected DAS allocation for 2016 (**27 DAS**, 75% of 36DAS projected for 2016 under this alternative). However, the PDT recommends that if 75% of the projected DAS for 2016 is less than 20 DAS for FT LA vessels, the default allocation should be increased to 20 DAS. Open area trips are generally about 10DAS each on average, so a 20 DAS allocation would allow a FT LA vessel to take about two trips prior to a subsequent action taking effect, usually in May 2 months after the fishing year has begun. If the final DAS allocation for the default year is ultimately less than 20 DAS, and a vessel fishes 20 DAS, that vessel would automatically lose any overage of DAS in a subsequent fishing year. This is not the case for this alternative for 2016 DAS allocations.
- ~~The PDT recommends that access area trips would be allocated by lottery for this alternative (Section 2.3). This alternative should not be combined with the allocation alternative that provides maximum flexibility in terms of where FT LA vessels can take access area trips. The allocation method alternative that provides more flexibility should only be combined with the specification alternative that closes a sub area within ETA.~~

Oct Cmte
Motion #4

Oct Cmte
Motion #3

The LA-sub ACL for this alternative is 23,161 mt (51,060,826 lb), and the LAGC IFQ sub-ACL under this alternative is 1,348mt. Both sub-ACLs are about 25% higher than the ACLs from 2014, and 8% higher than the default 2015 values. The PDT reviewed recent catches of NGOM and incidental permits and recommends those allocations remain at status quo levels; **NGOM hard TAC of 70,000 pounds and the target TAC for vessels with a LAGC Incidental permit at 50,000 pounds.**

The maximum that the annual catch target can be set at is the catch associated with applying a fishing mortality rate of 0.34 in all areas, 0.04 below ABC/ACL, currently estimated at 0.38, to account for management uncertainty. But in reality some areas are closed and not available to the scallop fishery. Therefore, in practice, the ACT cannot exceed 0.34 overall, but target catches are driven by the three overall principles developed as part of the “hybrid” overfishing definition approved in Amendment (F in open areas cannot exceed Fmsy; F in access areas set annually at a level that results in F no higher than Fmsy when averaged over time; and the combined target F in open, access, and closed areas cannot exceed F associated with ACT, currently 0.34). In a given year, one of these three principles will be the constraining element

that dictates what the overall target F can be for a particular specification alternative. For example, for FY2015 under this alternative, the constraining factor for setting projected catches is the open area max of 0.48. The overall estimate of F combined from all areas open and closed under this alternative is 0.29.

2.2.1.3 Alternative 3 (Specifications based on basic run using fishing mortality target principles in the FMP with modifications to scallop access area boundaries)

Several different modifications to existing access areas are under consideration for various reasons. The primary reason is that 2014 survey results showed very large concentrations of small scallops in various parts of the resource area. Most scallops were two to three years old during the 2014 survey season (50-70mm), so they may be susceptible to scallop fishing gear in FY2015 (typically about 100mm). There were also even smaller scallops observed in the surveys this year (i.e. south of Long Island), but those scallops were under 30 mm (0-1 year old scallops); therefore, it is not as critical to consider new rotational closures in those areas until the scallops are larger.

The current thinking is that multiple options could be selected together. For example, the final specification alternative could include several modification options for different areas. The PDT has not yet decided how to analyze this many options in terms of simulations and projections. It may be too complex and time consuming to run full projections for every combination. But the idea is that more than one option could be selected within this alternative. For example, the final Alternative 3 may include all three options, or just one or two of the area modifications. In addition, it may be possible to combine some of the area modifications with Alternative 4, lower fishing mortality target for Mid-Atlantic access areas, i.e. a “combo” run was completed that includes the CA2 scallop access area extension, NL scallop access area extension, and lower F in MA access areas.

Under this alternative:

- 30 DAS for FT vessels in open areas (when open area F is set at 0.48); and
- Some level of access would be allocated in all three of the MA scallop access areas (Delmarva, Elephant Trunk and Hudson Canyon). For this alternative the target F rates for each MA AA varied: 0.35 for Hudson Canyon; 0.50 for Elephant Trunk; and 0.30 for Delmarva. These F rates were set by the PDT to reflect where vessels are expected to fish because this alternative may be combined with the alternative to allocate trips in a flexible fashion (Section 2.3.2), rather than a lottery where vessels are assigned specific areas. When these various F rates are applied the total landings from access areas is 8,700 mt (about 19.2 million pounds), corresponding to three trips per FT LA vessels at 17,000 pounds per trip.
- The remaining scallop access areas would be closed to the scallop fishery in 2015: Closed Area I, Closed Area II, and Nantucket Lightship.
- Total projected catch for Alternative 3 varies slightly depending on the sub-options selected; overall it is about 46 million pounds (including set-asides and LAGC catch).
- Under 2016 default measures, the access areas would be closed in 2016 (but compensation trips could occur in first 60 days), and the DAS would be set at 75% of the projected DAS allocation for 2016 (**26 DAS**, 75% of 34 DAS projected for 2016 under

this alternative).). However, the PDT recommends that if 75% of the projected DAS for 2016 is less than 20 DAS for FT LA vessels, the default allocation should be increased to 20 DAS. Open area trips are generally about 10DAS each on average, so a 20 DAS allocation would allow a FT LA vessel to take about two trips prior to a subsequent action taking effect, usually in May 2 months after the fishing year has begun. If the final DAS allocation for the default year is ultimately less than 20 DAS, and a vessel fishes 20 DAS, that vessel would automatically lose any overage of DAS in a subsequent fishing year. This is not the case for this alternative for 2016 DAS allocations.

- ~~The PDT recommends that if this alternative is adopted including Option 3 to close a subarea within ETA, access area trips could be allocated either by lottery or vessels would be able to choose what areas to fish MA access area trips from (Section 2.3). If Option 3 is not selected, vessels would be allocated MA AA trips by lottery.~~

Candidate Modifications are provided in Figure 3, Figure 4 and Figure 6. Figure 5 and Figure 7 overlay the scallop access area modifications with scallop distribution data from 2014 surveys.

The LA-sub ACL for this alternative is 23,161 mt (51,060,826 lb), and the LAGC IFQ sub-ACL under this alternative is 1,348mt. Both sub-ACLs are about 25% higher than the ACLs from 2014, and 8% higher than the default 2015 values. The PDT reviewed recent catches of NGOM and incidental permits and recommends those allocations remain at status quo levels; NGOM hard TAC of 70,000 pounds and the target TAC for vessels with a LAGC Incidental permit at 50,000 pounds.

2.2.1.3.1 Option 1 – Modification to access area in Closed Area II

Option 1 is an extension of the scallop access area in Closed Area II to include concentrations of small scallops that are near existing boundaries of current access area. This option is limited in that it only extend into “open areas” to the scallop fishery; the option does not extend into any closed areas, and does not reduce the size of any current scallop access areas. The PDT may consider modifying these areas again in a future action; for example, if closed areas for EFH or groundfish are modified in another action. But this action is only considering extensions of current scallop access areas into adjacent open areas. See Figure 3 and Figure 5.

The size of this option is 4,203 square nautical miles. The status quo scallop access area within CA2 is 1,025 square nautical miles, and the extension is 3,178 square nautical miles. The boundaries for this option are in Table 10.

Vessels are currently prohibited from transiting through the scallop access area within Closed Area II. This is the only scallop access area where transiting is prohibited, primarily because it is far offshore and abuts the US-Canada maritime border. Therefore, the need to transit through the area to get to port from primary scallop fishing grounds is minimal. The PDT recommends if this access area is extended the current prohibition for transiting should apply in the expanded area as well since it is a relatively low transit area and is not located between active fishing grounds and fishing ports. The Enforcement Committee developed a consensus statement related to this provision, “allowing transiting through a closed area is difficult to enforce.”

Table 10 – Potential boundaries of Closed Area II scallop access area extension

	Latitude	Longitude
Point 1	41 30' N	67 20' W
Point 2	41 30' N	Intersection of 41 30' N and the US-Canada Maritime Boundary, approx. 66 34.73' W
Point 3	40 30' N	Intersection of 40 30' N and the US-Canada Maritime Boundary, approx. 66 34.73' W
Point 4	40 30' N	67 20' W

2.2.1.3.2 Option 2 – Modification to access area in Nantucket Lightship

Option 2 is an extension of the scallop access area in Nantucket Lightship to include concentrations of small scallops that are near existing boundaries of current access areas. This option is limited in that it only extends into “open areas” to the scallop fishery; the option does not extend into any closed areas, and does not reduce the size of any current scallop access areas. The PDT may consider modifying these areas again in a future action; for example, if closed areas for EFH or groundfish are modified in another action. But this action is only considering extensions of current scallop access areas into adjacent open areas. See **Figure 4** and **Figure 5**.

The size of this option is 1,046 square nautical miles. The status quo scallop access area within Nantucket Lightship is 888 square nautical miles, and the extension is 158 square nautical miles. The boundaries for this option are in **Table 11**.

Oct Cmte
Motion #2

Vessels are currently allowed to transit through the scallop access area within Nantucket Lightship, as well as Closed Area I when the areas are open or closed to the scallop fishery. If the NL scallop access area is extended in this action to include the relatively small area to the east of the access area, the PDT recommends that transiting also be permitted in that extended area, since it is a relatively active transit area and the incentive to fish in that extended area is currently minimal. The Enforcement Committee developed a consensus statement related to this provision, “allowing transiting through a closed area is difficult to enforce.”

Table 11 – Potential boundaries of Nantucket Lightship scallop access area extension

	Latitude	Longitude
Point 1	40 33' N	69 00' W
Point 2	40 33' N	68 48' W
Point 3	40 20' N	68 48' W
Point 4	40 20' N	69 00' W

2.2.1.3.3 Option 3 – Modification to Elephant Trunk (prohibit access in northwest corner) (2 options considered)

Option 3 is different in that this option proposes to close areas *within* current scallop access areas, or a temporary prohibition to fish in a subset of a current scallop access area. Option 3 is confined to Elephant Trunk. The main alternative developed is a seven ten minute square area in

the northwest corner of the access area. The Scallop Committee also wanted the PDT to consider a smaller area, six ten minute squares only, if the larger area contained a large amount of exploitable biomass for FY2015. See Figure 6.

The size of the larger option (7 ten minute square area) within ETA is 549 square nautical miles. The smaller, 6 ten minute square area is about 471 square nautical miles. The Elephant Trunk access area is 1,571 square nautical miles, so the larger area is about 35% of the access area, and the smaller area is about 30% of the access area. The boundaries for these options are in Table 12 and

Table 13.

Oct Cmte
Motion #2

Vessels are currently allowed to transit through all Mid-Atlantic scallop access areas. If a subarea within ETA is closed in this action the Council should clarify whether scallop vessels should be allowed to transit through the closed area within the access area to and from port. The PDT recommends that scallop vessels, all permit types, should be PROHIBITED from transiting through the closure within ETA because the subarea is a relatively small area and the incentive to fish in the area is relatively high since abundance is high and the area is closer to shore and between primary fishing grounds and fishing ports. The Enforcement Committee developed a consensus statement related to this provision, “allowing transiting through a closed area is difficult to enforce.”

Table 12 – Potential boundaries of 7 ten minute square closure within Elephant Trunk scallop access area

	Latitude	Longitude
Point 1	38 50' N	74 20' W
Point 2	38 50' N	73 40' W
Point 3	38 40' N	73 40' W
Point 4	38 40' N	73 50' W
Point 5	38 30' N	73 50' W
Point 6	38 30' N	74 20' W

Table 13 – Potential boundaries of 6 ten minute square closure within Elephant Trunk scallop access area

	Latitude	Longitude
Point 1	38 50' N	74 20' W
Point 2	38 50' N	73 50' W
Point 3	38 30' N	73 50' W
Point 4	38 30' N	74 20' W

Option 3 is expected to reduce incidental mortality on small scallops within the access area and increase overall yield production from the access area by concentrating effort in deeper waters first (**Figure 7**). Scallops grow faster in shallow waters and the overall growth potential is lower for scallops in deeper waters. Therefore, concentrating effort in deeper waters first will take

advantage of the differential growth patterns for scallops by depth and is expected to increase overall yield from the area compared to opening the entire area at once. Previous openings have shown that vessels tend to fish in areas with highest concentrations first, but shallow areas are generally targeted first since they are closer to shore and scallops grow faster in more shallow waters. And in some areas, relatively large scallops are in some shallow areas, but they are younger than scallops farther offshore, and have more potential yield left compared to older scallops farther offshore.

For Option 3 it will be important to clarify how the fishing mortality rate should be set in the remaining area. For example, if all of ETA was open in 2015 and an overall F of 0.4 was applied to the area maybe it would provide about 6 million pounds of catch. However, if Option 3 was selected and the northwest corner was closed in 2015, FW26 could either:

- A) still apply 0.4 to the rest of ETA, which would provide less catch in 2015 since some of the area would be closed, say 5 million pounds; or
- B) a higher F rate could be applied in remaining parts of ETA not closed under Option 3 to something higher, i.e. 0.5 to maintain projected catch from that area at 6 million pounds for 2015.

Each approach would have different impacts on catch in 2015, and beyond. Note that the scenarios have been run assuming B above; higher F rate is applied in the area left open within ETA to maintain the same projected catch from the access area if there was no closure adopted.

Figure 8 is an analysis of projected growth rates by ten minute square and exploitable biomass estimates for FY2015. In general, the larger area proposed for ETA, Option 3 with seven ten minute squares included, contains approximately 10% of the exploitable biomass that is within all three MA access areas, and 15% of the exploitable biomass in EAT only. For HC options, the HC north as well as the small triangle on the western boundary combined contain about 7% of the total exploitable biomass for all three MA areas combined, and 34% of exploitable biomass in HC. If the two areas are combined (larger one in ETA and two subareas in HC), about 17% of all MA AA exploitable biomass are within the boundaries. If the areas were closed and the same catch was desired from access areas, F in the remaining portions would need to be increased about 20%.

Figure 3 – Potential alternatives for GB access area modification – Closed Area II – Option 1

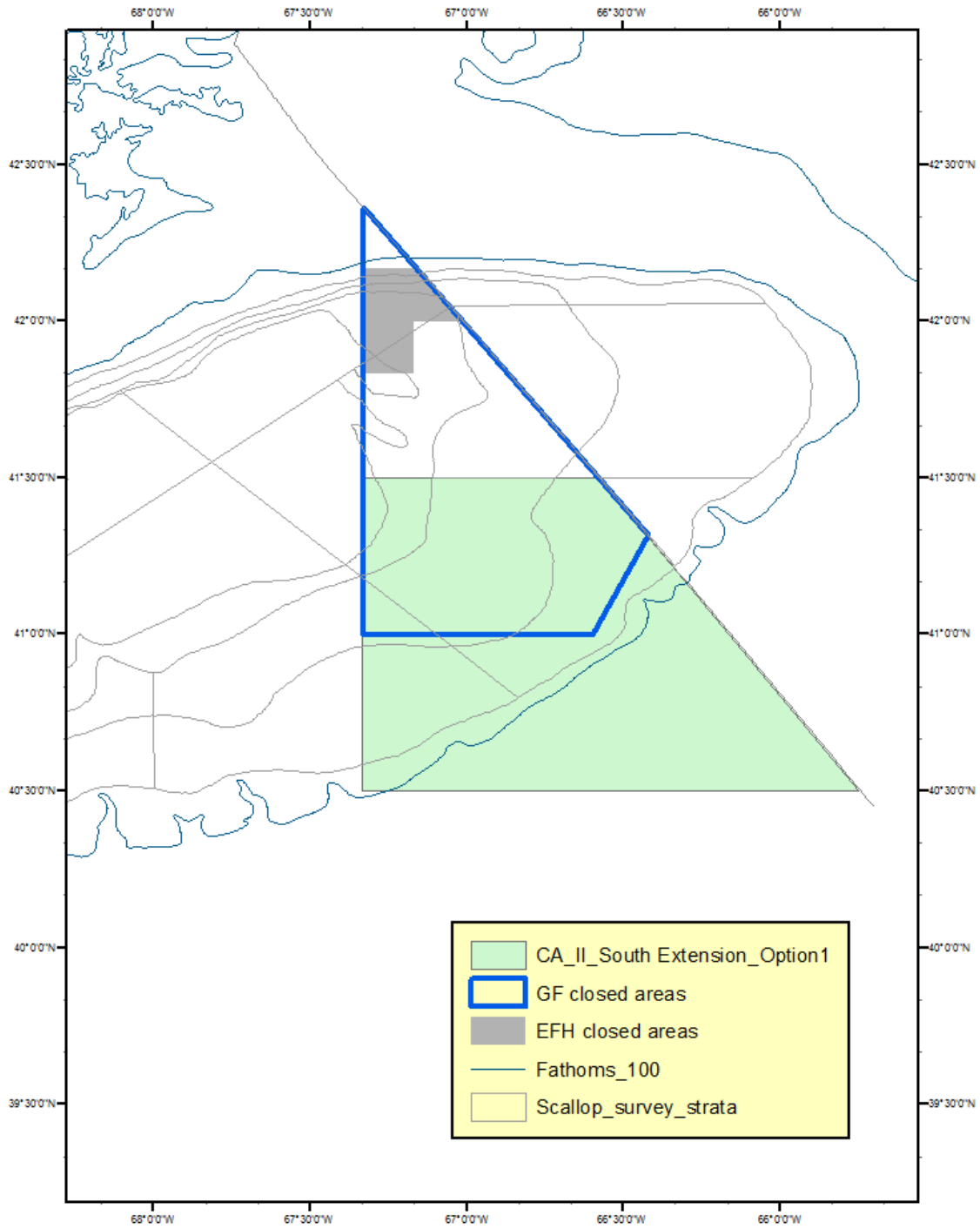


Figure 4 - Potential alternatives for GB access area modification – Nantucket Lightship – Option 2

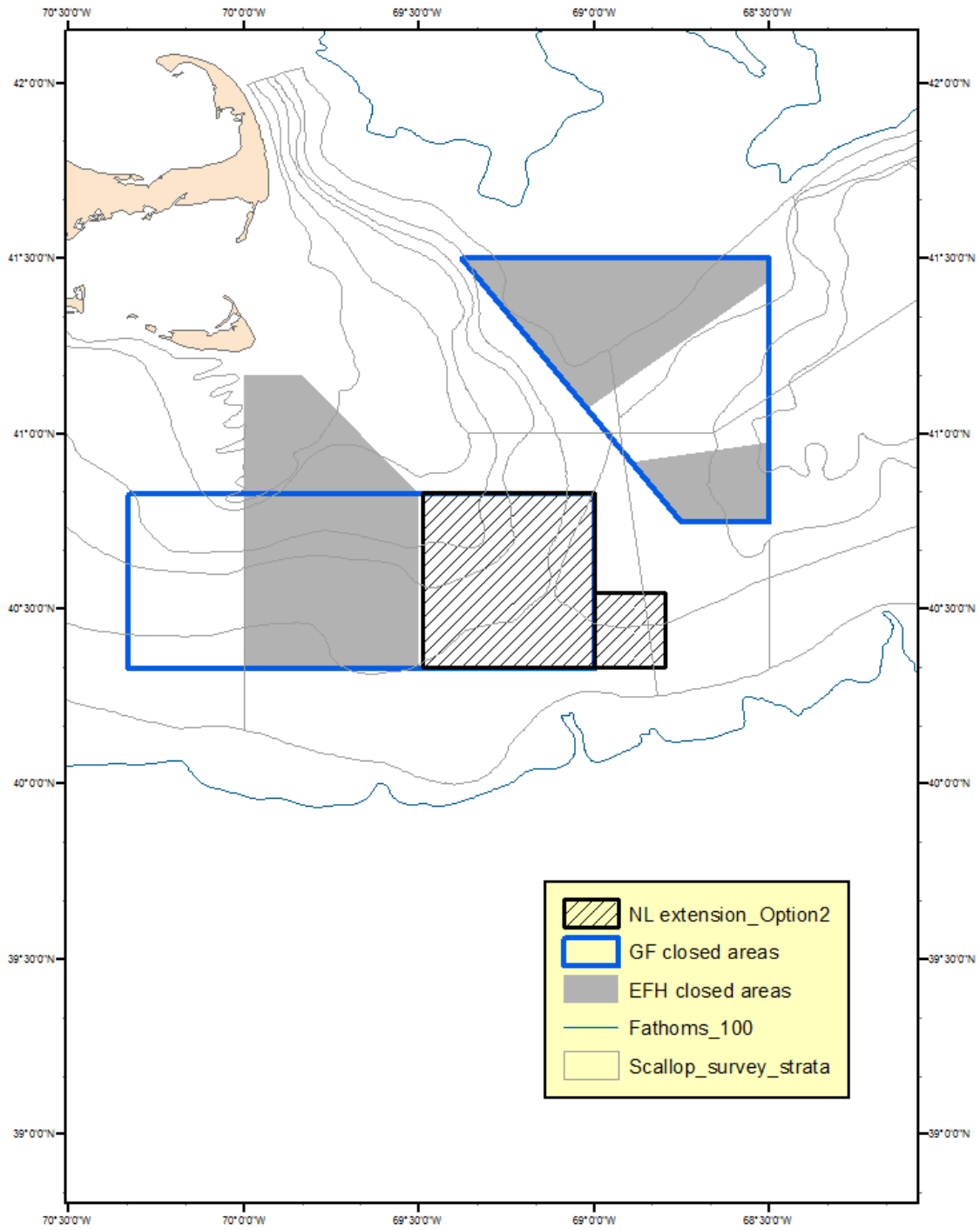


Figure 5 - Potential alternatives for GB access area modifications with 2014 survey data (Habcam on left and SMAST on right)

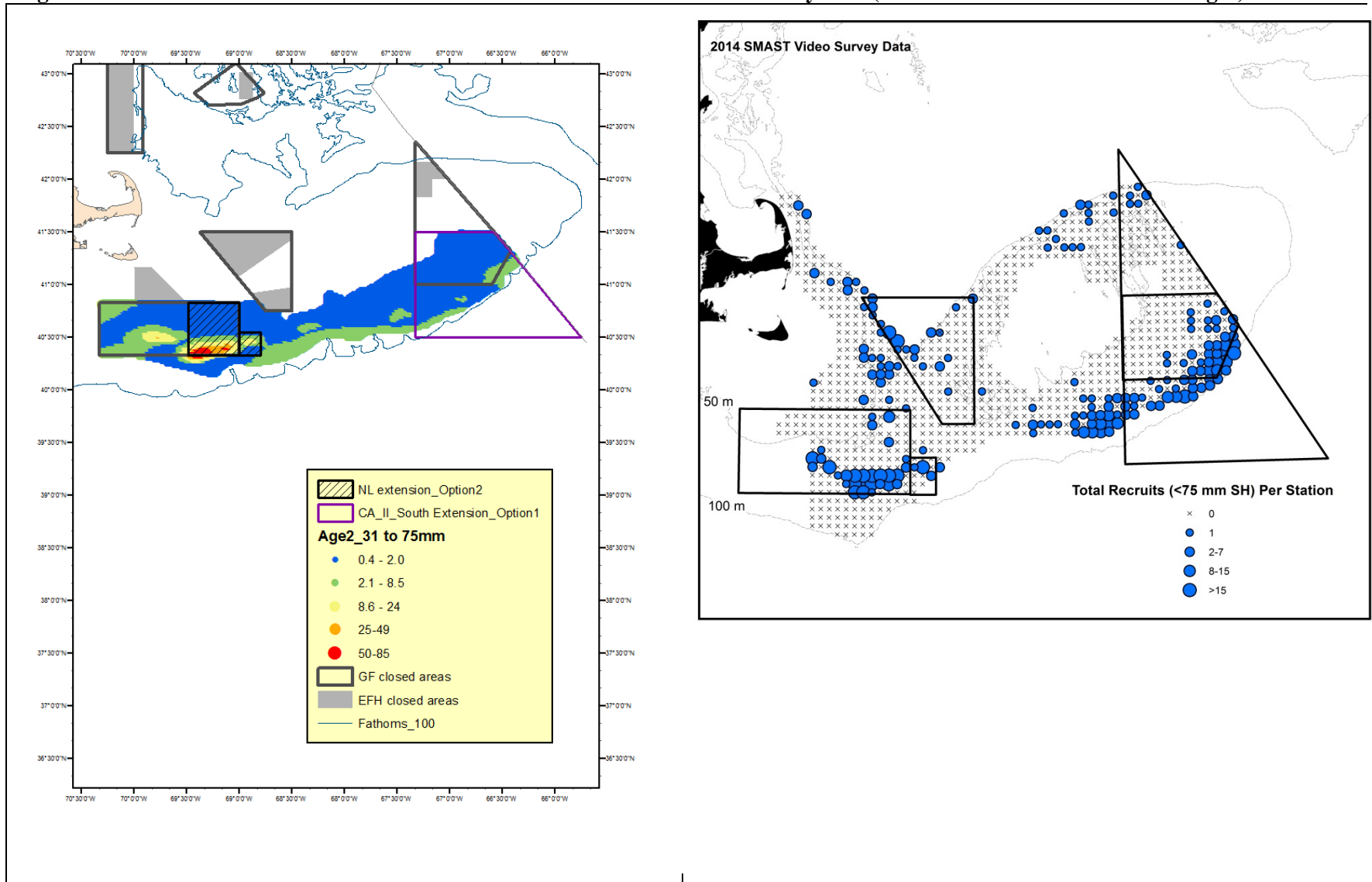


Figure 6 - Potential alternatives for MA access area modification – ETA (2 options) – Option 3

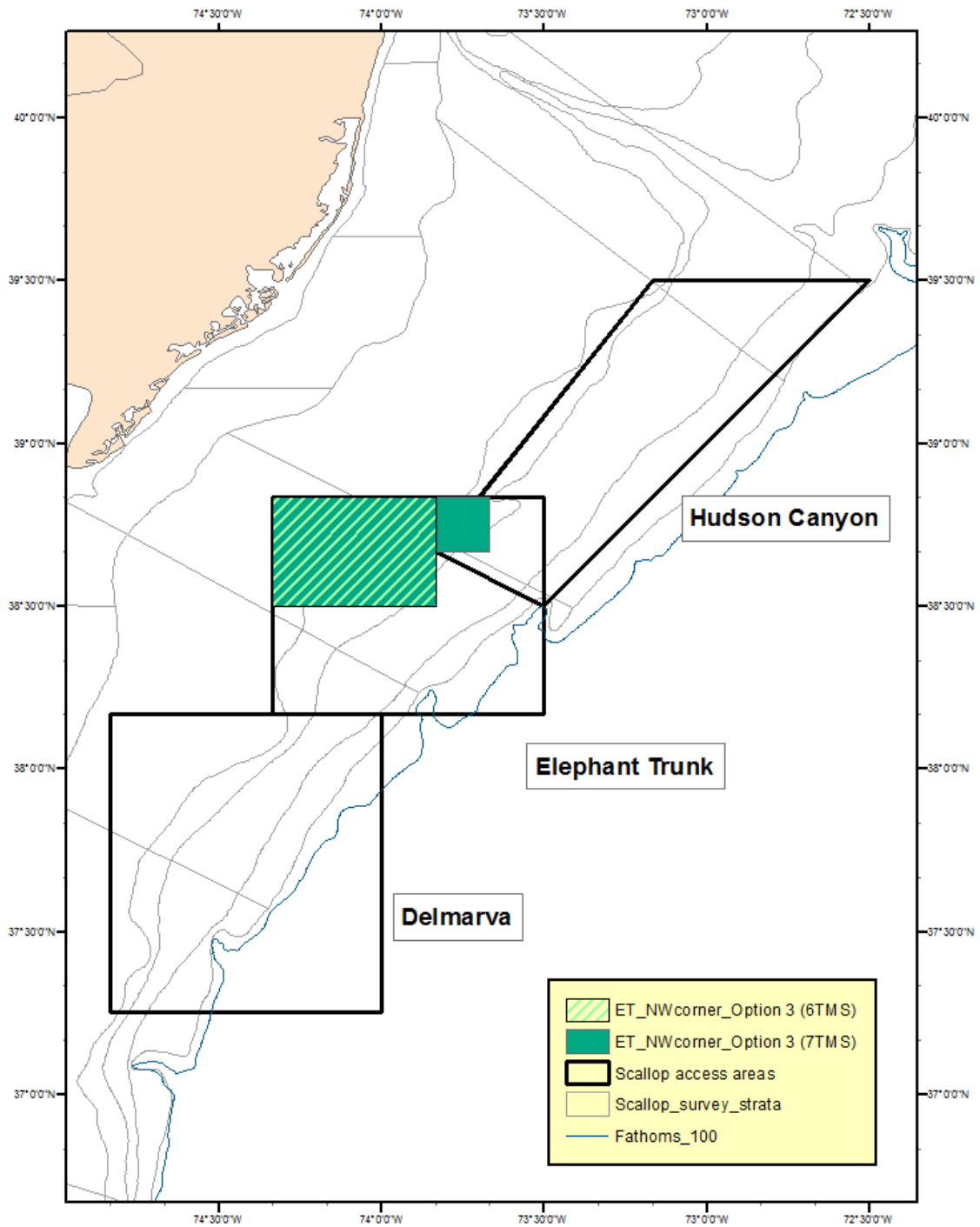


Figure 7 - Potential alternatives for MA access area modification with 2014 survey data (VIMS on left and SMAST on right)

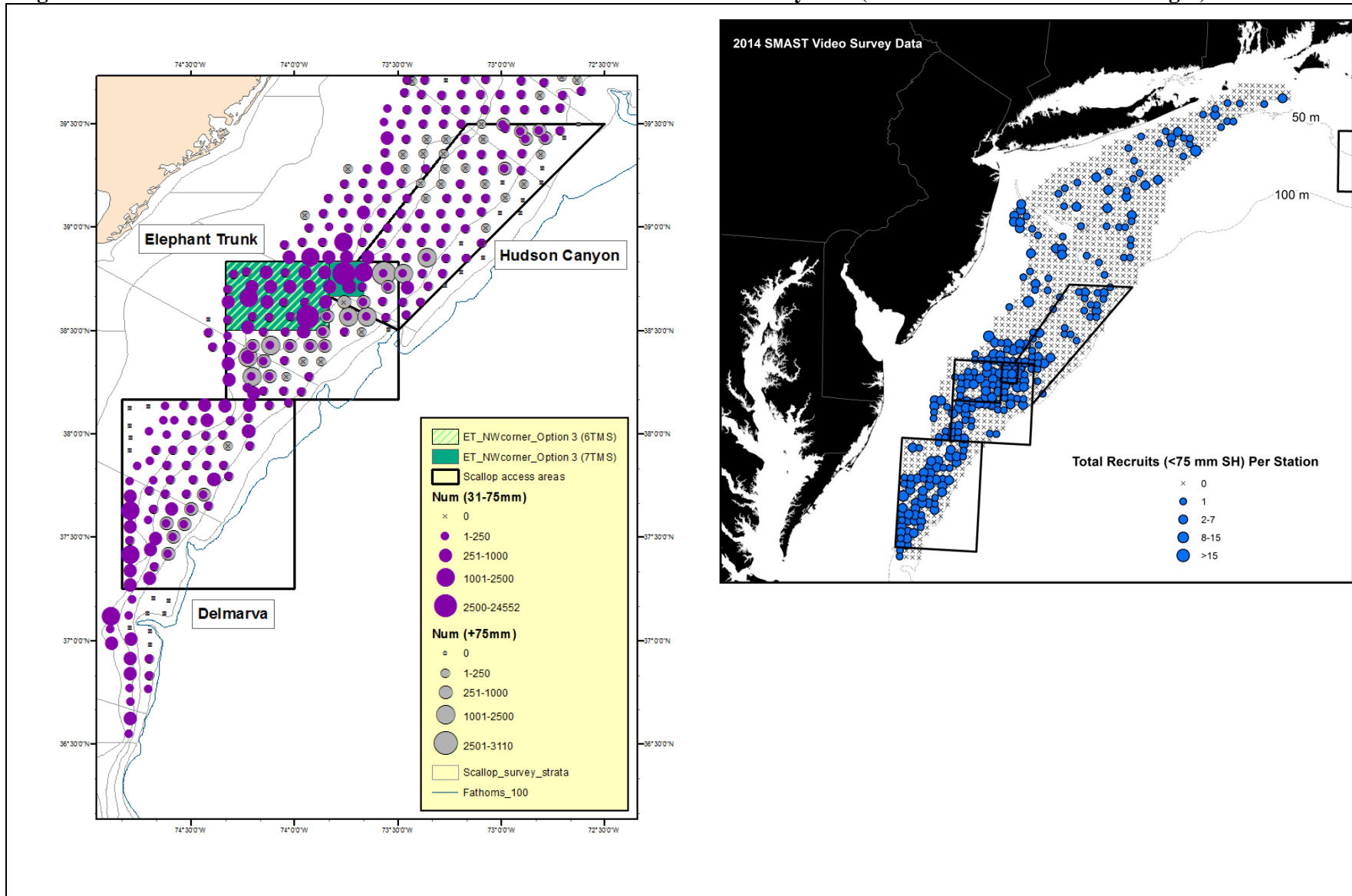
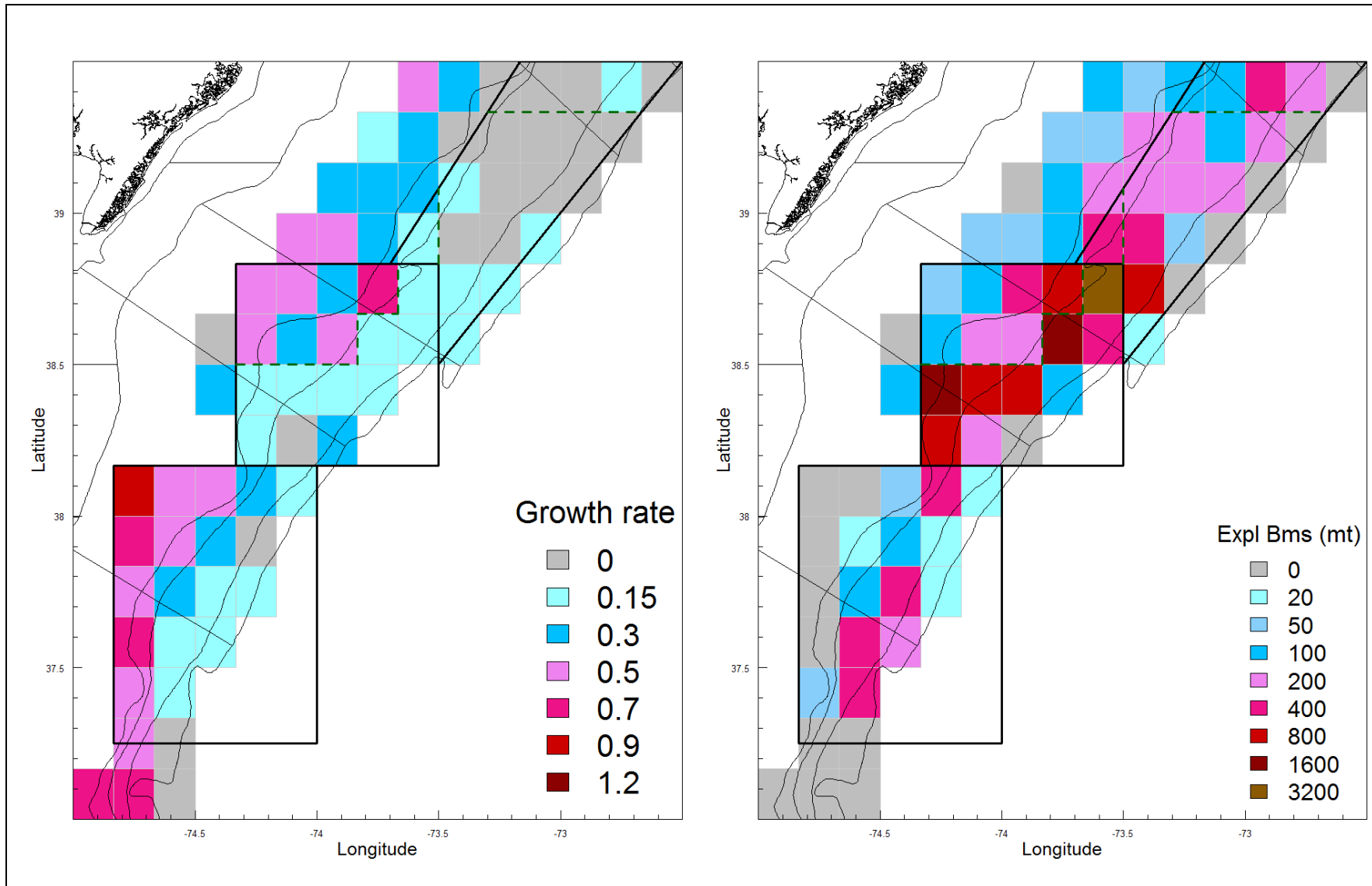


Figure 8 – Projected growth rates and exploitable biomass per ten minute square using 2014 VIMS data



2.2.1.4 Alternative 4 (Specifications based on basic run using fishing mortality target principles in the FMP, but reduce fishing mortality target for MA access areas lower than allowable limits to reduce incidental mortality on small scallops in those areas)

The same overall principles would be used to set fishing targets for the fishery; however, the allowable fishing mortality limit used to set allocations for MA access areas would be reduced by some amount to reduce impacts on small scallops observed in those areas. For example, in the base run the fishing mortality was set at 0.35 for all three MA access areas; for this alternative it was reduced to 0.30, but there is no closure in Elephant Trunk. This reduction in fishing mortality target would translate into fewer trips and lower catch allowed to be removed from the access areas.

If it becomes clear that closing subareas within access areas is not practical and would logistically be difficult for the scallop industry, this alternative would still reduce impacts from incidental mortality on small scallops within access areas. One potential concern with some of the options under consideration for Alternative 3 (Option 3) that would restrict access in portions of the MA access areas is vessel crowding. If the sub-area closures are relatively large, there may be a large number of vessels fishing in a relatively small area. In addition, it may be problematic if subarea closures are between areas vessels are fishing and port of landing, a vessel may have to steam around a closure to get to port rather than transverse through a closed area within an access area.

Note that the run completed for this alternative is a lower F in MA access areas (0.30), as well as closing the extension around CA 2 and NL (Alternative 3 – Options 1 and 2) (combo run).

Under this alternative:

- 31 DAS for FT vessels in open areas (when open area F is set at 0.48); and
- Some level of access would be allocated in all three of the MA scallop access areas (Delmarva, Elephant Trunk and Hudson Canyon). A target F of 0.30 was applied in all areas with sufficient exploitable biomass and lower growth potential. When F is set at 0.30 in all three areas the total landings from access areas is 7,650 mt (about 16.9 million pounds), corresponding to three trips per FT LA vessels at 16,000 pounds per trip.
- The remaining scallop access areas would be closed to the scallop fishery in 2015: Closed Area I, Closed Area II, and Nantucket Lightship.
- Total projected catch for Alternative 4 is about 45 million pounds (including set-asides and LAGC catch).
- Under 2016 default measures, the access areas would be closed in 2016 (but compensation trips could occur in first 60 days), and the DAS would be set at 75% of the projected DAS allocation for 2016 (**27 DAS**, 75% of 36DAS projected for 2016 under this alternative). However, the PDT recommends that if 75% of the projected DAS for 2016 is less than 20 DAS for FT LA vessels, the default allocation should be increased to 20 DAS. Open area trips are generally about 10DAS each on average, so a 20 DAS allocation would allow a FT LA vessel to take about two trips prior to a subsequent action taking effect, usually in May 2 months after the fishing year has begun. If the final DAS allocation for the default year is ultimately less than 20 DAS, and a vessel fishes 20

Oct Cmte
Motion #4

DAS, that vessel would automatically lose any overage of DAS in a subsequent fishing year. This is not the case for this alternative for 2016 DAS allocations.

- The PDT recommends that access area trips would be allocated by lottery for this alternative (Section 2.3). This alternative should not be combined with the allocation alternative that provides maximum flexibility in terms of where FT LA vessels can take access area trips. The allocation method alternative that provides more flexibility should only be combined with the specification alternative that closes a sub area within ETA.

Oct Cmte
Motion #3

The LA-sub ACL for this alternative is 23,161 mt (51,060,826 lb), and the LAGC IFQ sub-ACL under this alternative is 1,348mt (2,971,832 lbs). Both sub-ACLs are about 25% higher than the ACLs from 2014, and 8% higher than the default 2015 values. The PDT reviewed recent catches of NGOM and incidental permits and recommends those allocations remain at status quo levels; NGOM hard TAC of 70,000 pounds and the target TAC for vessels with a LAGC Incidental permit at 50,000 pounds.

Table 14 – Summary of overall specification alternatives

	Alt 1	Alt 2	Alt 3	Alt 4
Description of Alternative	No Action Default measures set in FW25	Basic run OFD principles for setting target F rates	New Closure Run (CA2, NL, and ETA)	Basic run + reduced F in MA AA
FT LA DAS	17 DAS	31 DAS	30 DAS	31 DAS
PT LA DAS	7 DAS	13 DAS	12 DAS	13 DAS
# of FT AA trips (poss limit)	0	3 (17,000)	3 (17,000)	3 (16,000)
# of PT AA trips (poss limit)	0	2 (10,200)	2 (10,200)	2 (9,600)
HC	closed	open	open	open
ET	closed	open	open	open
DEL	closed	open	open	open
CA1, CA2, NL	closed	closed	closed	closed
Total AA (mt)	0	19.2 mil 8,700 mt	19.2 mil 8,700 mt	16.9 mil 7,650 mt
Gen Cat	2.81 mil 1,274 mt	2.97 mil 1,348 mt	2.97 mil 1,348 mt	2.97 mil 1,348 mt
Total catch (2016) (Total F)	19 mil 0.30	45 mil 0.29	46 mil 0.19	45 mil 0.29

** PT vessels are awarded 40% of a FT allocation in terms of the combination of DAS and access area allocation.*

PT vessels can decide which access area to take their one allocated trip from any area open that fishing year.

2.2.2 Allocation of LAGC IFQ trips in access areas

The LAGC IFQ fishery is allocated a fleetwide total number of access area trips. Individual vessels are not required to take trips in specific areas like access area trips allocated to the limited access fishery. Instead, a maximum number of trips is identified for each area and once that limit is reached, the area closes to all LAGC IFQ vessels for the remainder of the fishing year. The level of allocation can vary and is specified in each framework action. **These options can be combined with either the lottery allocation or the flexible allocation (2.3).** If the lottery allocation is selected, a set number of LAGC trips would be set for each access area. If the flexible allocation option is selected, the LAGC fishery would have an overall allocation of **MA AA trips that could be harvested from any or all MA areas.** This framework action is considering four options for allocating fleetwide LAGC IFQ trips in access areas in FY2015.

2.2.2.1 Option 1 – No Action – No access area trips allocated for LAGC IFQ vessels

Access area trips are set by framework action, and if this action does not specify the number of trips per area for LAGC IFQ vessels, those vessels would not be able to fish in scallop access areas in FY2015. They would need to harvest all IFQ from open areas.

2.2.2.2 Option 2 - Allocate fleetwide trips equivalent to 5.5% of catch per access area open to the 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 2015 fishing year. Total removals from MA access areas is expected to be 19.19 million pounds in FY2015. An allocation of 5.5% of that amount is equivalent to 1.05 million pounds, or 1,758 trips with a 600 pound possession limit. See Table 15 for a summary of the trips that would be available to the LAGC fishery under this option.

2.2.2.3 Option 3 – Allocate fleetwide trips equivalent to 2 million pounds from access areas open to the fishery

The Scallop Advisors developed this option that was ultimately included for consideration by the Council at the September Council meeting. This option would increase the overall access LAGC vessels would have to areas that are projected to have more productive fishing areas in 2015. Two million pounds is about 67% of the total LAGC IFQ allocation for 2015 (2.97 million pounds). To be clear, this option is not intended to directly affect the catch allocated to limited access (LA) vessels from access areas in 2015, rather it would be available catch on top of the LA allocation from access areas in 2015. Two million pounds for the LAGC fishery is about 10.4% of the total access area catch available in 2015. See Table 15 for a summary of the trips that would be available to the LAGC fishery under this option.

2.2.2.4 Option 4 – Allocate fleetwide trips to LAGC vessels in access areas equivalent to the overall proportion of total catch from access areas compared to total catch

The Scallop PDT developed this alternative to consider an option that would provide about the same level of access for LA and LAGC vessels in access areas in 2015 in terms of the total proportion of catch for the year. For example, the total projected catch for the scallop fishery in

Oct Cmte
Motion #1

2015 is about 46 million pounds, and about 19 million pounds are projected to come from access areas, about 41.7%. If the same proportion is applied to total LAGC catch, the total allocation to LAGC vessels from access areas would be about 1.2 million pounds, 41.7% of the total LAGC IFQ for 2015 (2.97 million pounds). To be clear, this option is not intended to directly affect the allocation of access for LA vessels from access areas in 2015, rather it would be available catch on top of the LA allocation from access areas in 2015. An allocation of about 1.2 million pounds to the LAGC fishery is about 6.5% of the total access area catch available in 2015. See Table 15 for a summary of the trips that would be available to the LAGC fishery under this option.

Table 15 – Summary of alternative under consideration for LAGC IFQ trip allocations in access areas in FY2015

	Name	% of AA catch	Max LAGC catch in AA	Total number of Trips
Option1	No access area allocation	0%	0	0
Option2	Same allocation as overall LAGC IFQ allocation	5.50%	1.05	1,758
Option3	2 million pound allocation	10.4%	2.00	3,333
Option4	Same proportion of access area catch as overall fishery	6.50%	1.24	2,065

Values subject to change if overall catch values change – these are based on total access area catch of 8,700 mt or 19,180,220 pounds and total catch of 46 million pounds.

2.2.3 Additional measures to reduce impacts on small scallops

In addition to closed areas there are other measures that reduce incidental mortality on small scallops. In the past when access areas have been opened when small scallops are known to be in the area specific measures are considered to help reduce those potential impacts. For example, in 2014 when Delmarva was opened on a limited basis a handful of measures were included to further reduce impacts on small scallops within the area. The Scallop Committee considered a range of ideas (i.e. crew limits, prohibition on RSA compensation fishing, seasonal restrictions, and gear modifications). Ultimately, the only alternative included for consideration in this action is implementing a crew limit in all MA access areas.

2.2.3.1 Option 1 – No Action – No crew limits in scallop access areas

No crew size limits when fishing in scallop access areas.

2.2.3.2 Option 2 - Restrict crew limits in Mid-Atlantic access areas as an additional measure to reduce incidental and discard mortality on small scallops open in 2015

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 there are concentrations of small scallops in all three of the MA access areas, especially in

shallow portions of ETA, if the areas open under this action, a crew limit could help reduce the potential for highgrading and mortality on smaller scallops from incidental mortality. 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.

2.3 ALLOCATION METHOD FOR MID-ATLANTIC ACCESS AREA TRIPS IN 2015 ONLY

2.3.1 No Action (lottery allocation)

Under this alternative 2015 Mid-Atlantic access area trips would be allocated to LA vessels similar to how trips have been allocated in the past. If there is enough biomass in a particular access area to provide one trip per vessel, each FT LA vessel would receive a trip in that area. However, if there is less catch available per area than the amount needed to allocate one trip per area to all FT LA vessels, a total number of trips would be calculated per area, and individual trips would be allocated by lottery.

For 2015, each full-time limited access vessel would receive 3 trips; two allocated to ETA, and the third from either HC or Delmarva. The third trip would be allocated by lottery. For specification alternatives 2 and 3 the possession limit for FT vessels would be 17,000 pounds. Three trips at 17,000 pounds equal a total allocation of 51,000 pounds per full-time vessel. For specification alternative 4 the possession limit is reduced to 16,000 pounds, for a total allocation of 48,000 pounds per full-time vessel. The lottery for the third trip would not be split 50/50 between the two areas. The projected biomass is higher for HC compared to Delmarva, so more trips would be allocated to HC. The third trip lottery split for all three specification alternatives would be 56% of trips to HC, and 44% to Delmarva. Thus, for the 313 fulltime LA vessels, a total of 175 trips would be allocated into HC, and 138 trips in Delmarva. The results of the lottery will be included in Appendix II of this document.

Part-time vessels receive 40% of a full-time permit allocation, combining access area and DAS allocations. For Alternatives 2 and 3 that would be 20,400 pounds per part-time vessel (40% of 51,000 pounds); and a total access area allocation of 19,200 pounds for Alternative 4 (40% of 48,000 pounds). The Council should clarify what the possession limit should be for part-time vessels for these alternatives. For example should it be the same 17,000 or 16,000 pound possession limit, or should it be lower, equivalent to even trips? The total allocation for part-time vessels for Alternatives 2 and 3 is 20,400 pounds. Should those vessels receive two trips at 10,200 pounds, or should the same 17,000 pound possession limit apply and a part-time vessel would fish uneven trips (i.e. 17,000 on one trips and 3,400 on a second trip). Part time vessels are not allocated specific areas to fish access area trips in; they can choose from any area open to the fishery.

Table 16 – Summary of trip allocations for full-time and part-time limited access vessels

	FT trips	FT poss limit	FT Total	PT trips	PT poss limit	PT Total
Alt 2 and 3	3	17,000	51,000	2	10,200	20,400
Alt 4	3	16,000	48,000	2	9,600	19,200

2.3.2 Flexible allocation for Mid-Atlantic access area trips

The three MA AA areas would be considered one area using their existing boundaries for FY2015. Vessels would declare a MA AA trip and could freely fish inside all three areas on the same trip. Under this alternative, limited access vessels would receive their total access area allocation in pounds, and that allocation could be fished in any of the MA AAs (and across multiple AAs on a single trip) up to a certain possession limit. For full time vessels the possession limit is 17,000 pounds for specification alternatives 2 and 3 and 16,000 pounds for specification alternative 4. For part-time permits the possession limit is 10,200 pounds for Alternatives 2 and 3 and 9,600 pounds for Alternative 4. This alternative would be the most flexible option for a vessel to land its scallops on its own terms. A vessel would not be limited to a particular area and could fish in multiple MA AAs on the same trip. Under this option there is potentially increased risk of fishing harder in one access area.

There are some issues to clarify when considering this option:

- 1) This alternative would potentially require a new VMS code to identify all MA AAs under one code;
- 2) Under this alternative you may lose the ability to handle in-season monitoring of specific access areas and you may lose a clear historical perspective on how and where scallops were caught;
- 3) The Scallop Committee requested GARFO to explore if there are ways to change the monitoring requirements for this alternative to maintain catch by access area. The Committee will consider additional monitoring measures at the November meeting. See notes in Impacts Section

2.3.3 Background on calculation of possession limit for 2015 access areas (not an alternative)

This section is not an alternative, but was included to provide more detailed information about how the possession limit was calculated for 2015 access area trips. The PDT uses a model to estimate fishery specifications which incorporates updated survey, fishing, as well as assumptions about other sources of mortality. An overall estimate of landings is calculated based on assumed spatially explicit fishing mortality rates that are set by the PDT for individual areas. From the total landings the PDT first removes catch for various set-asides before fishery catches are set for the LAGC and LA fisheries. Some of these are area based, and others are fishery wide such as observer set-aside. This section will summarize the process for access area catch and clarify how the ultimate estimates for possession limits were calculated for 2015.

For Alternatives 2 and 3 the total landings from access areas is estimated to be about 19.2 million pounds. The model assumes that 3% of that will be used for set-asides (2% for research and 1% for observer set-aside). Another 5.5% was removed for LAGC catch in access areas, leaving about 17.5 million pounds for LA effort. There are 327 full time equivalent LA vessels (combining all permit types together). Using 327 FL LA vessels leaves about 53,669 pounds per vessel, or 17,890 pounds per trip for three access area trips. This is the estimate that comes directly out of the model applying the assumptions described.

Final possession limits are generally rounded to the nearest 1,000 pounds. The PDT discussed these outputs and recommended that the possession limit be 17,000 pounds for 2015, and not 18,000 pounds. The primary reason for this recommendation is that the model only assumed about 380,000 pounds would be harvested from RSA compensation in access areas in 2015 (2% of 19.2 million pounds) (Table 17). The PDT believes this is an underestimate based on previous fishing patterns for RSA compensation and the relatively high projected catch rates in MA access areas, which are relatively close to shore and near many fishing ports. The PDT believes that closer to 1 million pounds of the 1.25 million pounds could come from MA access areas in 2015, an additional 600,000 pounds. If 1.0 million pounds is used instead for RSA landings from access areas the possession limit comes out to 17,261 pounds per trip.

Overall the PDT also discussed other reasons to be somewhat precautionary with 2015 access area allocations. First, some of the fishing mortality targets set for these areas are relatively high for first year openings (i.e. 0.50 in open part of ETA), and the program needs to think about keeping these areas viable for several years, not just one or two years. Furthermore, the alternative to allow vessels to fish access areas flexibly, and not in one area only, could have increased fishing pressure in some areas if effort is more concentrated in one access area. For these reasons, the PDT did not think it was responsible to increase the possession limit above the model output, and instead recommended 17,000 pounds. If these estimates are high and fewer scallops are harvested by RSA and LA vessels in 2015 they will be available for harvest in 2016.

Table 17 – Summary of various model assumptions and associated catches for 2015 catch estimates

	Model Assumptions	PDT Estimates
Total AA Landings	19,180,220	19,180,220
Set Asides for RSA +OBS (3%)	575,407	1,191,802
LAGC (5.5%)	1,054,912	1,054,912
LA Landings	17,549,901	16,933,506
Per FT vessel	53,669	51,784
Per trip allocation	17,890	17,261

In addition, there are several alternatives in this document that may allocate more LAGC effort in access areas, above the 5.5% assumed in the model (2.2.2). The Council was clear that these alternatives should not reduce the access LA vessels have in access areas in 2015, and instead should be additional catch added on. When a higher catch of 2 million pounds is assumed for LAGC catch in access areas, instead of a 5.5% allocation of 1.05 million pounds, as assumed in the model output, the possession limit per FT LA trip comes out to 16,298 pounds (Table 18). That is the possession limit that would allow for that additional catch from LAGC vessels without increasing fishing mortality in access areas. However, the PDT was instructed not to reduce LA possession limits to accommodate more LAGC catch in 2015. Therefore, the PDT did not recommend a lower possession limit of 16,000 pounds for Alternative 2 and 3.

Table 18 – Summary of various model assumptions and associated catches for 2015 catch estimates assuming 2 million pound catch from access areas for LAGC

	With LAGC Increase (2mil)
Total AA Landings	19,180,220
Set Asides (RSA +OBS)	1,191,802
LAGC (5.5%)	2,000,000
LA Landings	15,988,418
Per FT vessel	48,894
Per trip allocation	16,298

2.4 ADJUSTMENTS TO PROVISIONS RELATED TO ALLOCATING AND MONITORING ACCESS AREA TRIPS

Although the plan currently allocates access area trips with specific possession limits, vessels can take as many trips as they need to in order to fully harvest those possession limits. Ultimately, although the plan discusses allocations in terms of “trips”, what is actually allocated to vessels in access areas is a poundage. This has been the case since Framework 17 (which allowed for all trips to be broken without penalty, and which went into effect on October 2005). Furthermore, in Framework 25, any vessel with unharvested Closed Area 1 pounds are allowed to land those pounds from the area in a future fishing year. Although the method of allocating these trips has changed over time, the “trip-level” terminology and monitoring has not, which results in some level of burden on the industry and NMFS. To make the administrative process mirror how the fishery actually works, the PDT developed several alternatives to consider changes to policies and reporting requirements for access area trips. If adopted, these changes could remain in effect after 2015 and would improve monitoring and reduce burdens on the Agency and vessel owners by replacing the broken trip provision with prelanding reports.

2.4.1 No Action (trip allocations continue and broken trip procedures)

Under this alternative, vessels would continue to be allocated access area trips with associated possession limits, which could actually be taken across multiple trips. For example, if vessels receive 3 trips at 17,000 lb into the Mid-Atlantic access areas, although they would be allowed to land the entire 51,000 lb during the fishing year under multiple trips, they would still need to follow current broken trip procedures. That means that vessels would continue to report the termination of access area trips through VMS, submit broken trip adjustment forms to the Regional Office, and wait for the Regional Office to process the requests and issue compensation trips. In addition, vessels would continue to have to break a trip (meaning they would have to cross the VMS demarcation line, even if they had no intention of landing any scallops on that trip) and apply for a compensation trip in the last 60 days of a given fishing year in order to carry over that trip into the first 60 days of the following fishing year.

2.4.2 Remove broken trip process and replace with prelanding reports

Under this alternative, vessels would be given a simple poundage allocation in an access area, instead of referring to it as a trip allocation with associated pounds that can actually be fully harvested under multiple trips. For example, in a given fishing year, a vessel receives a 17,000 lb

allocation in Delmarva and a 34,000 lb allocation in Elephant Trunk, which can be harvested on multiple trips, but trips would have a possession limit of 17,000 lb. Let's take another example – if Alternative 2.3.2 is adopted, which would consider all three access areas in the Mid-Atlantic to be one area for 2015 – vessels would be allocated 51,000 lb, which could be fished on multiple trips at 17,000 lb/trip. Trip exchanges would still occur, but a vessel would only exchange a full-possession limit between areas. Notice that none of this changes in any way how the fishery currently operates, but it is using terminology that is more in line with how the fishery actually functions.

What would change would be how broken trips are handled – and this change is expected to alleviate burden on both vessel operators and NMFS. If this alternative is adopted, for each trip, vessels would submit a preland through their VMS unit to indicate pounds caught. If a vessel is unable to land a full possession limit on a single trip, the vessel could go out and fish it on multiple trips without having to request a compensation trip. NMFS would match dealer records with access area trips and pounds and deduct pounds from a vessel's total allocation. NMFS's accounting of access area pounds could be available as part of the information available on Fish-on-Line.

This alternative maintains a possession limit for FT LA vessels (17,000 pounds for Alternatives 2 and 3, and 16,000 pounds for Alternative 4). The possession limits for part-time vessels would also remain the same (10,200 pounds for Alternatives 2 and 3 and 9,600 for Alternative 4). Or does the Council want to consider using the same overall possession limit for all categories if these areas are managed more as pounds than trips?

If this option is selected, the Council would need to decide how to handle carryover access area trips. Because vessels would not have to take any action to carryover trips (i.e., no need to go out and break a trip in the last 60 days of a fishing year), all unlanded pounds from access areas could be allowed to be carried over, or the Council could consider only allowing a percentage of the access area trips (see options drafted below). Recall that part of the reason there is buffer between the limited access fleet's sub-ACL and sub-ACT is to account for carryover pounds from access area trips and DAS. To date, the sub-ACL has not been exceeded, but the Council could choose to be more precautionary by limiting the amount of carryover allowed from access area trips.

2.4.2.1 Option 1: Require vessels cross the VMS demarcation line and submit a preland within last 60 days of the fishing year in order to fish those pounds in the first 60 days of the following fishing year.

This option would be status quo -- there is already the potential to carryover all unused access area pounds into the next year, but vessels would still be required to take action (i.e., cross demarcation line and submit a preland or a broken trip form) in the last 60 days that an access area is open in a given fishing year in order to receive the carryover pounds for that area. *Pounds would still be required to be landed within the first 60 days of the next fishing year.*

2.4.2.2 Option 2: Allow for all unlanded access area pounds to be carried over without any action from vessels

This would be similar to status quo because there is already the potential to carryover all unused access area pounds into the next year, but vessels would no longer be required to break a trip in the last 60 days of a fishing year. Pounds would still be required to be landed within the first 60 days of the next fishing year. Under this option a vessel would not have to actually go out in their vessel to physically break a trip by crossing the VMS demarcation line.

As background the PDT evaluated recent catches per area to assess the level of current carryover. Note there is not an actual TAC per access area. Instead these values were calculated by multiplying the possession limit * the number of LA vessels.

Table 19 – Area “TAC” in million pounds compared to actual landings per access area (LA vessels only)

Access Area	2012	2013	2014*
Closed Area I	5.89	1.53	Closed
	4.99 (85%)	0.49 (32%)	Closed
Closed Area II	5.89	2.37	2.36
	5.51 (94%)	2.41 (102%)	1.79
Nantucket Lightship	3.06	1.51	1.39
	2.94 (104%)	1.86 (124%)	0.84
Hudson Canyon	8.82	2.73	Closed
	8.83 (100%)	2.79 (102%)	Closed
Elephant Trunk	Open Area	Closed	Closed
	Open Area	Closed	Closed
Delmarva	0	Closed	3.76
	0.20	Closed	2.36
Total AA	23.66	8.14	7.51
	22.47 (95%)	7.55 (93%)	5.07

** Preliminary – FY2014 is not complete yet. Data through September 10, 2014*

2.5 MEASURES TO ALLOW FISHING IN STATE WATERS AFTER FEDERAL NGOM TAC IS REACHED

The scallop resource in the GOM varies widely with sporadic booms and busts. The qualification period adopted under Amendment 11 for the general category IFQ fishery did not overlap with a period of high scallop abundance in the GOM (FY2000-2004). Therefore, a separate limited entry program was adopted in Amendment 11 with a longer qualification period and no landings history requirement, but more conservative fishing measures including lower possession limits and more restrictive gear requirements. The LAGC Northern Gulf of Maine (NGOM) permit was established and about 125 permits were issued in 2010.

Only a fraction of these permits are active, under 15 vessels, and until more recently total NGOM catches were below 10,000 pounds most years, or 10-15% of the total TAC of 70,000 pounds (Table 20). In FY2013 catch increased in both federal and state waters within the NGOM. In terms of federal waters, total catch has increased primarily from increased fishing on Platt's Bank (Figure 9).

Currently, once the federal NGOM hard TAC is reached all vessels with a federal permit are prohibited to fish within the NGOM area, including state waters.

Section 648.62 (b)(2) Unless a vessel has fished for scallops outside of the NGOM scallop management area and is transiting the NGOM scallop management area with all fishing gear stowed in accordance with §648.23(b), no vessel issued a scallop permit pursuant to §648.4(a)(2) may possess, retain, or land scallops in the NGOM scallop management area once the Regional Administrator has provided notification in the FEDERAL REGISTER that the NGOM scallop total allowable catch in accordance with this paragraph (b) has been reached. Once the NGOM hard TAC is reached, a vessel issued a NGOM permit may no longer declare a state-only NGOM scallop trip and fish for scallops exclusively in state waters within the NGOM. A vessel that has not been issued a Federal scallop permit that fishes exclusively in state waters is not subject to the closure of the NGOM scallop management area.

To date this has not been an issue since the federal NGOM catch has been well below the TAC. However, total catch increased in 2013, and catches in 2014 have been higher as well. Scallop fishing in the GOM is traditionally a winter fishery. The state of Maine scallop season is from December – March. As catches increase in federal waters within the NGOM, the risk of the federal TAC being reached and vessels with state permits not being able to fish in state waters is higher. For comparison, the state water landings in both Maine and Massachusetts are much higher than federal water landings (**Error! Reference source not found.**). The Council agreed to include this issue for consideration when this action was initiated at the June 2014 Council meeting.

Figure 9 – 2012 and 2013 VTR fishing locations within the NGOM (all scallop permit types)

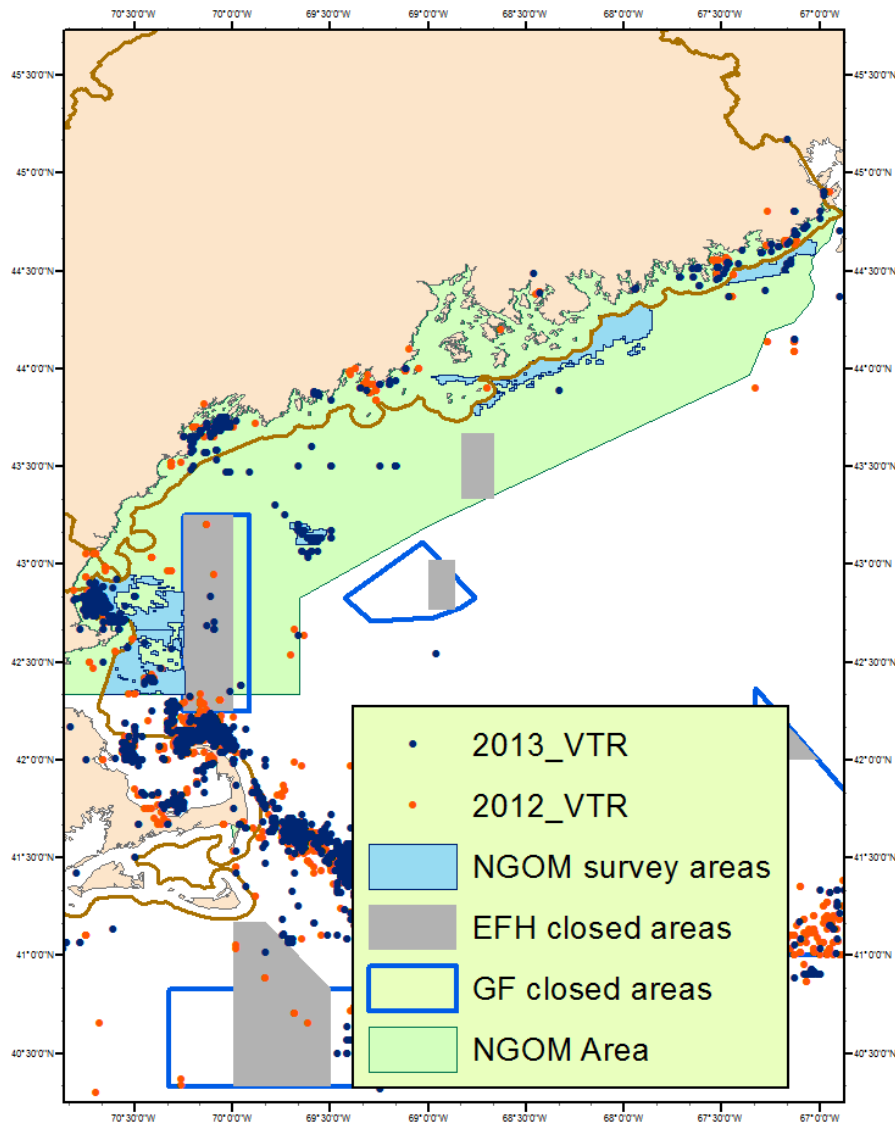


Table 20 – Summary of NGOM scallop catch

Year	NGOM landings	% of TAC (70,000 lbs.)
2010	11,539	16.5%
2011	7,946	11.4%
2012	7,733	11.0%
2013	40,663	58.1%
2014 to date (Mar1-May21)	11,940	17.1%

2.5.1 No Action

Once the federal NGOM hard TAC is reached, all vessels with a federal scallop permit are prohibited from fishing for scallops in the NGOM, INCLUDING state waters.

2.5.2 All vessels with both a state scallop permit and federal NGOM permit allowed to fish in state waters after the federal TAC is reached

If the federal NGOM hard TAC is reached and the area is closed, but a vessel has both a federal NGOM permit and a state water scallop permit, that vessel would be permitted to fish exclusively in state waters for scallops under state water rules. All other vessels with federal scallop permits would be prohibited to fish for scallops in state waters in the NGOM management area after the TAC is reached (LA, LAGC IFQ, and LAGC Incidental).

2.5.3 Revise the state water exemption program provisions to allow a state to request a specific exemption related to fishing in state waters after the NGOM TAC is reached

No changes would be made to the regulations prohibiting all vessels with a federal scallop permit to fish for scallops in state waters after the NGOM hard TAC is reached (§648.62). Instead, the regulations related to state water exemptions would be revised to allow an individual state to request a specific exemption related to fishing in state waters after the NGOM TAC is reached. Section 648.54 of the regulations specify the eligibility, requirements and exemptions vessels are subject to. If adopted, this alternative would allow a state to apply for an exemption from the prohibition to fish in state waters if the federal NGOM hard TAC is reached. To date, this alternative is not specific to permit type; a state could specify which federal scallop permit types could potentially be exempt from this prohibition.

2.6 MEASURES TO MAKE TURTLE REGULATIONS CONSISTENT

Since the turtle deflector dredge requirement was approved by the Council, the Council has requested that NMFS consider modifying the boundary of the turtle chain may restriction to be consistent. NMFS responded to these requests with a letter in February 2014 suggesting a specific option that could be considered to align the boundaries and seasons to maintain conservation benefit for turtles and reduce regulatory complexity. The Council decided to include this issue in this action when it was initiated at the June 2014 Council meeting.

2.6.1 No Action

There are two specific measures in place in the Scallop FMP that are designed specifically to reduce mortality on sea turtles; the turtle chain mat requirement and the turtle deflector dredge requirement (**Figure 10**).

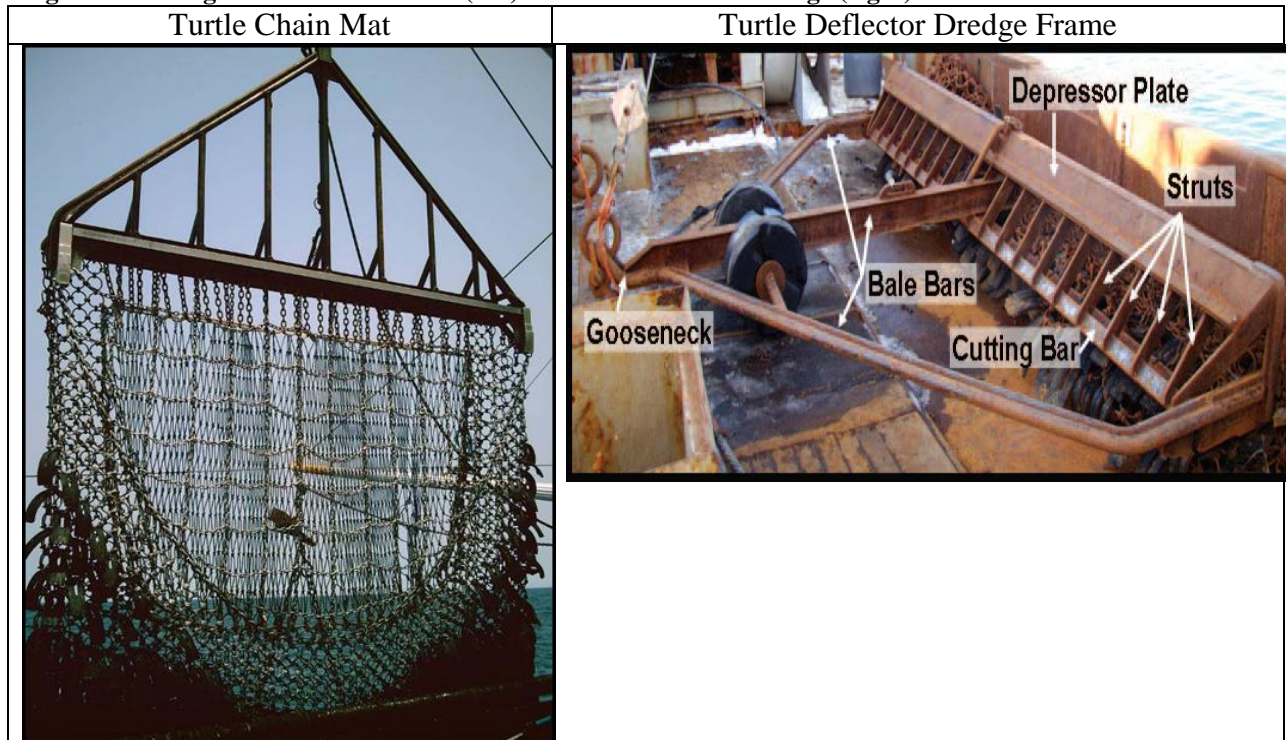
- *Turtle chain mat requirement:*

During the time period of May 1 through November 30, any vessel with a sea scallop dredge and required to have a Federal Atlantic sea scallop fishery permit, regardless of dredge size or vessel permit category, that enters waters south of 41°9.0' N. latitude, from the shoreline to the outer boundary of the Exclusive Economic Zone must have on each dredge a chain mat as described in Section 223.206(d)(11) of the regulations.

- *Turtle deflector dredge:*

From May 1 through October 31, any limited access scallop vessel using a dredge, regardless of dredge size or vessel permit category, or any LAGC IFQ scallop vessel fishing with a dredge with a width of 10.5 ft (3.2 m) or greater, that is fishing for scallops in waters west of 71° W long., from the shoreline to the outer boundary of the EEZ, must use a turtle deflector dredge (5 elements of the dredge). A limited access scallop vessel that uses a dredge with a width less than 10.5 ft (3.2 m) is required to use a TDD, except that such a vessel is exempt from the “bump out” requirement. LAGC vessels with dredges less than 10.5 ft are exempted from the requirement all together.

Figure 10 – Images of turtle chain mat (left) and turtle deflector dredge (right)



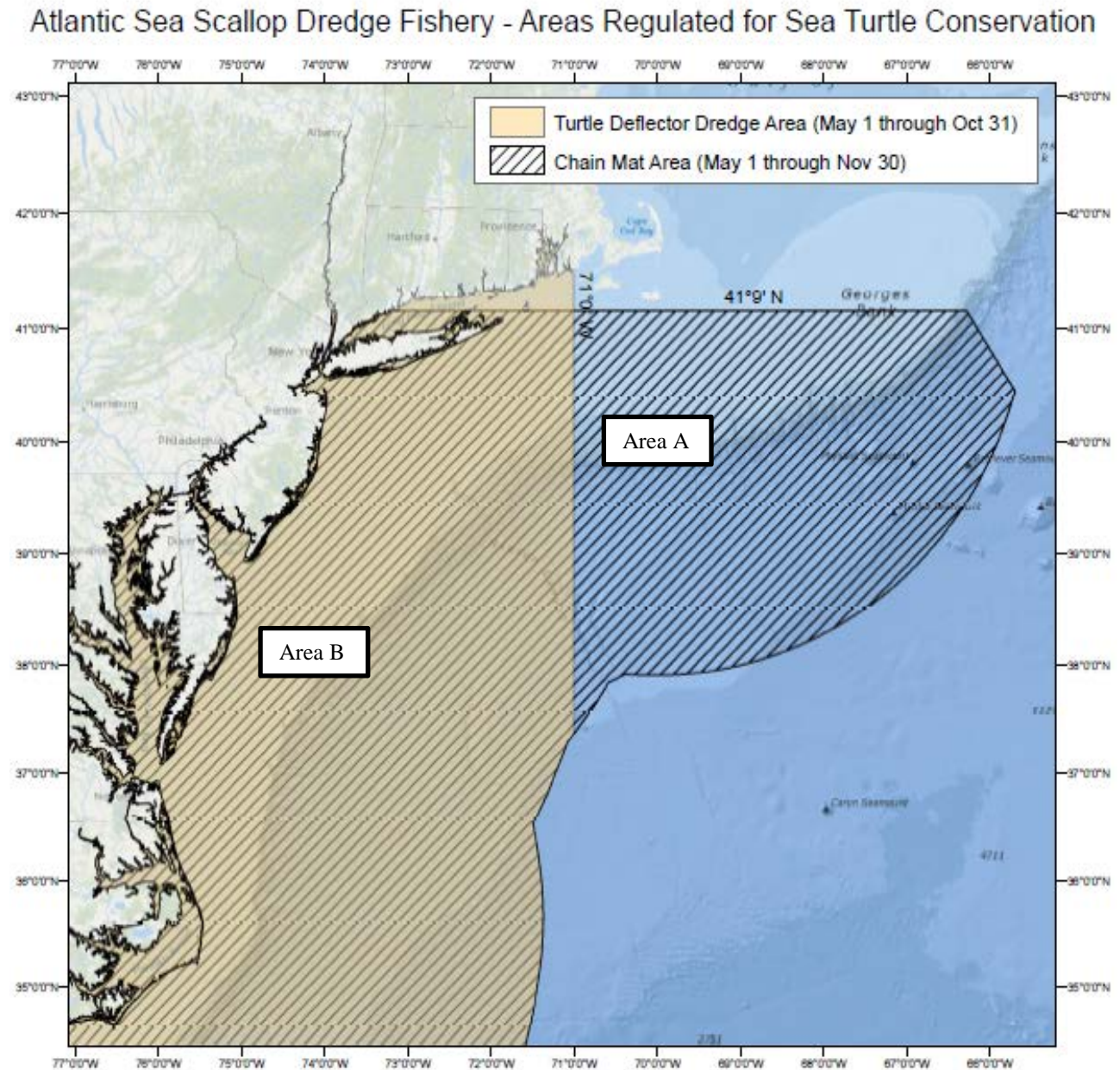
2.6.2 Revise season and area for turtle chain mat and turtle deflector dredge to be consistent (waters west of 71W and during the months of May through November)

Revise the turtle chain mat regulations to have a consistent boundary with the TDD requirement. And revise the TDD regulations to have a consistent season with the chin mat regulations. If approved, both gear elements would be required for the same area (waters west of 71W) and during the same season (May-November).

The PDT discussed that the current chain mat requirement is required for all dredges, regardless of size of vessel permit category. However, the turtle deflector dredge requirement is limited to all LA vessels and only LAGC IFQ vessels that fish with a dredge greater than 10.5 ft. LAGC IFQ vessels that fish with smaller dredges are exempt from the turtle deflector dredge requirement. The PDT recommends that this measure should maintain those permit type

differences. Specifically, if approved this alternative would require all scallop dredge vessels to fish with a chain mat, regardless of dredge size or permit category. And all LA vessels and all LAGC IFQ vessels greater than 10.5 feet would need to fish with a TDD.

Figure 11 – Management areas for TDD (beige) and chain mat (hatched) regulations in the scallop fishery “Area A” and “Area B” have been superimposed. They delineate subsections of the chain mat area but east and west of the TDD boundary. These areas are reference areas used in the analyses for FW26.



2.7 MEASURES TO DEVELOP NEW ACCOUNTABILITY MEASURES FOR NORTHERN WINDOWPANE FLOUNDER AND MODIFY EXISTING ACCOUNTABILITY MEASURES FOR GB AND SNE/MA YELLOWTAIL FLOUNDER

The Scallop Committee recommended the Council consider including AMs for southern windowpane flounder in this action, if a sub-ACL is approved in GF FW53. The suggestion was to consider a gear modification area AM similar to the one recently approved for SNE/MA windowpane flounder. The Council decided to consider this issue in this action at the June 2014 Council meeting when FW26 was initiated.

In addition, the Scallop Committee also recommended the Council consider revising the GB and SNE/MA YT seasonal area closure AMs. Those area closure AMs were developed before results were available from modified gear research including shorter aprons and lower hanging ratios. The research results suggest that these gear modifications would also be beneficial for YT flounder. Therefore, this action could include similar proactive and reactive gear modification AMs for YT flounder as well. Similarly, the Council decided to consider this issue in this action at the June 2014 Council meeting when FW26 was initiated.

2.7.1 AM for northern windowpane flounder

2.7.1.1 No Action

Under No Action, the sub-ACL for northern 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 (unless they exceed their sub-ACL by more than 50%). The program for northern 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 26, 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.

2.7.1.2 Reactive AM for northern WP – Seasonal gear restricted area

This alternative would implement a gear restricted area for a specified period of time with higher bycatch rates of northern windowpane flounder. This is the same gear modification as the AM for southern windowpane flounder implemented under Framework 25. The specific gear modification has two elements: 1) shorter apron in the dredge bag; and 2) reduced twine top hanging ratio. Figure 12 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.

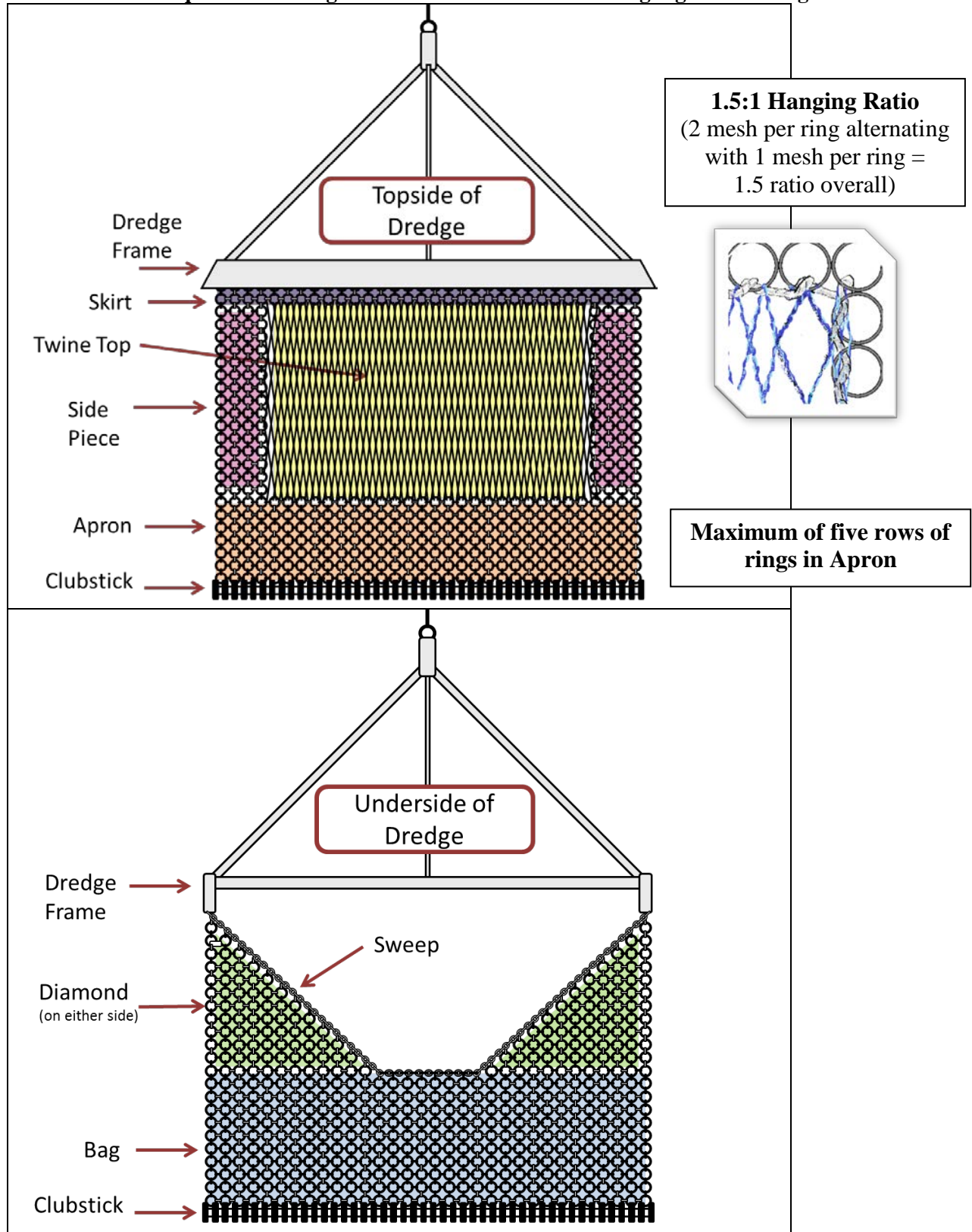
**THE PDT IS STILL DEVELOPING POTENTIAL AM AREAS AND SEASONS
THIS ITEM WAS IDENTIFIED AS THE LOWEST PRIORITY ISSUE IN THIS ACTION –
THEREFORE IT WILL BE DEVELOPED AFTER OTHER ITEMS ARE COMPLETE**

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 rings wide subtracting 5 rings on each side of the side pieces, yielding 30 rings would only be able to use a twine top with 45 or fewer meshes so that the overall ratio of meshes to rings did not exceed 1.5 ($45 \text{ meshes} / 30 \text{ rings} = 1.5$). 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. The Council clarified that since this AM would impact all vessels on a scallop trip it would apply to vessels that fish for scallops with trawl gear as well. Specifically, if this AM were triggered a vessel fishing for scallops with trawl gear would be prohibited from fishing for scallops within the gear restricted area while the AM is effective. However, if a vessel with trawl gear wants to fish in the AM area and season if it were implemented, it would be permitted to switch to the modified dredge gear. Otherwise, vessels fishing for scallops with trawl gear would be prohibited in the AM area and season if AMs are triggered.

**Figure 12 – Typical Scallop dredge gear (topside of gear on top and underside on bottom)
 Gear requirements for gear restricted AM alternative highlighted in margin**



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.

2.7.1.3 Proactive AM for northern WP – Modify the restriction on the number of rings in apron of dredge

Currently there is a requirement that all scallop dredges have a MINIMUM of seven rows of rings in the apron of the dredge in all areas east of 71 W. Framework 25 modified this outdated regulation for all waters west of 71W, excluding Mid-Atlantic access areas, already as a proactive AM for southern windowpane flounder, but the requirement to have a minimum 7-ring apron still exists for all other areas.

This alternative would modify the current requirement to have at least a seven row apron, and instead require all vessels to have a MAXIMUM of seven rows. This would apply to all open areas and access areas, all year long. As noted, this requirement is already in place as a proactive AM for southern WP in open areas west of 71W. If this alternative is adopted that would apply to all other areas as well, Mid-Atlantic access areas, scallop access areas on GB, and open areas east of 71 W as well.

Background

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 if 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 requiring vessels that fish in the AM area all year to use a maximum of seven rows, and enable vessels to voluntarily fish with an even shorter apron, less than seven rings, to proactively reduce flatfish bycatch in any area or season. This measure would apply to all scallop dredge vessels (LA and LAGC IFQ).

The current 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, not only for SNE/MA WP but all flatfish bycatch that overlap with this AM area. The combination of a shorter apron and lower hanging ratio has been shown to be more selective for larger scallops.

2.7.1.4 Proactive AM for northern WP - Eliminate the restriction on the number of rings in apron of dredge

This alternative would eliminate the regulation on number of rings in the apron all together. A vessel could fish with any number of rings in the apron of the dredge. Eliminating the restriction may have more conservation benefit for flatfish compared to No Action, which requires vessels to fish with a minimum of seven, if vessels choose to fish with seven or less rows of rings. However, simply eliminating the restriction could enable a vessel to fish with as many rows as they want (i.e. more than seven). So compared to No Action this may have some benefit for flatfish for vessels that choose to fish with less than currently allowed (minimum of seven rows), but not as much potential benefit as the option that would implement a maximum of seven rows (Alternative 2.7.1.3).

2.7.2 Modify GB and SNE/MA yellowtail flounder AMs

2.7.2.1 No Action

If AMs trigger for the scallop fishery a series of seasonal closure alternatives are potentially implemented based on which component of the scallop fishery caused the overage. There are three different YT AMs in the scallop fishery:

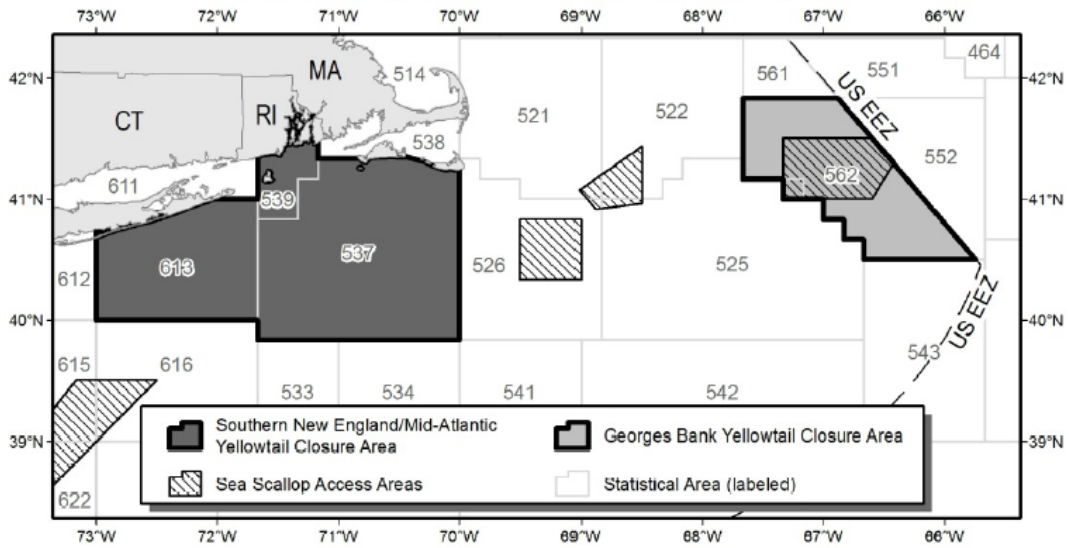
- 1) one for the LA fleet;
- 2) one for LAGC IFQ dredge fishery; and
- 3) one for LAGC IFQ trawl fishery.

The LA fishery has AMs for both GB and SNE/MA YT, but the LAGC IFQ fisheries only have AMs for SNE/MA YT since their catch of GB YT is minimal.

- **When do YT AMs trigger?**

For LA fishery AMs trigger if the total YT ACL is exceeded and the scallop fishery sub-ACL was exceeded by any amount; or the total YT ACL was *not* exceeded, but the scallop fishery exceeded its sub-ACL by 50% or more. The LAGC fleet has two other caveats for SNE/MA YT AM. AMs for LAGC dredge vessels only trigger if YT catch from that segment is greater than 3% of sub-ACL. AMs for LAGC trawl vessels only trigger if YT catch from that segment is greater than 10% of sub-ACL. In addition, if the LAGC trawl catch is more than 10% of the total sub-ACL, AMs for this segment trigger regardless of whether the total ACL or total sub-ACL are exceeded. In this case the maximum closure season is implemented (7 months)

Figure 13 – AM seasonal closed areas for SNE/MA and GB YT for limited access fishery (SNE/MA AM area is the same for LAGC IFQ dredge fishery)



Map 1. AM closure areas for limited access vessels in GB and SNE/MA. Note that the closure areas in SNE/MA are identical to those for the LAGC IFQ fishery when fishing with dredges.

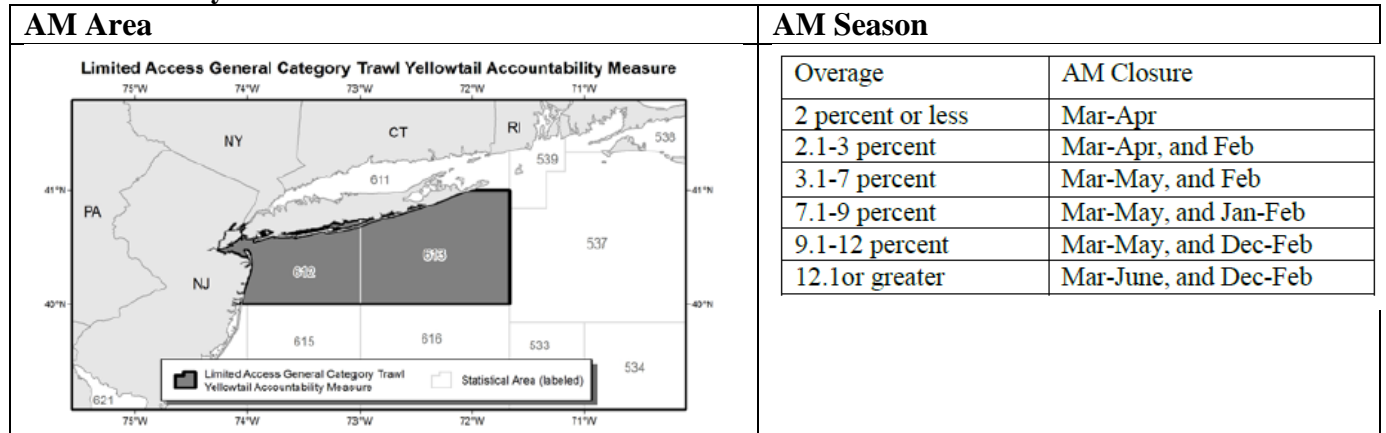
Table 21 – YT AM seasons for LA fishery

SNE/MA		GB	
Percent overage of YTF sub-ACL	Length of closure	For Years CA2 AA Open	
2 or less	Mar-Apr	Percent overage of YTF sub-ACL	Length of closure
2.1-3	Mar-Apr , Feb	3 or less	Oct-Nov
3.1-7	Mar-May, Feb	3.1-14	Sep-Nov
7.1-9	Mar-May, Jan-Feb	14.1-16	Sep-Jan
9.1-12	Mar-May, Dec-Feb	16.1-39	Aug-Jan
12.1-15	Mar-Jun, Dec-Feb	39.1-56	Jul-Jan
15.1-16	Mar-Jun, Nov-Feb	Greater than 56	Mar-Feb (All year)
16.1-18	Mar-Jul, Nov-Feb	For Years CA2 AA Closed	
18.1-19	Mar-Aug, Oct-Feb	Percent overage of YTF sub-ACL	Length of closure
19.1 or more	Mar-Feb (All year)	1.9 or less	Sep-Nov
		2.0 -2.9	Aug-Jan
		3.0 -3.9	Mar-Aug, Feb
		4.0 - 4.9	Mar, Jul-Feb
		5.0 -5.9	Mar-May, Jul-Feb
		6.0 or greater	Mar-Feb (All year)

Table 22 – YT AM season for LAGC IFQ dredge fishery

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

Figure 14 – No Action SNE/MA YT AM seasonal closed area and season for LAGC IFQ trawl fishery



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 either 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 (unless they exceed their sub-ACL by more than 50%). The program for northern 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.

2.7.2.2 Reactive AM for GB YT – Seasonal gear restricted area

If selected, this would replace the seasonal area closure AMs currently in effect for GB YT. Instead, if AMs are triggered in the scallop fishery a seasonal gear modification area will be implemented for a specified amount of time with higher bycatch rates of GB YT. This is the same gear modification as the AM for southern windowpane flounder implemented under Framework 25. The specific gear modification has two elements: 1) shorter apron in the dredge bag; and 2) reduced twine top hanging ratio. Figure 12 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. More details of the specific gear restrictions are described in Section 2.7.1.2.

**THE PTD IS STILL DEVELOPING POTENTIAL AM AREAS AND SEASONS
THIS ITEM WAS IDENTIFIED AS THE LOWEST PRIORITY ISSUE IN THIS ACTION –
THEREFORE IT WILL BE DEVELOPED AFTER OTHER ITEMS ARE COMPLETE**

2.7.2.3 Proactive AM for GB YT – Modify the restriction on the number of rings in apron of dredge

Currently there is a requirement that all scallop dredges have a MINIMUM of seven rows of rings in the apron of the dredge in all areas east of 71 W. Framework 25 modified this outdated regulation for all waters west of 71W excluding Mid-Atlantic access areas already as a proactive AM for southern windowpane flounder, but the requirement to have a minimum 7-ring apron still exists for all other areas.

This alternative would modify the current requirement to have at least a seven row apron, and instead require all vessels to have a MAXIMUM of seven rows. This would apply to all open areas and access areas, all year long. This is the same alternative as Alternative 2.7.1.3 for northern windowpane, it is repeated here to highlight that this proactive measure is expected to reduce yt bycatch as well.

2.7.2.4 Proactive AM for GB YT - Eliminate the restriction on the number of rings in apron of dredge

This alternative would eliminate the regulation on number of rings in the apron all together. A vessel could fish with any number of rings in the apron of the dredge. Eliminating the restriction may have more conservation benefit for flatfish compared to No Action, which requires vessels to fish with a minimum of seven, if vessels choose to fish with seven or less rows of rings. However, simply eliminating the restriction could enable a vessel to fish with as many rows as they want (i.e. more than seven). So compared to No Action this may have some benefit for flatfish for vessels that choose to fish with less than currently allowed (minimum of seven rows), but not as much potential benefit as the option that would implement a maximum of seven rows (Alternative 2.7.2.3). This is the same alternative as Alternative 2.7.1.4 for northern windowpane, it is repeated here to highlight that this proactive measure is expected to reduce yt bycatch as well.

2.7.2.5 Reactive AM for SNE/MA yellowtail flounder – Seasonal gear restricted area

If selected, this would replace the seasonal area closure AMs currently in effect for SNE/MA YT. Instead, if AMs are triggered in the scallop fishery a seasonal gear modification area will be implemented for a specified amount of time with higher bycatch rates of SNE/MA YT. This is the same gear modification as the AM for southern windowpane flounder implemented under Framework 25. The specific gear modification has two elements: 1) shorter apron in the dredge bag; and 2) reduced twine top hanging ratio. Figure 12 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. More details of the specific gear restrictions are described in Section 2.7.1.2.

**THE PTD IS STILL DEVELOPING POTENTIAL AM AREAS AND SEASONS
THIS ITEM WAS IDENTIFIED AS THE LOWEST PRIORITY ISSUE IN THIS ACTION –
THEREFORE IT WILL BE DEVELOPED AFTER OTHER ITEMS ARE COMPLETE**

2.7.2.6 Proactive AM for SNE/MA YT – Modify the restriction on the number of rings in apron of dredge

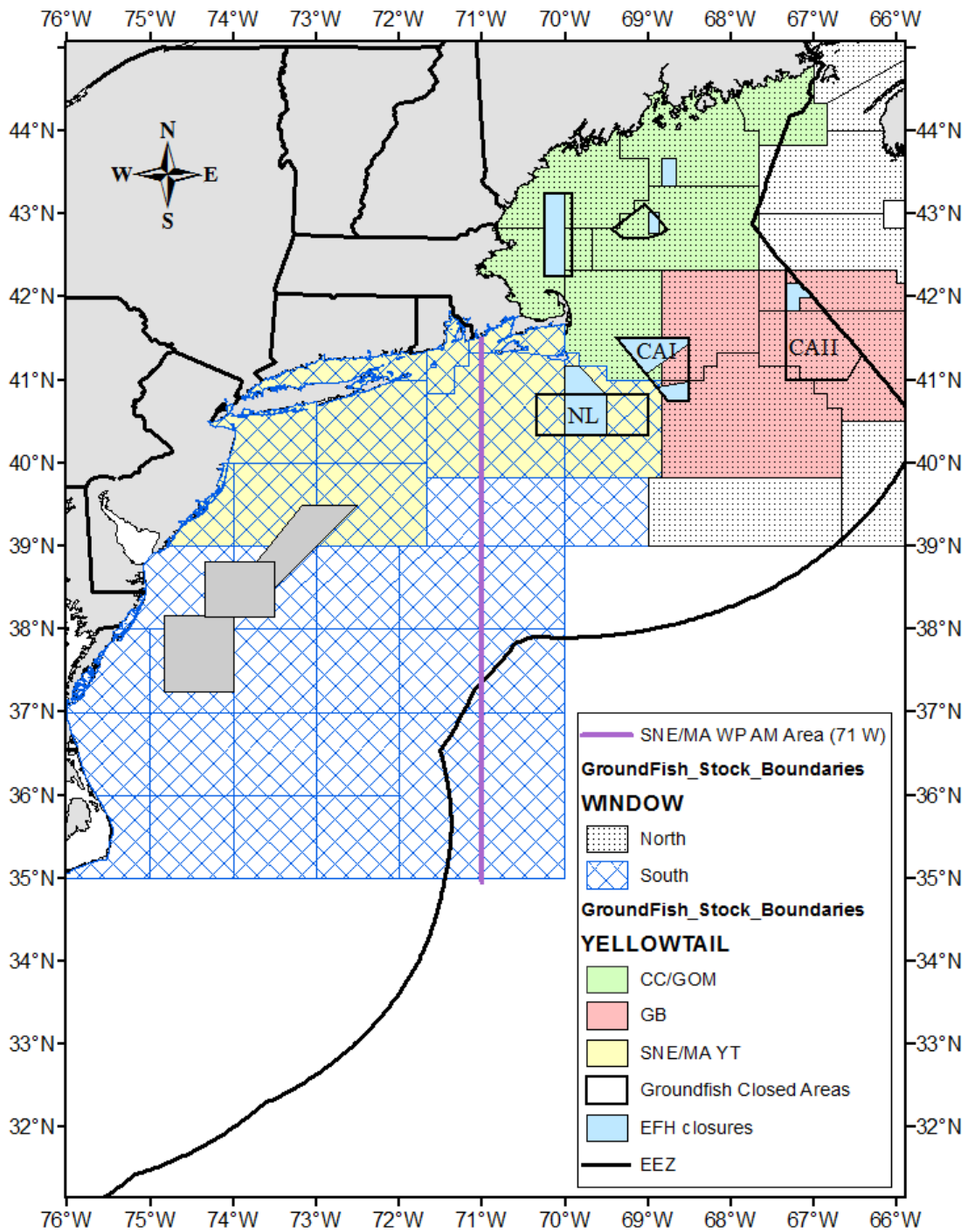
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This alternative would modify the current requirement to have at least a seven row apron, and instead require all vessels to have a MAXIMUM of seven rows. This would apply to all open areas and access areas, all year long. This is the same alternative as Alternative 2.7.1.3 for windowpane, it is repeated here to highlight that this proactive measure is expected to reduce yt bycatch as well.

2.7.2.7 Proactive AM for SNE/MA YT - Eliminate the restriction on the number of rings in apron of dredge

This alternative would eliminate the regulation on number of rings in the apron all together. A vessel could fish with any number of rings in the apron of the dredge. Eliminating the restriction may have more conservation benefit for flatfish compared to No Action, which requires vessels to fish with a minimum of seven, if vessels choose to fish with seven or less rows of rings. However, simply eliminating the restriction could enable a vessel to fish with as many rows as they want (i.e. more than seven). So compared to No Action this may have some benefit for flatfish for vessels that choose to fish with less than currently allowed (minimum of seven rows), but not as much potential benefit as the option that would implement a maximum of seven rows (Alternative 2.7.2.6). This is the same alternative as Alternative 2.7.1.4 for northern windowpane, it is repeated here to highlight that this proactive measure is expected to reduce yt bycatch as well.

Figure 15 Stock boundaries for windowpane and yellowtail flounder stocks



2.8 MEASURES TO ALLOW A LIMITED ACCESS VESSEL TO DECLARE OUT OF FISHERY ON RETURN TO HOMEPORT

The Scallop Committee recommended that the Council include consideration of an inshore transit corridor for scallop vessels to declare out of the fishery on DAS fishing when transiting back to port. For some ports on the periphery of the fishery, i.e. Virginia and North Carolina, steaming times can be very long, up to 2 days. Overall scallop landings were relatively stable between 2009-2012, but landings for some states have declined (i.e. Virginia and New Jersey). As DAS are reduced there is more incentive to land closer to fishing grounds to avoid being charged DAS for steaming time. In addition, over the years many of the primary fishing grounds in the Mid-Atlantic have been converted to scallop access areas (HC, ETA, and Delmarva). Therefore, there are fewer options for open area fishing locations for vessels homeported farther south closer to their homeports. The Council agreed to consider these potentially negative impacts on some ports and included this issue in Framework 26 at the June 2014 Council meeting when the action was initiated.

2.8.1 No Action

Limited access scallop vessels on an open area DAS trip are charged DAS from the time a vessel positions seaward of the VMS demarcation line until it once again positions shoreward of the demarcation line. There is some flexibility built into the program already. First, a trip no longer has to be declared from a port, but it must be declared from inside of the demarcation line. Meaning, a vessel can steam inside or outside of the demarcation line under a DOF-TST code, which stands for declared out of fishery and transiting. Under that code a vessel can steam closer to shore it wants to fish, pull in shoreward of the demarcation line, and declare into the scallop fishery from there. The scallop portion of the trip/DAS charge will still begin on the vessels first VMS position report seaward of the demarcation under the code for open area fishing (SES-SCA-OPSxxx).

In addition, there are provisions that allow a vessel to come inside demarcation for safety reasons. The trip/DAS charge begins with the first VMS position report seaward of the demarcation line and ends with the first VMS position report shoreward of the line. But if a vessel stays inside the VMS line for fewer than four hours, those separate trips codes are “stitched” together, and the vessel is charged DAS for the time spent inside demarcation, up to four hours. However, if a vessel is inside demarcation for more than four hours those trips are not automatically stitched together, and a vessel is not charged DAS for that time inside the line. While it was not the intent of this safety VMS provision that allows a vessel to come inside the line during a trip for safety, there are vessels that seem to be using this provision to move from one fishing ground to another and not be charged for that transit time, if it exceeds four hours.

On the way back to port at the end of a trip, the DAS clock ends when a vessel positions a report inside the VMS demarcation line and stays inside for more than four hours. At that point a vessel could steam back to port and not be charged DAS if it stays within the VMS demarcation line. If a vessel positions outside the line after the four hour period inside, the vessel will be charged DAS for the time spent seaward of the line and VMS would once again record it as a separate trip.

2.8.2 — Implement an inshore transit corridor

A corridor would be defined and vessels could enter this area on their return to port and not be charged DAS while in the corridor. To reduce or eliminate potential abuse of this corridor provision several requirements would apply:

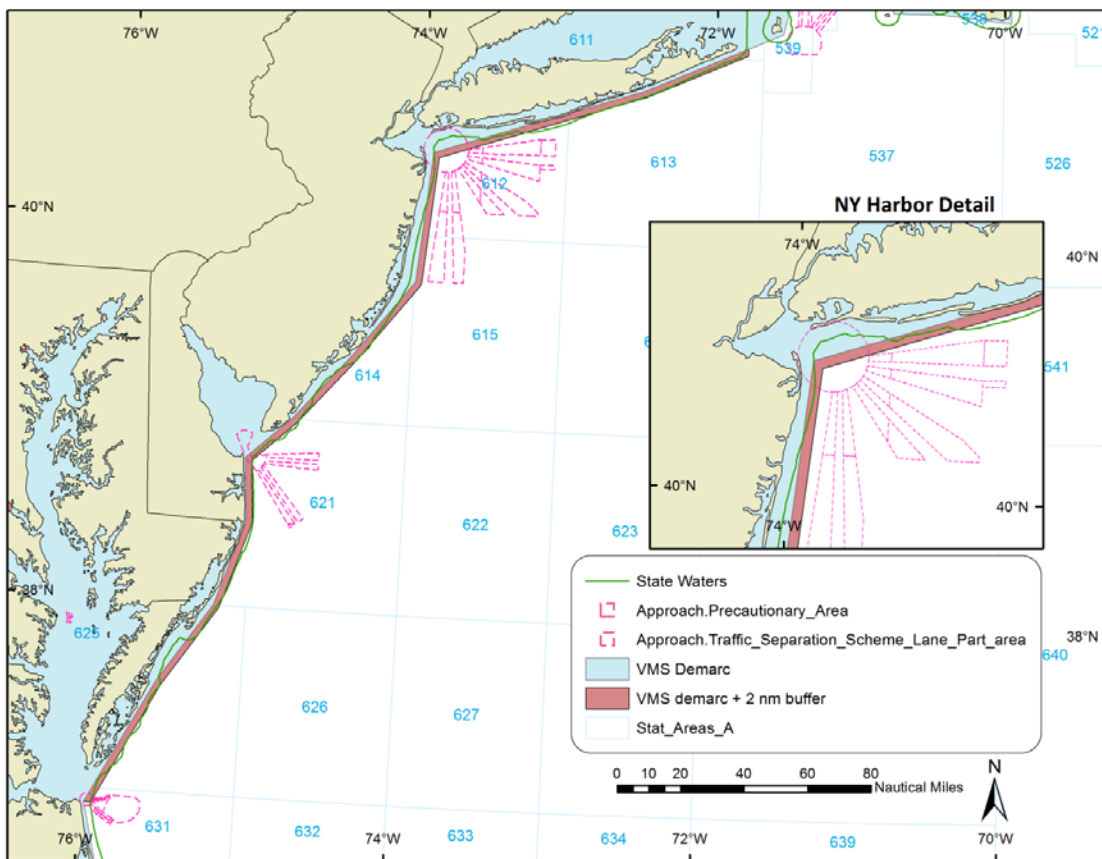
- a. Vessel must return directly to port and offload scallops immediately
- b. Pre-landings notification required
- c. No in-shell product on board (or maximum of 50 bu)
- d. Gear must be stowed
- e. Increased VMS polling within corridor (suggested as potential measure at Council meeting buy initial input from NMFS OLE is that this is not feasible)
- f. Others?

Oct Cmte
Motion #6
Move to
Considered
and
Rejected

2.8.2.1 — Corridor area

The corridor area should be inshore of primary scallop fishing grounds as well as major shipping lanes. May be most straight forward to simply keep the area congruent with the VMS demarcation line and simply extend it farther from shore with 2 nautical miles, or 4 nautical miles.

Figure 16 — Potential VMS corridor boundary (2 nautical miles east of VMS demarcation line from Montauk, NY to Cape Henry, VA)



2.8.3 Implement a separate VMS declaration code for steaming back to port

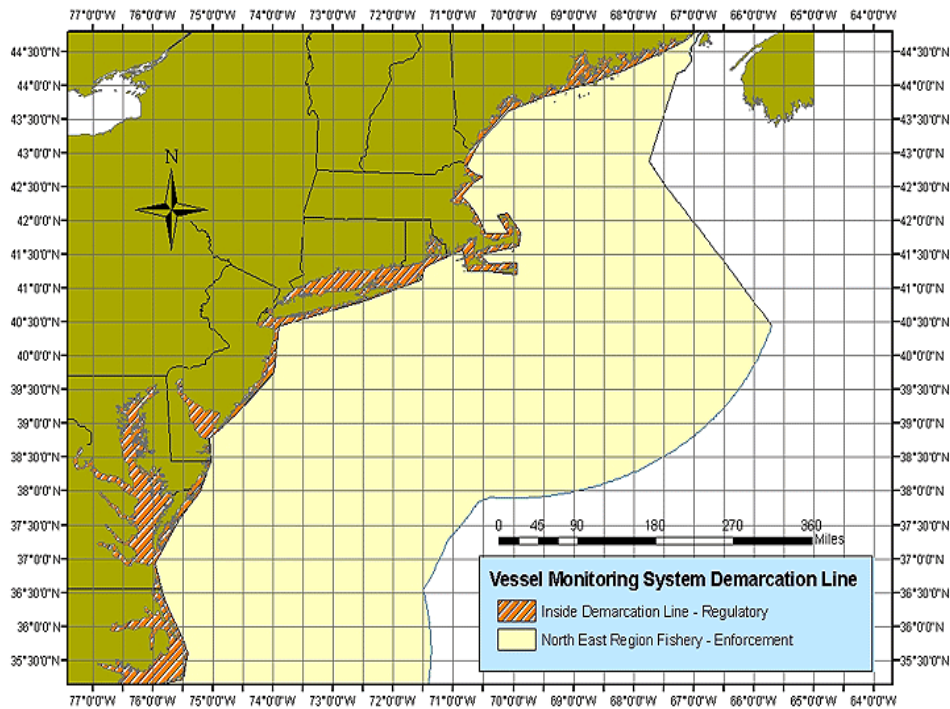
Limited access vessels could finish their open area scallop trip by going inside the demarcation line, ending their scallop DAS trip, and declare out of the fishery (this would require a new DOF code to identify transiting with product on board). Once this DOF trip has been declared, vessels could go outside of the demarcation line to travel back to port with the following requirements:

- a. Vessel must return directly to port and offload scallops immediately
- b. Pre-landings notification required
- c. No in-shell product on board (or maximum of 50 bu)
- d. Gear must be stowed
- e. Industry funded increased VMS polling after DOF activity code activated after vessel crosses demarcation line (up to every five minutes)
- f. *As previously stated, it is not feasible to perform polling changes with the current vTrack functionality. Automatic polling has been identified as a future capability in a recent VMS data needs assessment, but the earliest implementation, if approved, is likely to be 2017.

Clarifications based on Enforcement Cmte input

If this alternative is adopted it will have some impact on DAS allocations. DAS allocations are currently calculated using “DAS charged”, or the time a vessel is on the clock. If a modification is made to reduce the time a vessel is on the clock, it will have impacts on the calculation of DAS. In order to account for that flexibility an adjustment will be applied to the overall DAS allocated to the fishery. This adjustment can be modified in the future. See separate document for the estimate of the DAS adjustment that will be used in Framework 26 if this measure is adopted.

Figure 17 – VMS demarcation line



2.8.4 Implement a separate VMS declaration code for steaming back to port south of Cape May only

Limited access vessels fishing an open area trip could finish their scallop trip by going inside the VMS demarcation line at a specific point, i.e. between Cape Henlopen and Cape May NJ in Delaware Bay, or inside of the VMS demarcation line south of 39 N (Figure 18). This alternative is similar to the previous one, except it would only apply to vessels that intend to land scallops south of Cape May. A vessel would be prohibited from declaring out of the fishery in Cape May, and then transiting to a port north of that area; this measure is intended to help increase incentive for vessels to land scallops in the southern part of the fishery by reducing some of the steaming time to return to those more distant ports. This alternative was included to recognize that much of the primary or traditional open area scallop fishing grounds have been converted into scallop access areas (Delmarva and Elephant Trunk); therefore, vessels in the southern part of the region need to steam farther to fish open areas. Vessels are currently allowed to “clock in” near Cape May to start a trip, but the VMS demarcation line does not feasible enable a vessel to “clock out” of the fishery near fishing grounds and transit back to port south of Cape May. For many other ports farther north vessels can clock out and transit back to port off the clock for the majority of their steam home.

In order to take advantage of this measure a vessel wanting to end their open area scallop DAS trip, would need to make a new DOF declaration from a particular point south of Cape May (to be determined by NMFS in the final regulations). Once this DOF trip has been declared, vessels could go outside of the demarcation line to travel back to port with the following requirements:

- a. Vessel must return directly to port and offload scallops immediately
- b. Pre-landings notification required
- c. No in-shell product on board (~~or maximum of 50 bu~~)
- d. Gear must be stowed
- e. Industry funded increased VMS polling after DOF activity code activated after vessel crosses demarcation line (up to every five minutes)

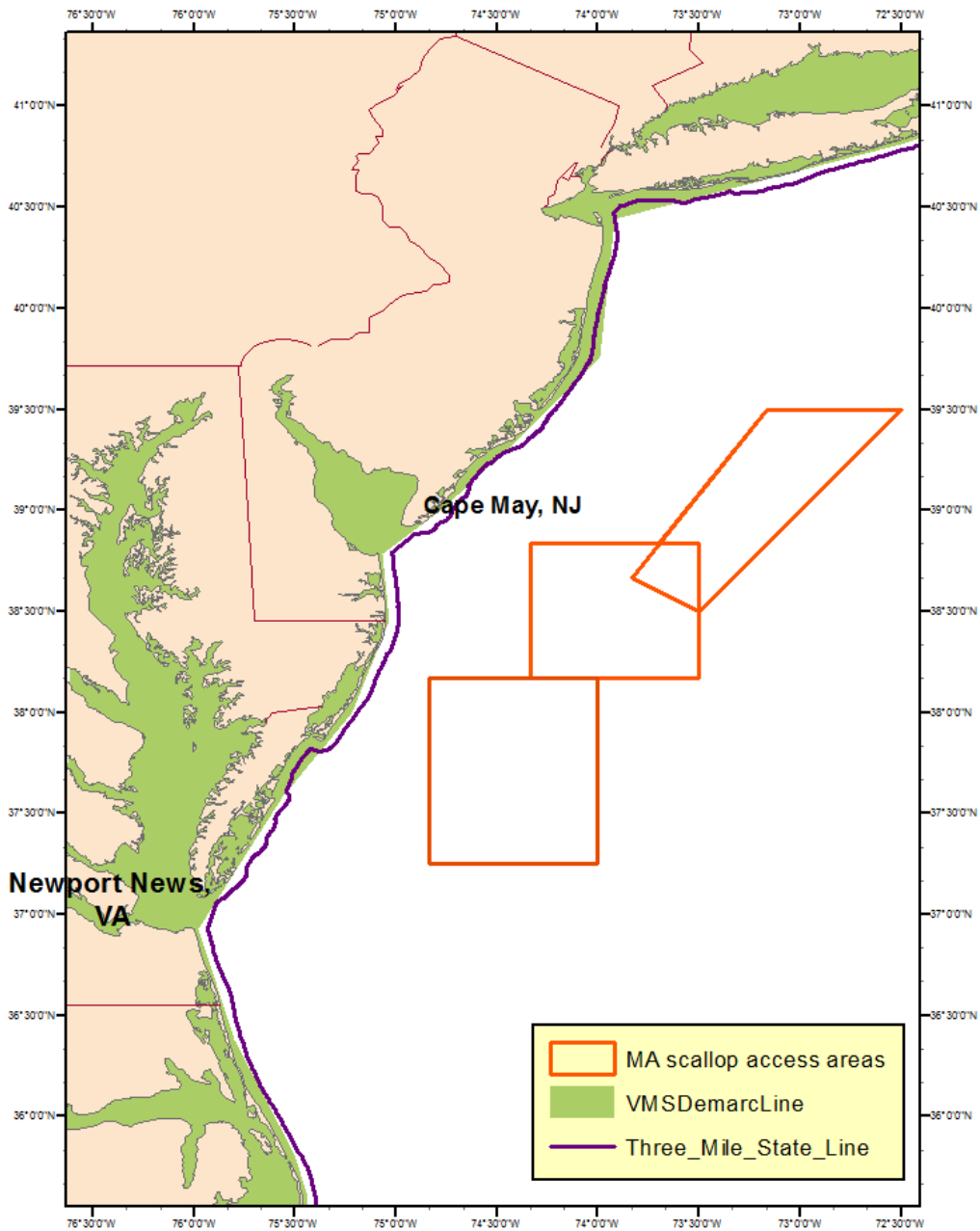
Clarifications based on
Enforcement Cmte input

*As previously stated, it is not feasible to perform polling changes with the current vTrack functionality. Automatic polling has been identified as a future capability in a recent VMS data needs assessment, but the earliest implementation, if approved, is likely to be 2017.

If this alternative is adopted it will have some impact on DAS allocations. DAS allocations are currently calculated using “DAS charged”, or the time a vessel is on the clock. If a modification is made to reduce the time a vessel is on the clock, it will have impacts on the calculation of DAS. This alternative is expected to have less of an impact, or a lower DAS adjustment, because fewer vessels will likely take advantage of this measure, and the total length of time a vessel would be off the clock is more limited. Currently there are about 60-70 vessels that homeported in areas south of Cape May. Some of these vessels may choose to take advantage of this flexibility and get off the clock and land in ports south of Cape May. In addition, other vessels that are not from ports south of Cape May, but are fishing in southern areas may choose to take advantage of this measure if the steam to Cape May is shorter than to other ports farther north.

In order to account for this flexibility an adjustment will be applied to the overall DAS allocated to the fishery. This adjustment can be modified in the future. See separate document for the estimate of the DAS adjustment that will be used in Framework 26 if this measure is adopted.

Figure 18 – DOF area near Cape May, NJ for vessels steaming south only



2.9 MODIFY REGULATIONS RELATED TO FLARING BAR PROVISION FOR TURTLE DEFLECTOR DREDGE

The current regulations for turtle deflector dredges prohibit the flaring bar from being attached in more than one place on the dredge frame. This prevents a vessel from using a u-shaped flaring mechanism. This provision is completely related to safe handling and operation of the dredge and does not have impacts on the efficiency of the dredge or potential impacts on turtles.

2.9.1 No Action

Under this alternative no change would be made to the current provisions related to the flaring bar on a turtle deflector dredge. The regulations state that:

“for the purpose of flaring and safe handling of the dredge, a minor appendage not to exceed 12 inches (30.5 cm) in length may be attached to each of the outer bale bars. Only one side of the flaring bar may be attached to the dredge frame. The appendage should at no point be closer than 12 inches (30.5 cm) to the cutting bar.

2.9.2 Modify the flaring bar provision for TDD

This alternative would slightly revise the description of the “flaring bar” within the turtle deflector dredge regulations. The agency has received one call about the “flaring bar”, and has expressed interest in constructing a “flaring U”, rather than a single bar, and it would be attached closer to the gooseneck; not near the bump out down by the cutting bar. This type of modification would not comply with the current regulations because it would be attached to the dredge frame in more than one place.

The restriction to only allow the flaring bar to be attached in one place was intended to help prevent the creation of more spaces that could trap a turtle or reduce the effectiveness of the “bump out”. A flaring U would be prohibited because it would be attached to the dredge frame in more than one place. There would not necessarily be concerns in terms of impacts on turtles as long as the flaring U did not create more space for a turtle to get caught, but to change the regulations for this measure, it would need to be added to a framework action.

When the Council reviewed the proposed regulations and deemed them consistent, the Council recommended that some language be added to the regulations to allow flaring of the dredge, an aspect of the gear that was overlooked during development of the action. A flaring bar does not impact the fishing capability or the potential impact on turtles; instead it is attached to the outside of the bale bar to help prevent a dredge from flipping or twisting as the dredge is deployed. To be precautionary the Council recommended that a flaring bar be allowed, but suggested the bar not be allowed near the “bump out”. The agency revised the final regulations to clarify that a flaring bar would be allowed, but in order to help prevent obstructions in the bump out it would have to be at least 12 inches from the cutting bar and only be attached in one place. The latter part prevents a vessel from using a u shaped flaring bar. So long as the flaring bar is away from the bump out and not between any of the bale bars, there should be no different impact on turtles.

An example of a flaring u is in Figure 19.

Figure 19 – Example of a “flaring u” bar



2.10 CONSIDERED AND REJECTED ALTERNATIVES

Move Alternative 2.8.2 (VMS corridor) to this section.

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 was a benchmark assessment for sea scallops completed by the NEFSC in July 2014 (SARC59). The assessment panel reviewed and approved many changes to how the resource is assessed, including updated reference points for determine stock status. The overall process is the same as described in the regulations for the scallop fishery, i.e. the stock is overfished if biomass is less than $\frac{1}{2}$ Bmsy, but the values have been undated for these reference points based on updated analyses approved in SARC59. Section 3.1 summarizes the updated values that replace the reference points used in the past.

In addition, there are various set-asides that are automatically set based on overall catch limits set in this fishery (Section 3.2 and 3.3). 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 3.3.1. 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 (Section 3.4).

3.1 UPDATE REFERENCE POINTS BASED ON RECENT BENCHMARK ASSESSMENT RESULTS

A full benchmark assessment was completed on the sea scallop resource in July 2014. Several changes were reviewed and approved during the assessment including new biological reference points. The SSC had a meeting on September 15 and one of the terms of reference for that meeting was to review and discuss results from the recent scallop benchmark assessment (SARC59) as they relate to new biological reference points. Several SSC members raised concerns about the potential for the assessment to overestimate biomass in light of the retrospective patterns observed and the poor fit with survey data in recent years. However, current spawning stock biomass is estimated to be more than 136,000mt, or 37%, above B_{MSY} , which means resource status is very strong despite these uncertainties. Therefore, the SSC concluded that additional precaution beyond that incorporated into the current control rule is not warranted.

The updated stock assessment calculated a $F_{msy}=0.48$, and the overfished threshold at 48,240 mt, equivalent to $\frac{1}{2} B_{msy}$, now calculated to be 96,480 mt. The updated model used a stock recruit relationship to calculate recruitment, which is different from the approach used in CASA (SARC50). This time the model combined per recruit analysis with stock-recruit relationship to estimate MSY and the associated biomass and fishing mortality reference points. Specific updates from SARC50 include: several changes to the dredge index; use of a separate Habcam index; splitting out GB open and GB closed subareas; several model parameter adjustments (increased estimates for natural mortality; increased natural mortality for larger scallops; and new growth estimates for three different time periods). All of these changes caused the overall F_{msy} to increase and B_{msy} to decrease. The main driver for the increase in F_{msy} is due to increases in natural mortality and weakening of MA stock recruit relationships. In general F_{msy} is uncertain because the F_{msy} curve for MA is very flat, uncertain where F_{max} is for that region.

Several important assumptions are still used in this assessment, and the review panel noted that the F_{msy} estimates for the two sub-regions are quite different; 0.30 for Georges Bank and 0.74 for Mid-Atlantic. Therefore, “applying a combined estimate of 0.48 to the whole stock uniformly could imply that GB could be fished harder than biologically advisable, and the MA might be fished lighter than biologically advisable.” (SARC59, 2014).

The updated estimates for 2013 are: $F=0.32$ and $B=132K$, so the stock is not overfished and overfishing is not occurring, under both the old and new reference points.

3.2 SPECIFICATIONS FOR LAGC 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 yearend report for 2013 estimated catch from this permit type at 47,337 pounds, about 95% of the target TAC.

The PDT is not recommending the target TAC for this fishery change in FW26; it should remain at 50,000 pounds for FY2015 and 2016. Overall this level of catch is very small and will not have impacts on the overall resource.

3.3 TAC SET-ASIDES FOR OBSERVER AND RESEARCH PROGRAMS

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 of 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 208 mt, and 240 mt 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 23).

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 23). 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 23 – Summary of 2014 observer set-aside by area – will update after final areas are known

Area	% of TAC by area	OBS set-aside (mt)
NLS	3%	7
CAII	6%	13
Delmarva	12%	24
Total AA	21%	44
Open areas	79%	164
All Areas	100%	208

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 for 2015

NMFS sent out an announcement for 2015/2016 Scallop RSA on September 17. Research proposals are due on November 12, 2014. The priorities are based on Council recommendations approved at the June 2014 Council meeting.

2015 and 2016 Atlantic Sea Scallop Research Priorities

The Survey Related Research priority (Highest priority, #1) applies to 2015 ONLY. NMFS intends to solicit 2016 survey proposals through the 2016/2017 Federal Funding Opportunity. All other priorities apply to both 2015 and 2016.

HIGHEST (listed in order of importance)

1. Survey Related Research (a, b, and c have equal priority)

1a. an intensive industry-based survey of each of the relevant scallop access areas (Closed Area I, Closed Area II, Nantucket Lightship, Delmarva, Elephant Trunk and Hudson Canyon). The primary objective of these surveys would be to estimate 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. For 2015 the three priority areas are: Delmarva, Elephant Trunk, and Hudson Canyon.

1b. 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). Examples of this would include the Northern edge area in and around Closed Area II, the northern part of Closed Area I that is currently part of an EFH closed area, and east and west of the Nantucket Lightship access area where small scallops have been observed.

1c. a broad, resource wide industry-based survey of scallops within Georges Bank and/or Mid-Atlantic resource areas. The survey or surveys do not need to be carried out by a single grant

recipient. The primary objective of these surveys would be to provide an additional broadscale biomass index to improve the overall precision of the scallop biomass estimate produced from the model used by the Scallop Plan Development Team. If data from these surveys are available by August of previous fishing year then these results can be used in the overall scallop biomass to evaluate the current status of the stock”.

2. Bycatch research

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 distribution patterns, gear modifications to reduce bycatch, as well as the associated discard mortality rates of yellowtail flounder, windowpane flounder, and other key bycatch species. Research efforts should be targeted to provide results that would help the scallop industry avoid pending or potential implementation of accountability measures.

3. Scallop and area management research

Such research would include, but would not be limited to, evaluation of ways to control predation on scallops (i.e., starfish and dogfish); 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.

MEDIUM (not listed in order of importance):

4. Research to support the investigation of 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 scallop 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.
5. Research aimed at describing the occurrence, as well as understanding the mechanisms, of processes that affect scallop product quality and marketability (*i.e.*, scallops with grey meats or evidence of disease). Research should also include evaluation of the potential magnitude of impacts on scallop mortality from scallops discarded at sea and not landed due to meat quality issues.
6. Habitat characterization research including, (but not limited to,): video and/or photo transects of the bottom within scallop access areas, 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. Finally, 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.

7. Seasonally monitor any large recruitment event (*i.e.*, southeast of Nantucket Lightship Access Area and south along the 40 fathom curve to Hudson Canyon).

OTHER (not listed in order of importance):

8. Longer term research projects designed to either 1) examine whether chemicals, water quality, and other environmental stressors affect reproduction and growth of scallops (*i.e.*, jet fuel, pesticides, ocean acidification, etc.); or 2) research 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).
9. Studies aimed at addressing relevant issues that were identified as research priorities in the 2010 50th Stock Assessment Workshop, including:
 - a. Discard mortality of scallops. The current assumption used in the assessment is very uncertain. Projects that could improve the understanding and rate of discard mortality would be useful;
 - b. Seasonal growth of scallops. The model used to estimate biomass currently assumes even growth during the year, but there is some evidence available to suggest that scallops do not grow evenly during the year. Projects that could improve the understanding of seasonal cycles of scallop growth would be useful.
 - c. Incidental mortality of scallops. The current assumption used in the assessment is very uncertain. Studies could evaluate the effect of the four-inch rings on incidental mortality. Now that a larger fraction of small scallops are traveling through the mesh, examine whether incidental mortality has increased or are the scallops relatively unaffected. This could be done by running HabCam or an Autonomous Underwater Vehicle (AUV) along dredge tracks.
 - d. Continue analysis of scallop annual growth data. NEFSC has archived scallop shells from the 1980s and 1990s and additional age analyses would support information about scallop growth.
 - e. Continue to investigate patterns of seasonality in weight of the meats and gonads, and timing of scallop spawning.
10. Other resource surveys to expand and/or enhance survey coverage in areas that have the potential to be important resource areas, but which currently have a lack of comprehensive survey coverage (*i.e.*, inshore areas east of the current NEFSC survey strata or deeper than the surveyed area, NGOM resource, etc.).

11. 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 scallop “Study Fleet”, electronic monitoring, dockside monitors, bag tags, etc.).

3.4 UPDATED PROJECTIONS OF FLATFISH BYCATCH (YT AND WP)

Not available yet

4.0 AFFECTED ENVIRONMENT – SEE SEPARATE DOCUMENT #2-

4.1 ATLANTIC SEA SCALLOP RESOURCE

4.2 PHYSICAL ENVIRONMENT AND ESSENTIAL FISH HABITAT

4.3 PROTECTED RESOURCES

4.4 ECONOMIC AND SOCIAL TRENDS IN THE SEA SCALLOP FISHERY

4.5 NON-TARGET SPECIES

5.0 IMPACTS OF ALTERNATIVES UNDER CONSIDERATION – SEE SEPARATE DOCUMENT #3

6.0 COMPLIANCE WITH APPLICABLE LAW

7.0 GLOSSARY

8.0 LITERATURE CITED

9.0 INDEX