DRAFT

Framework 27 to the Scallop FMP

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

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

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Appendices

1.0 BACKGROUND AND PURPOSE

1.1 BACKGROUND

This framework to the Scallop Fishery Management Plan (FMP) sets fishery specifications for fishing year (FY) 2016 and default measures for FY 2017. The New England Fishery Management (Council) decided to develop a one-year action only, including default measures for Year 2 only (FY2017). This decision was made to set specifications for one year 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.

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.

The Council did not include any other measures for consideration; this action includes fishery specifications only.

1.2 PURPOSE AND NEED

The need for 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 2016 fishing year, as well as default measures for FY2017 that are expected to be replaced by a subsequent action.

Table 1 – Summary of the purpose and need for measures developed in Framework 27 including section number with specific alternatives

Need	Purpose	Section
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

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.

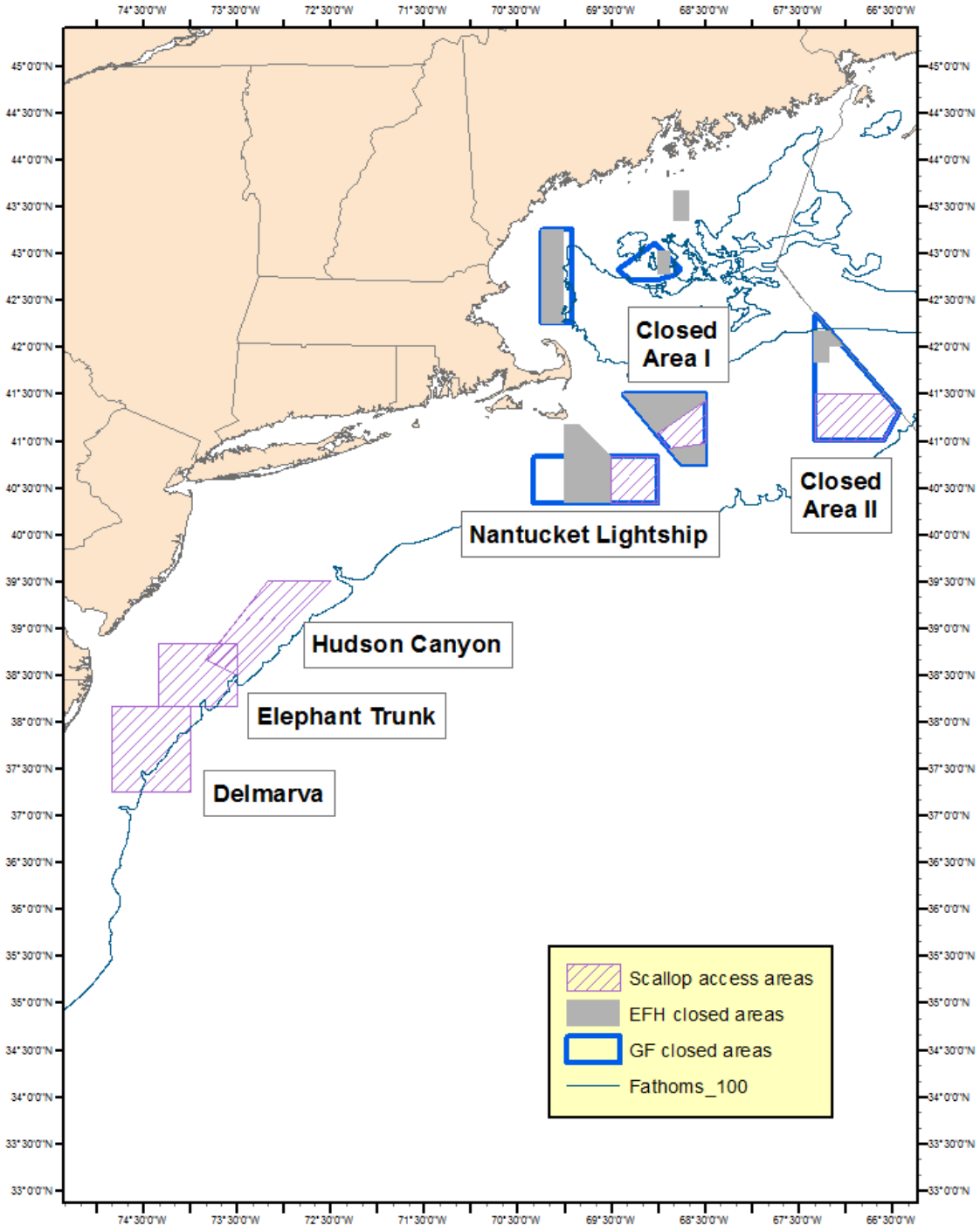
In 1999, Framework Adjustment 11 to the Scallop FMP allowed the first scallop fishing within portions of the Georges Bank groundfish closed areas since 1994 after resource surveys and experimental fishing activities had identified areas where scallop biomass was very high due to no fishing in the intervening 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 – Past and present scallop management areas (purple hatched areas) with other reference areas



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. In theory, 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 (purple hatched areas) 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 recently approved the EFH Omnibus Amendment, an action that considered modifications to the EFH and groundfish mortality closed areas in this region. 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 FY2016, and those potential modifications, if approved, would not be implemented until mid-2016 under the best case scenario, Framework 27 is only considering specifications based on the current areas available to the scallop fishery. It is considered predecisional to consider fishery access in areas that are still closed.

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.

1.4 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 previous 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).

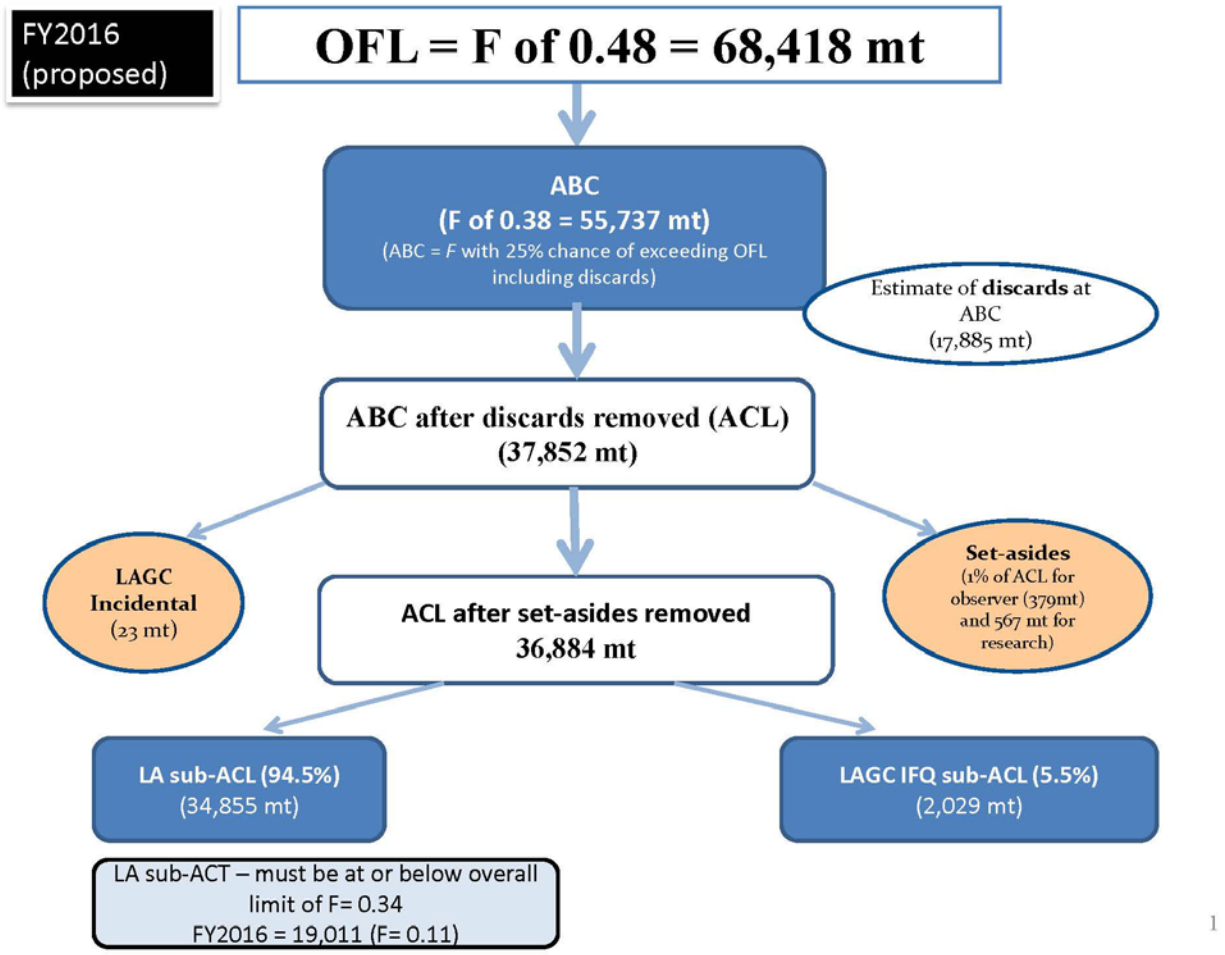
In the Scallop FMP ACL is equal to ABC. SAW 50 determined that the F associated with the ABC/ACL is 0.32. The updated assessment, SARC 59, approved a higher OFL; therefore, the F

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 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 FY2016 as proposed in this action



1.4.1 Default measures for FY2016 approved in previous scallop action (Framework 26)

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. For example, 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 some years in order to minimize the potentially negative impacts of having measures in place on March 1 that ultimately need to be changed, the Council has only allocated DAS to the limited access fishery; no access area trips were assigned to limited access vessels or general category vessels.

The Council has the authority to set more measures as default, but for the most part has mostly only allocated DAS. However, in FW26 the Council decided to also allocate one access area trip in the Mid-Atlantic access area effective on April 1. It was relatively certain that some level of access would be available in the MA AA in 2016 when measures were developed in 2014; therefore, a limited level of access was included in default measures. April 1 was stipulated to give scallops one additional month of growth potential before the new allocations. In addition, vessels would be able to fish FY 2015 compensation trips in the access areas that were open in FY 2015 for the first 60 days of FY2016 (i.e., March 1 through April 29, 2015). This carryover provision has been in place for many years. Under 2016 default measures the Council also stipulated that 2016 RSA compensation fishing would not be allowed in access areas, until a new framework action allowed it (potentially FW27, this action). The crew limits in place for both open and access areas (one additional crew member compared to open areas) would remain in place under default measures.

The default measures for 2016 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, 2016 until FW27 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 3.7 million pounds. Their allocations for FY2016 may ultimately change based on the final sub-ACL approved in FW27. LAGC IFQ vessels are responsible to payback any overage the following year if the ultimate IFQ for FY2016 is lower than the allocation under the default sub-ACL.

If FW27 is not adopted these default allocations would remain in place for all of FY2016 and beyond until replaced by a subsequent action.

Table 3 - ACL related values and allocations for 2016 (default measures approved in FW26)

	2016 (default)	
	MT	lbs
OFL	45,456	100,213,343
ABC/ACL (discards removed)	31,807	70,122,444
incidental	23	50,045
RSA	567	1,250,021
OBS	318	701,224
ACL for fishery	30,899	68,121,153
LA ACL	29,200	64,374,490
LAGC ACL	1,699	3,746,663
LAGC IFQ	1,545	3,406,058
LA with LAGC IFQ	154	340,606

** 2016 measures are default and expected to be adjusted based on FW27*

Table 4 – Summary of FY2016 default allocations for LA vessels (approved in FW26)

	LA FT	LA PT	LA Occasional
2015	26	10.4	2

** Default DAS is 75% of the total DAS projected for FY2016 (34DAS)*

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.’’ The Council adopted 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 2016 values adopted in Framework 26 (Table 5). These would remain in place until a subsequent action replaced them. These values were selected based on the same control rules: 1) OFL is equivalent to the catch associated with an overall fishing mortality rate equivalent to Fmsy; 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 5, column to the far right).

Table 5 – Summary of OFL and ABC FY2015 (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)
2016 (default)	45,456	37,903	6,096	31,807

2.1.2 Alternative 2 - Updated OFL and ABC for FY2016 and FY2017 (default)

The PDT met on October 7 to finalize recommendations for the SSC to consider at their meeting on October 13, 2015. The PDT presented recommendations for 2016 and 2017 (default) values and the SSC approved them (Table 6). In summary, the recommendation is to maintain the same values for both years, despite increased projections for FY2107. While biomass is expected to increase dramatically in 2017 the PDT is concerned that the model may be seriously underestimating natural mortality of juvenile scallops in high density areas. See Section ??? for more information. If higher than normal natural mortality occurs, these estimates will be overestimated, especially for 2017. The model currently assumes constant natural mortality (0.16 on GB and 0.2 in the Mid-Atlantic on all sizes except the plus group). However, the PDT believes that natural mortality of juveniles is higher in areas of high density.

There are practical management risks with setting the 2017 default values high and potentially needing to later correct them. The IFQ allocations for the LAGC fishery and observer set-aside program are based on the ABC/ACL value and those go into effect at the start of the fishing year. Finally, Framework 27 is a one year action and the OFL and ABC estimates will be reviewed again next year.

Table 6 – Summary of proposed OFL and ABC FY2016 and FY2017 (default) values approved by the SSC for Framework 27 (in metric tons)

	OFL (including discards at OFL)	ABC (including discards)	Discards (at ABC)	ABC available to fishery (after discards removed)
2016	68,418	55,737	17,885	37,852
2017 (default)	68,418	55,737	17,885	37,852

Note: 2017 default projections were replaced with 2016 estimates

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 7).

Table 7 – Summary of ACL related values for the scallop fishery based on updated OFL and ABC values

	2016		2017 (default)	
	MT	lbs	MT	lbs
OFL	68,418	150,835,870		
ABC/ACL (discards removed)	37,852	83,449,375		
incidental	23	50,000		
RSA	567	1,250,000		
OBS	379	835,552		
ACL for fishery	36,884	81,315,314		
LA ACL	34,855	76,842,134		
LAGC ACL	2,029	4,473,180		
LAGC IFQ	1,845	4,067,529		
LA with LAGC IFQ	184	405,650		
LA ACT	*Varies based on specification alternative selected*			

2.2 FISHERY SPECIFICATIONS (STILL UNDER DEVELOPMENT)

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).

2.2.1 Overall fishery allocations

2.2.1.1 Alternative 1 - No Action (Default measures from Framework 26)

Under No Action, the sub-ACL for the LA fishery would be 29,200 mt (64,374,490 lb). The specifications would include default measures approved in Framework 26 for FY2016 which are 75% of the projected DAS for that year. For full-time vessels that is equivalent to 26 DAS (75% of 34 DAS) and 10.4 DAS for part-time vessels. LA vessels would have some access in the MA access area, the equivalent of one 17,000 pound trip for FT vessels. However, the area would not open for new 2016 allocations until April 1, 2016. These measures would remain in place until replaced by another action.

Under FY2016 default measures the LAGC IFQ allocation is 1,699 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 FY2016 from FW26. LAGC IFQ vessels would also have accesss in the MA AA on April 1, 2016 under default measures, equal to 361,445 pounds or 602 trips (6.5% of the projected TAC for MA AA in 2016 under FW26).

On March 1, 2016 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 FW27. Similar to recent years, LAGC vessels will need to be aware that final allocations for FY2016 are likely to be different than allocations received on March 1, 2016 before FW27 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 – Basic Run (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. The overall intent of this alternative is to set target catches using the three principles developed as part of the "hybrid" overfishing definition approved in Amendment 15, and not include additional closures or modifications to boundaries of the overall area rotation program. The three main principles that are generally used in this FMP to set target catches for the fishery are:

1) fishing mortality in open areas cannot exceed Fmsy;
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.

The maximum that the annual catch target can be set at is the catch associated with applying a fishing mortality rate of 0.34 overall, 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 projected catch associated with ACT cannot exceed 0.34 overall, but target catches are actually driven by the three overall principles developed as part of the "hybrid" overfishing definition approved in Amendment 15 (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 ultimate target F is for a particular alternative, in many cases below ACT (0.34). For example, for FY2016 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 0.11.

The specific allocations associated with this specification alternative are:

- Total FY2016 projected catch for this alternative is 48.5 million pounds (from all sources of catch and areas)
- LA sub-ACL is 76,842,134 pounds and the LAGC IFQ sub-ACL is 4,473,180 pounds
- 36.53 DAS for LA FT vessel, 14.61 DAS for LA PT vessel, and 2.92 DAS for LA occasional vessels.
- Access areas open to the fishery under this alternative are: the Mid-Atlantic Access Areas and Closed Area 2. Each LA FT vessels would be allocated 51,000 pounds, 20,400 pounds for PT and 4,080 pounds for occasional vessels. All other access areas would be closed to the fishery under this alternative (CA1 and NL).

- LAGC NGOM hard-TAC remains at 70,000 pounds and the LAGC Incidental target TAC remains at 50,000 pounds.

2.2.1.3 Alternative 3 – Basic run for specifications and additional closure south of CA2 to further protect small scallops

The overall intent of this alternative is to reduce discard and incidental mortality on small scallops observed in this area. A large year class of scallops was observed in this area in 2014 and 2015. These scallops will be susceptible to impacts from fishing gear in 2016; therefore, closing the area is expected to maximize yield per recruit for scallops in this area if access is delayed. If this alternative is selected vessels would have access into the current access area within CA2, but the current open area south of the access area would be closed to all fishing (Figure 3). The model the PDT uses to estimate DAS projects that a total of about 5% of total DAS effort will be used in that area in 2016. Therefore, when that area is closed DAS allocations are reduced by that amount, which comes out to about 1.84 DAS per FT vessel, and total projected landings also decline by about 1.5 million pounds.

The specific allocations associated with this specification alternative are:

- Total FY2016 projected catch for this alternative is 46.9 million pounds (from all sources of catch and areas)
- LA sub-ACL is 76,842,134 pounds and the LAGC IFQ sub-ACL is 4,473,180 pounds
- 34.69 DAS for LA FT vessel, 13.88 DAS for LA PT vessel, and 2.92 DAS for LA occasional vessels
- Access areas open to the fishery under this alternative are: the Mid-Atlantic Access Areas and Closed Area 2. Each LA FT vessels would be allocated 51,000 pounds, 20,400 pounds for PT and 4,080 pounds for occasional vessels. All other access areas would be closed to the fishery under this alternative (CA1 and NL).
- LAGC NGOM hard-TAC remains at 70,000 pounds and the LAGC Incidental target TAC remains at 50,000 pounds.
- A new area would close south of CA2 **(Figure 3**)

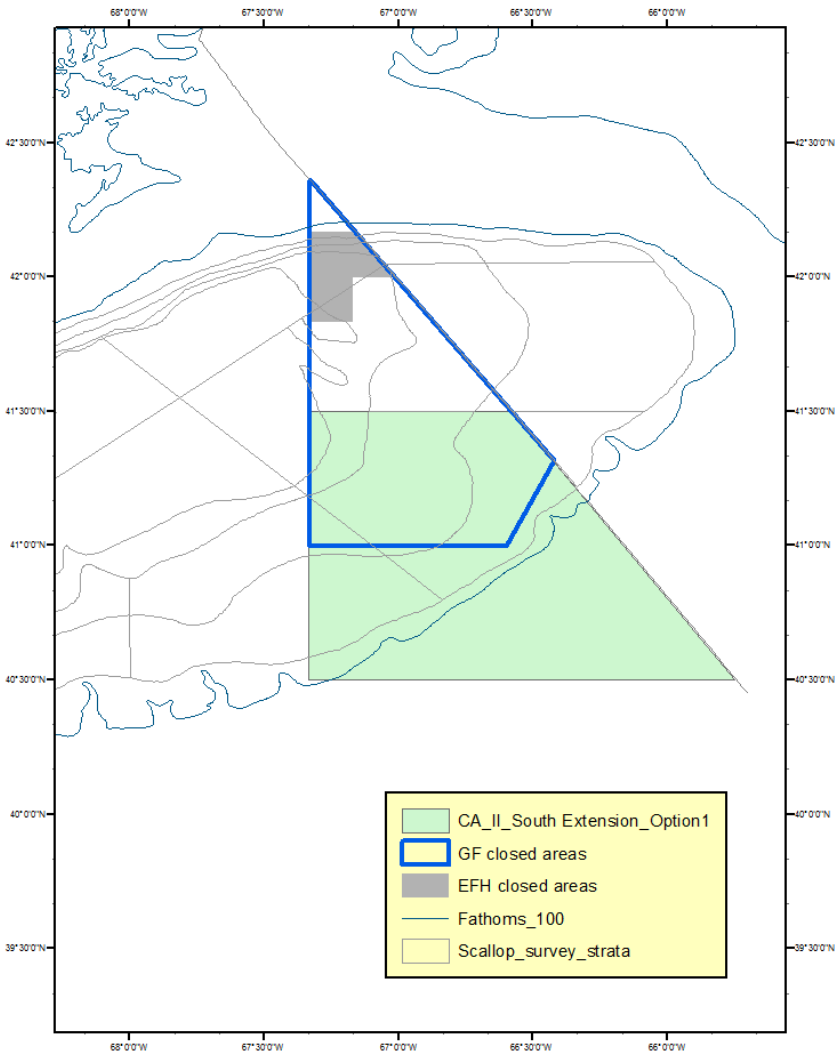
The size of this extension area is 3,178 square nautical miles, larger than the status quo scallop access area within CA2 (1,025 square nautical miles). The boundaries are in Table 8.

Vessels are currently prohibited from transiting through the scallop access area within Closed Area II, 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. When the Enforcement Committee reviewed this alternative in a previous action (FW26) a consensus statement was drafted related to transit rule recommendations, "allowing transiting through a closed area is difficult to enforce." Therefore, it was clarified that if this area is closed, 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.

Table 8 – Boundaries of Closed Area II scallop access area extension (Figure 3)

	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

Figure 3 – Alternative 3 – potential extension of access area in Closed Area II (this alternative would close the area outside of CA2 in green, the area in green within CA2 would be open to the fishery in 2016)



2.2.1.4 Alternative 4 – Basic run for specifications and expanded closure of ETA closed to further protect small scallops

In Framework 26 an inshore portion of ETA was closed. This alternative considers extending the spatial coverage of that closure to the south and east to better protect small scallops. The overall intent of this alternative is to extend the closure to better cover the highest concentrations of small scallops that were again observed in 2015. Waters west of ETA closed were open to the scallop fishery in 2015, and for the most part the inshore areas closest to ETA closed were fished most heavily (VMS figure).

The 2015 surveys show that the highest concentrations of large scallops are in deeper waters, west of the proposed extension in this alternative (Figure 5, Figure 6, and Figure 7). When the AP first reviewed this idea they recommended leaving a corridor in deeper waters so vessels could fish from one access area to the next and not have to steam around a closure.

The specific allocations associated with this specification alternative are:

- Total FY2016 projected catch for this alternative is 48.5 million pounds (from all sources of catch and areas)
- LA sub-ACL is 76,842,134 pounds and the LAGC IFQ sub-ACL is 4,473,180 pounds
- 36.53 DAS for LA FT vessel, 14.61 DAS for LA PT vessel, and 2.92 DAS for LA occasional vessels.
- Access areas open to the fishery under this alternative are: the Mid-Atlantic Access Areas and Closed Area 2. Each LA FT vessels would be allocated 51,000 pounds, 20,400 pounds for PT and 4,080 pounds for occasional vessels. All other access areas would be closed to the fishery under this alternative (CA1 and NL).
- LAGC NGOM hard-TAC remains at 70,000 pounds and the LAGC Incidental target TAC remains at 50,000 pounds.
- The ETA closed area would expand (**Figure 4**)

The size of this extension area is ??? square nautical miles, compared to the ETA closed area from FW26 (??? square nautical miles). The boundaries are in Table 9 and shown with both juvenile and exploitable biomass in Figure 4.

If adopted, vessels would be prohibited from transiting through this area. When ETA closed was adopted in FY2015, transiting was prohibited as well and the same rationale still applies. While a bit larger than the area closed in FY2015, the proposed subarea is still relatively small and the incentive to fish in the area is high since abundance is high and the area is closer to shore and between primary fishing grounds and fishing ports. During development of FW26 the Enforcement Committee developed a consensus statement related to this provision, "allowing transiting through a closed area is difficult to enforce."

Table 9 – Boundaries of proposed ETA Closed extension (Figure 3)

	Latitude	Longitude
Point 1		
Point 2		
Point 3		
Point 4		

Figure 4 – Alternative 4 – potential extension of ETA closed
Insert new map

Figure 5 – Estimate of biomass from 2015 Habcam survey (color represents biomass larger than 75mm and contours indicate concentrations of smaller scallops, less than 75mm).

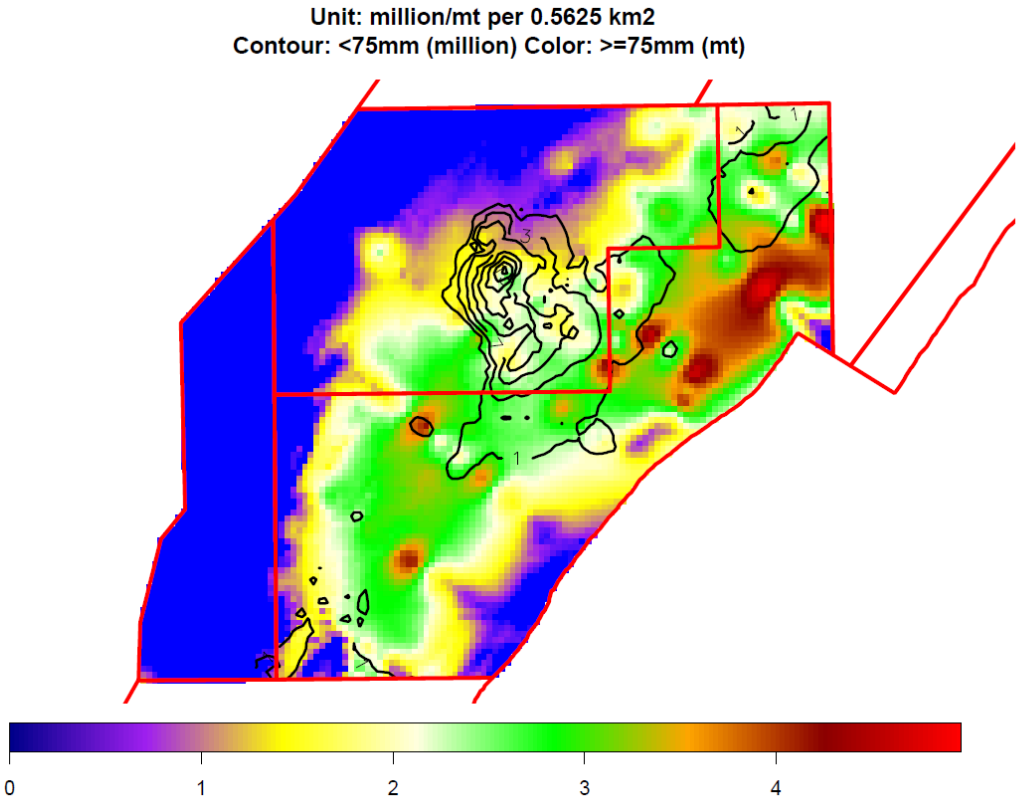


Figure 6 – Abundance of small scallops from 2015 VIMS dredge survey within MA access areas

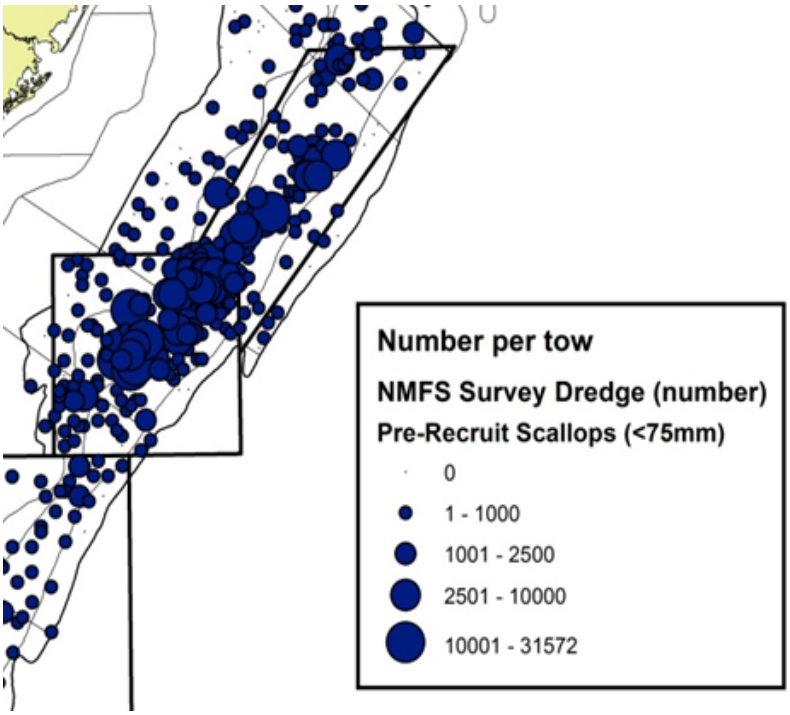
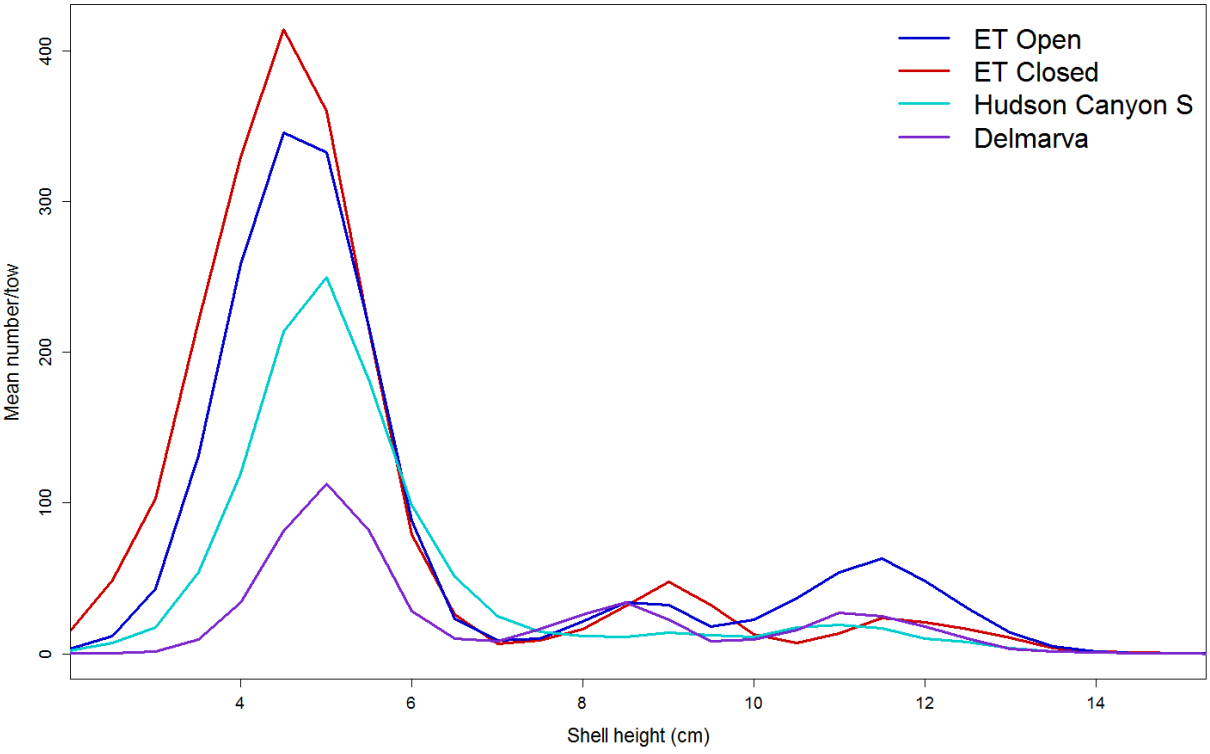


Figure 7 – Mean shell height frequencies per area from 2015 VIMS dredge survey (cm)



2.2.1.5 Alternative 5 – Basic run for specifications and include limited allocation of effort in northern part of Nantucket Lightship Access Area

The PDT did not originally recommend access in NL for 2016 due to the very high abundance of small scallops and relatively low abundance of exploitable scallops. The AP and Committee requested that an alternative be added to consider a limited level of effort in the northern part of the area only. The overall intent of this alternative is to spread access area effort into more areas and provide another near shore access area, particularly for smaller vessels that are not expected to fish in CA2. While the level of removal may not be very high from NL (estimated to be less than 1 million pounds), this alternative considers a limited amount of effort to a portion of the NL access area expected to have lower densities of small scallops. The highest densities are in the southern part of the current access area and to the west in the EFH closed area.

The specific allocations associated with this specification alternative are:

- Total FY2016 projected catch for this alternative is 48.5 million pounds (from all sources of catch and areas)
- LA sub-ACL is 76,842,134 pounds and the LAGC IFQ sub-ACL is 4,473,180 pounds
- 36.53 DAS for LA FT vessel, 14.61 DAS for LA PT vessel, and 2.92 DAS for LA occasional vessels.
- Access areas open to the fishery under this alternative are: the Mid-Atlantic Access Areas, Closed Area 2, **and the northern part of NL**. Each LA FT vessels would be allocated 51,000 pounds, 20,400 pounds for PT and 4,080 pounds for occasional vessels. All other access areas would be closed to the fishery under this alternative (CA1).
- LAGC NGOM hard-TAC remains at 70,000 pounds and the LAGC Incidental target TAC remains at 50,000 pounds.
- The portion of NL that would be open is shown in (Figure ???)

Figure ???
New map with just northern part and new coordinates of that sub area

Figure 8 – Estimate of biomass from 2015 Habcam survey (color represents biomass larger than 75mm and contours indicate concentrations of smaller scallops, less than 100mm).

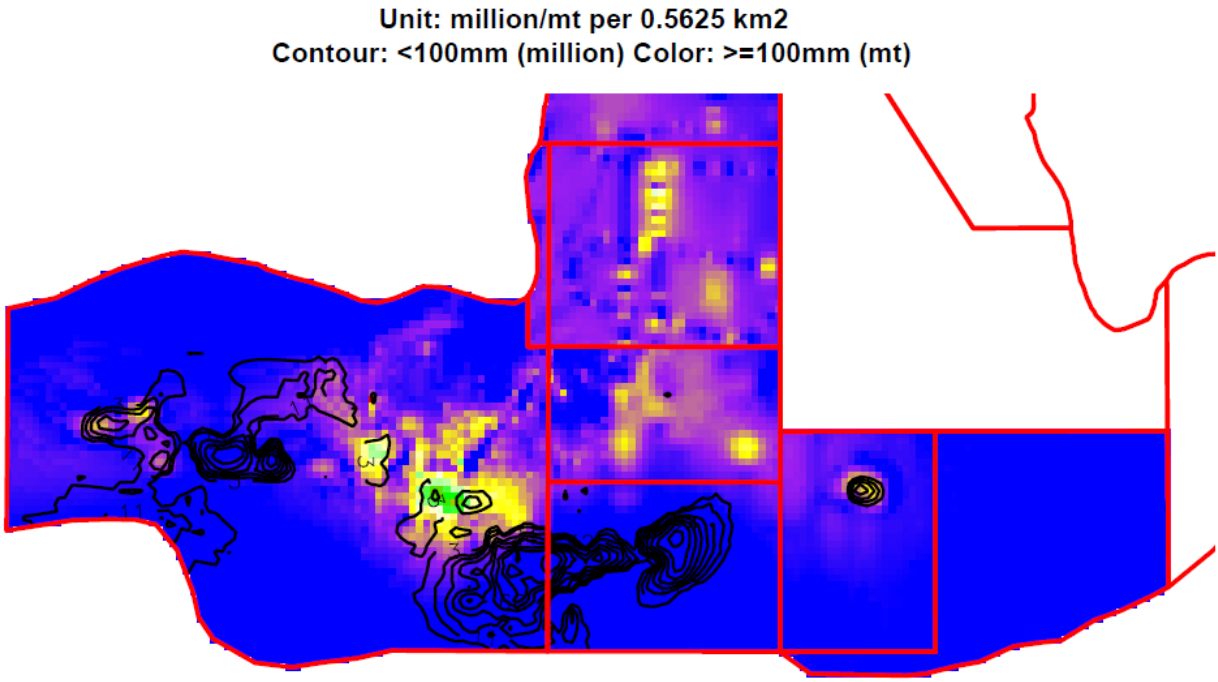


Figure 9 – Projected mean shell height frequencies for Hudson Canyon access area, 2015-2017

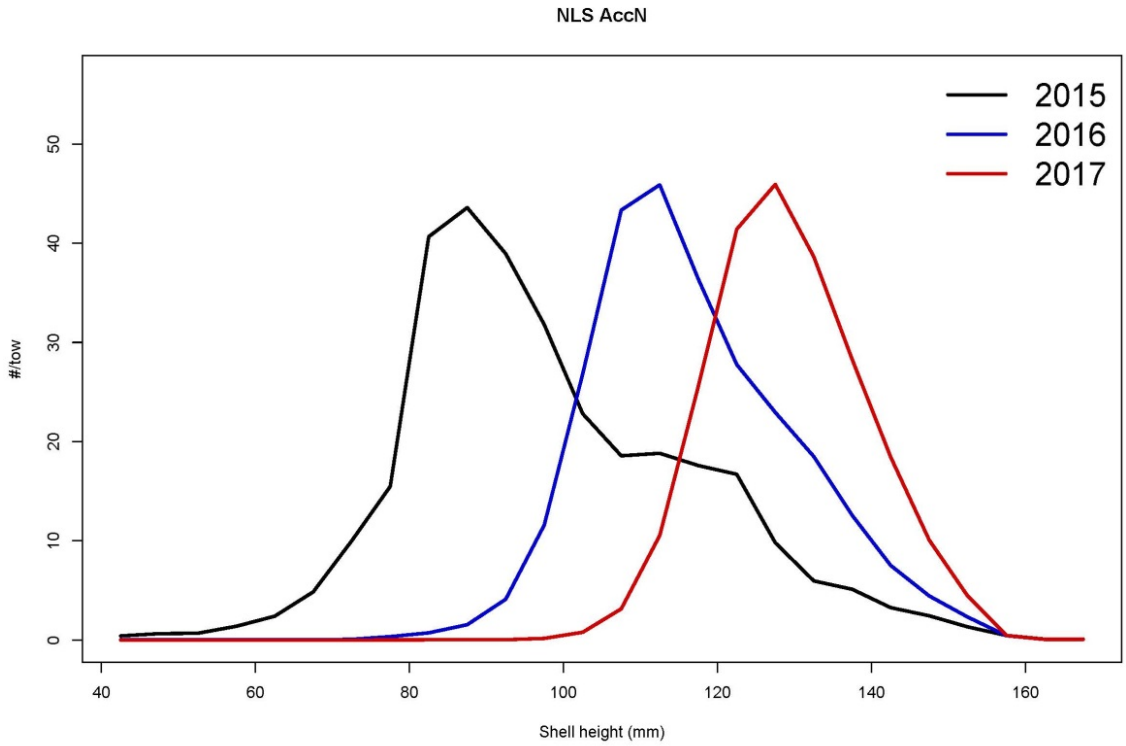
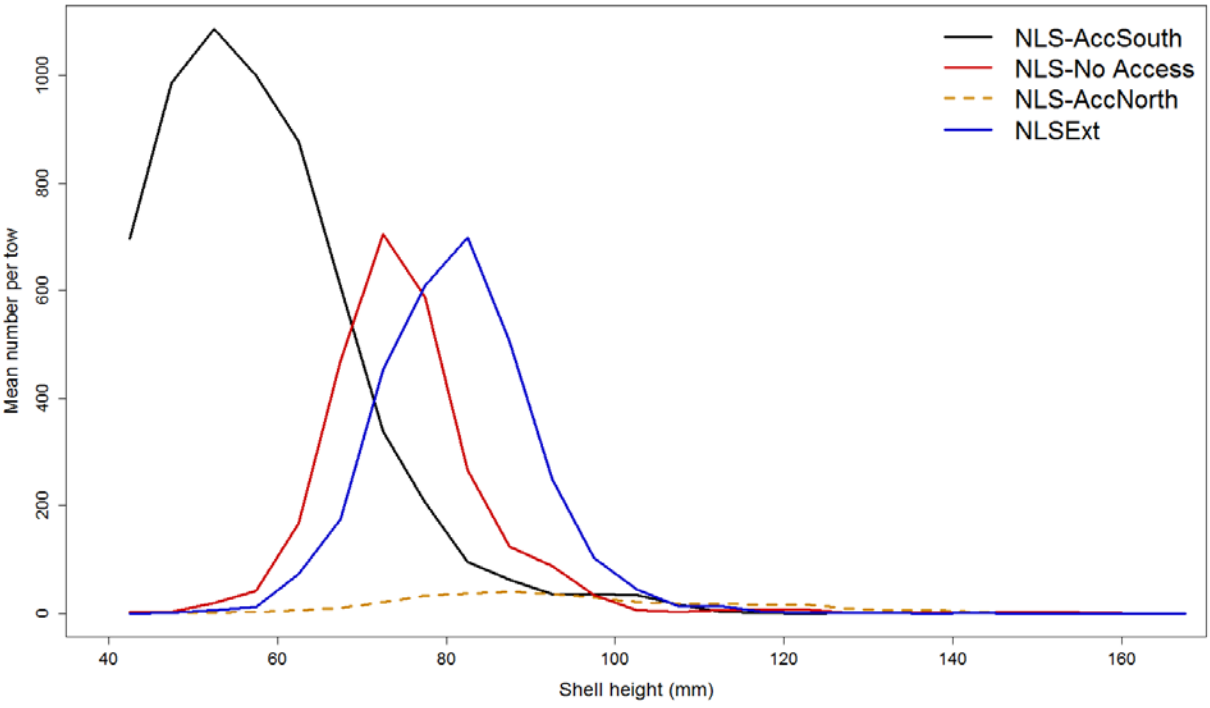


Figure 10 – Mean shell height frequencies per area from 2015 VIMS dredge survey (mm)



2.2.1.6 Default measures for 2017

The PDT needs to discuss what default measures should be for FY2017.
The same default measures can be added to all the specification alternatives above.

The projections for the basic run have 2017 allocations quite high due to increased landings from large year classes.

In the past default measures were 75% of projections – do we want to be more precautionary this time because we believe projections are optimistic?

Do we want to limit to open areas or include some access area allocation?

If A19 is approved spec process and change in FY could be in place for FY2017 so new/final measures could be in place for April 1, 2017.

Any restrictions for RSA comp fishing under default?

Preliminary 2017 Projections for Basic Run
Total landings = 37,621 mt (82.9 million pounds)
DAS =About 47
AA allocations = ?

2.2.2 Allocation method for LA access area allocations

2.2.2.1 No Action (lottery allocation)

2.2.2.1.1 Option 1 – For specification alternatives with MA and CA2 access only

2016	Projected Landings (mt)	Total # of Possible Trips	Trips available for lottery	Lottery*
MAAA	6500	843	217	183
CA2	1000	130	130	130
Total	7500	973	347	313

2.2.2.1.2 Option 2 – For specification alternatives with NL access included

2016	Projected Landings (mt)	Total # of Possible Trips	Trips available for lottery	Lottery*
MAAA	6300	817	191	157

CA2	800	104	104	104
NLS	400	52	52	52
Total	7500	973	347	313

2.2.2.2 Allocation of part-time LA access area allocations (still developing)

2.2.2.2.1 Assign trips

Pros

- similar monitoring methods
- fair across all permit types
- allows for trip trading

Cons

- less flexibility
- may be less desirable to steam to CA2 for a smaller poss. limit (10,200lb compared to 17,000lb)
- different than past years

2.2.2.2.2 Land all pounds from any area

Pros

- complete flexibility
- easy to monitor quotas
- no trip trading needed

Cons

- cannot control removals from each AA
- different from years past

2.2.2.2.3 Allow a PT vessel to choose access area, but full trips per area (vessel locked in to possession limit in that area)

Pro

- exactly like old method
- allows to choose area
- no trading needed

Cons

- complicated to monitor per vessel
- could be confusing for vessels
- less flexibility that option 2

2.2.3 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. This action is considering several allocation options, as well as several area options depending on which areas are open to the scallop fishery in FY2016.

Table 10 – Summary of alternative under consideration for LAGC IFQ trip allocations in access areas in FY2015

	MT	# Trips	% of AA catch	% of total LAGC catch	Rationale
Allocation Option 1	694.7	2,553	9.22%	34.25%	Same as FW26, total proportion of projected 2016 catch overall from AA (34%)
Allocation Option 2	414.5	1,523	5.50%	20.43%	Same as FW25/FW24/FW22
Allocation Option 3	562.5	2,065	7.46%	27.73%	Same number of AA trips allocated in 2015 (FW26)-- trip numbers are a middle ground between Option 1 and 2.
Area Option A		87% in MAAA, 13% in CA2			Trip max per area based on projected proportion per AA
Area Option B		100% in MA AA (no CA2 trips)			For runs with access in MAAA and CA2 only but prorate CA2 trips to MAAA
Area Option C		no cap per area			Total number of LAGC trips can be taken in any area open to the fishery
Area Option D	For NL alt only	88% in MAAA and 12% in NL			Trip max per area based on projected proportion per AA in cluding NL access and prorate CA2 access in other areas
Area Option E	For NL alt only	50% of trips in MA access areas and 50% in NL			Same as above but make access in MA and NL even
Total LAGC Allocation	***2,028.6***				

Values subject to change if overall catch values change – these are based on total access area catch of about 7,500 mt or 16.6 million pounds and total catch of 48.5 million pounds.

2.2.4 Additional measures to reduce impacts on small scallops

In addition to closed areas there are other measures that reduce incidental mortality on small scallops (i.e.. crew limits, prohibition on RSA compensation fishing, seasonal restrictions, and gear modifications). These potential measures were discussed and the only options included for consideration in this action are crew limits and prohibition on RSA compensation fishing.

2.2.4.1 No Action

Maintain crew limits in access areas – one additional crew to open area limits
RSA fishing allowed in any access area open to the fishery – date?
Do I have this right? What is no action exactly?

2.2.4.2 Prohibit RSA compensation fishing in NL access area, if open

3.0 CONSIDERED AND REJECTED ALTERNATIVES

3.1 CLOSURE OF HUDSON CANYON

The PDT discussed a potential closure of HC, potentially starting on August 1, 2016, to protect smaller scallops distributed throughout that area. The small scallops in that area are not as concentrated as in parts on ETA. The smaller scallops are expected to grow in the spring and summer and will be more suseptibel to the gear later in the fishing year so a closure could increase overall yield and reduce mortality if access is delayed until the following year.

Rationale for rejection: The AP was not very supportive of this alternative based on concerns that flexibility with MA access area allocations is important. There were observations of a parasitic worm in Delmarva in the fishery in 2015 so most vessels avoided the area and fished their 2015 allocations in ETA and HC. If that issue persists in 2016 as well, there will be more limited places to fish within the MA access area. The PDT agreed that in 2016 flexibility will be important due to these uncertainties, especially if the ETA closure is expanded. Therefore, this alternative was not considered further in this action.

Figure 11 – Estimate of biomass from 2015 Habcam survey (color represents biomass larger than 75mm and contours indicate concentrations of smaller scallops, less than 75mm).

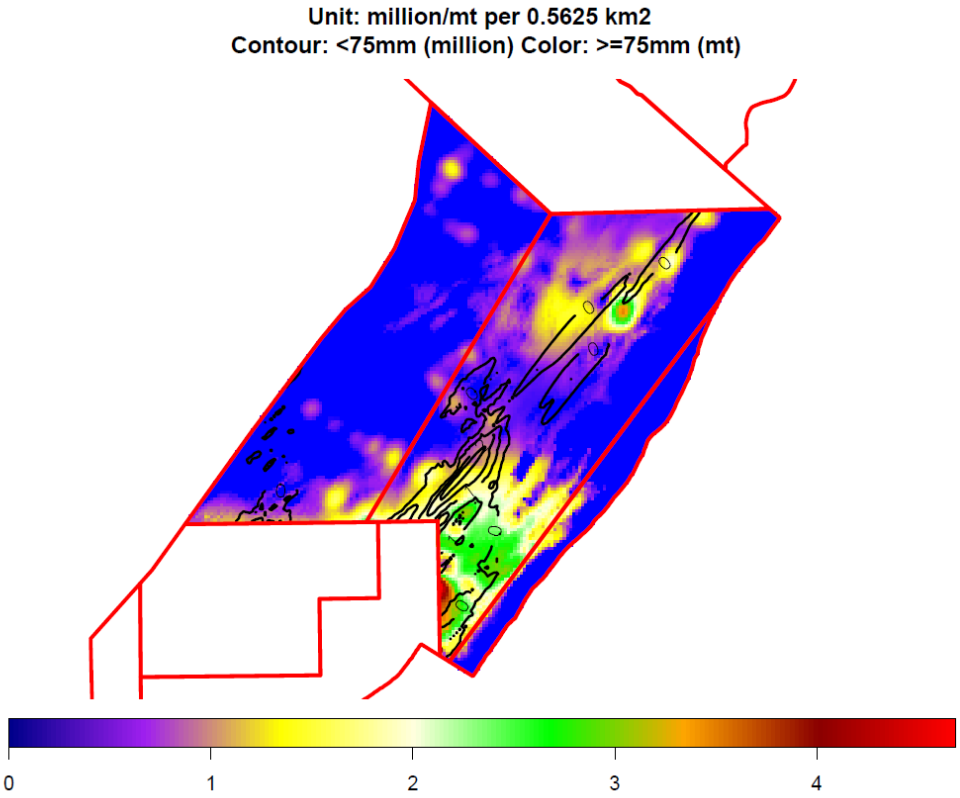


Figure 12 – Abundance of small scallops from 2015 SMAST survey in MA access areas

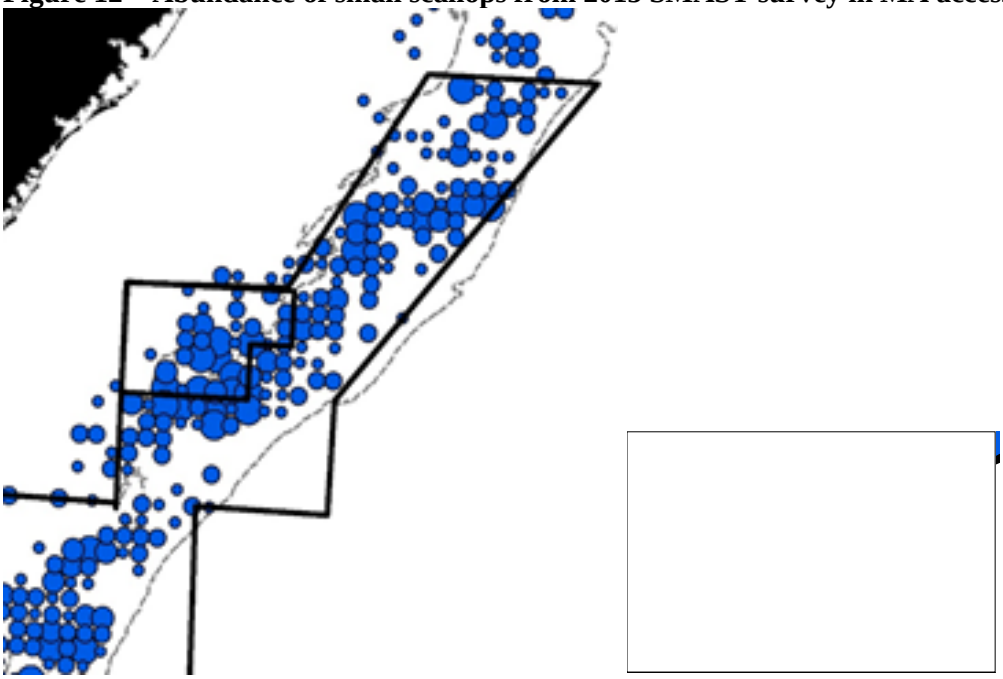
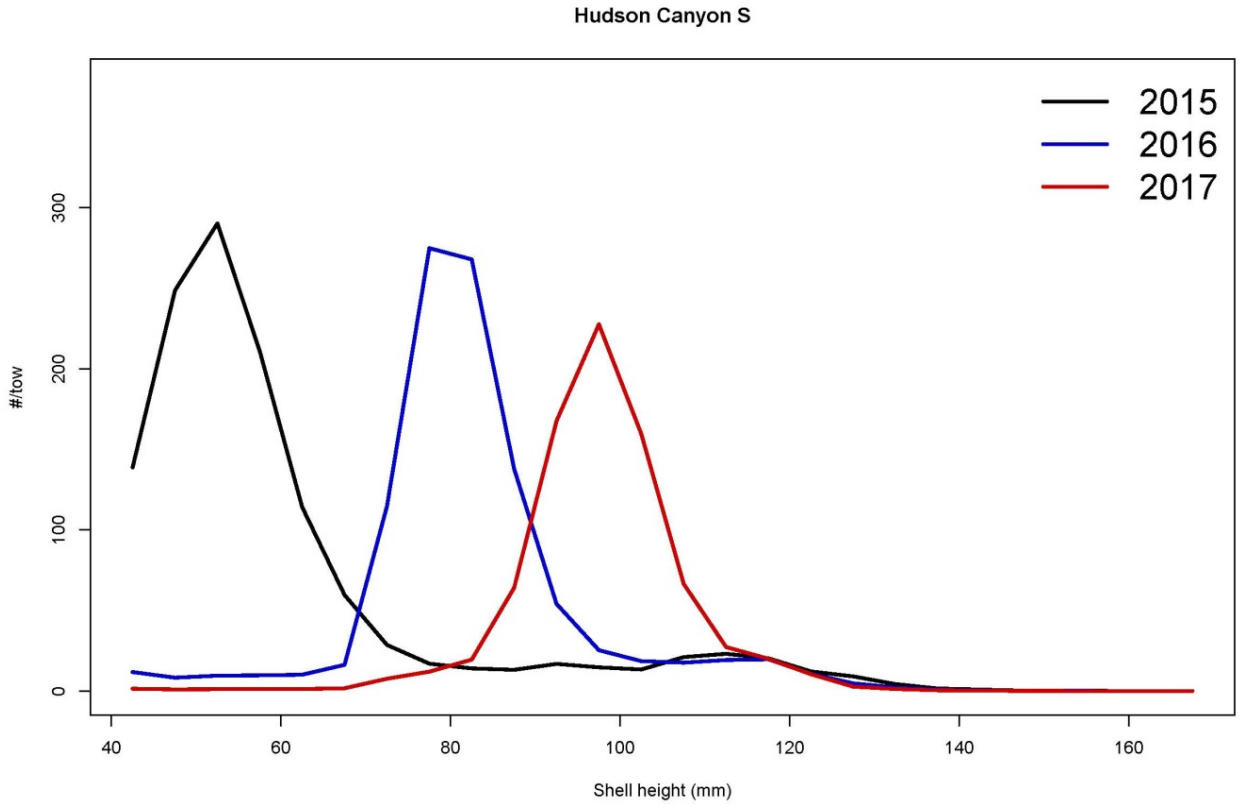


Figure 13 – Projected mean shell height frequencies for Hudson Canyon access area, 2015-2017



4.0 AFFECTED ENVIRONMENT

Same as A19