



New England Fishery Management Council

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MEMORANDUM

**DATE:** June 1, 2016  
**TO:** Scallop Advisors and Committee  
**FROM:** Staff  
**SUBJECT:** **Background on Draft Management Measures for 2016**

The Council identified a suite of scallop management priorities for 2016, several of which are described below. The following sections are intended to provide the Scallop Advisors and Committee with background information on four potential management measures which were prioritized for work in 2016. The Draft FW28 Action Plan proposes that each of these measures be considered in FW28.

**Contents**

1.0 Possession of Shell Stock Inshore of the Day-At-Sea Monitoring Line..... 1  
    1.1.1 No Action..... 2  
    1.1.2 Restrict the Possession of Shell Stock Inshore of the Day-At-Sea Monitoring Line . 2  
2.0 ACL Flowchart Measures ..... 3  
3.0 Potential Modification to Georges Bank Scallop Access Areas ..... 4  
4.0 Gear Modifications to Reduce Impacts on Small Scallops..... 5

**1.0 Possession of Shell Stock Inshore of the Day-At-Sea Monitoring Line**

**Background:** In response to concerns about the ability of Limited Access vessels to possess more than 50 bu of in-shell scallops once inside the VMS/DAS demarcation line when fishing north of 42°20' N. lat, the Council identified this as a new priority for 2016 at its April meeting in Mystic, CT. This measure would expand upon an existing regulation that prohibits the possession of more than 50 bushels of in-shell scallop product inside the VMS demarcation line south of 42° 20' N. Prior to Council action, the Scallop AP recommended this approach at their March 22, 2016 meeting.

*Proposed Language for this Measure:*

1.1.1 No Action

There would be no change to existing restrictions on the possession of shell stock inshore of the day-at-sea demarcation line. A vessel with a limited access or general category scallop permit that fishes or transits any are south of 42°20' N latitude during any portion of a trip, it will be prohibited from possessing more than 50 US bushels when inshore of the day-at-sea monitoring line and from landing more than 50 US bushels from a fishing trip. Scallop shell stock must be compliant with the 3½-inch minimum size shell height standards (§648.50). Any vessel fishing in the state waters exemption program (§648.54) would also be exempt from the scallop shell stock limit.

*Rationale:* This measure is intended to allow a limited fishery to continue north of 42°20' N latitude by some vessels that have traditionally landed in-shell scallops.

1.1.2 Restrict the Possession of Shell Stock Inshore of the Day-At-Sea Monitoring Line

If a vessel with a limited access or general category scallop permit fishes or transits inshore of the day-at-sea monitoring line during any portion of a trip, it will be prohibited from possessing more than 50 US bushels when inshore of the day-at-sea monitoring line and from landing more than 50 US bushels from a fishing trip. Scallop shell stock must be compliant with the 3½-inch minimum size shell height standards (§648.50).

Any vessel fishing in the state waters exemption program (§648.54) would also be exempt from the scallop shell stock limit. NMFS would monitor trips through the VMS program.

*Rationale:* The FMP relies on day-at-sea restrictions and crew limits to achieve its mortality targets and prevent overfishing. As catch rates rise, it becomes more attractive for vessels to deckload sea scallops and shuck them inside of the day-at-sea monitoring line, thereby circumventing the regulation's intent. Recently, limited access vessels began fishing in areas north of 42°20' N latitude within the NGOM management area, where there is no limit on the number of bushels a vessel may possess inside the demarcation line. This measure would restrict the number of bushels that limited access or general category vessels can possess to 50 when inshore of the day-at-sea monitoring line, effectively expanding an existing provision that only applied to fishing activity south of 42°20' N latitude. Another adverse effect is that the discarded scallop shells and viscera may also cover important habitats and foul inshore waters, especially where temperatures are high and currents are slow. This measure will prevent scallop vessels from possessing excessive amounts of shell stock inshore of the day-at-sea monitoring line, eliminating the incentive to deckload and shuck scallops "off the clock". The 50 US bushel limit will enable the vessels to bring a moderate amount of shell stock in to avoid poor weather and/or to land some shell stock for a small market for whole scallops or scallop parts.

## 2.0 ACL Flowchart Measures

**Background:** At their March meetings, the Scallop AP and Committee received a presentation on the development of a scallop ACL flowchart discussion document. The Scallop Committee made several recommendations to update this document by consensus. Staff has made modifications to the discussion paper based on the Committee's input (see version 2). The updates to the document include:

- Adding discussion of *management uncertainty* to the problem statement.
- Modifying draft objectives to begin with “consider.”
- Add in a management uncertainty option of 5% (this was contemplated in A15 development).
- Modify Limited Access chart to include Annual Catch Limit (not just Annual Catch Target)
- Other potential analyses discussed by the Committee:
  - How have AA and open area allocations performed (landings/projections)?
    - 2009-2015
- Look at realized F in the open areas in recent years.

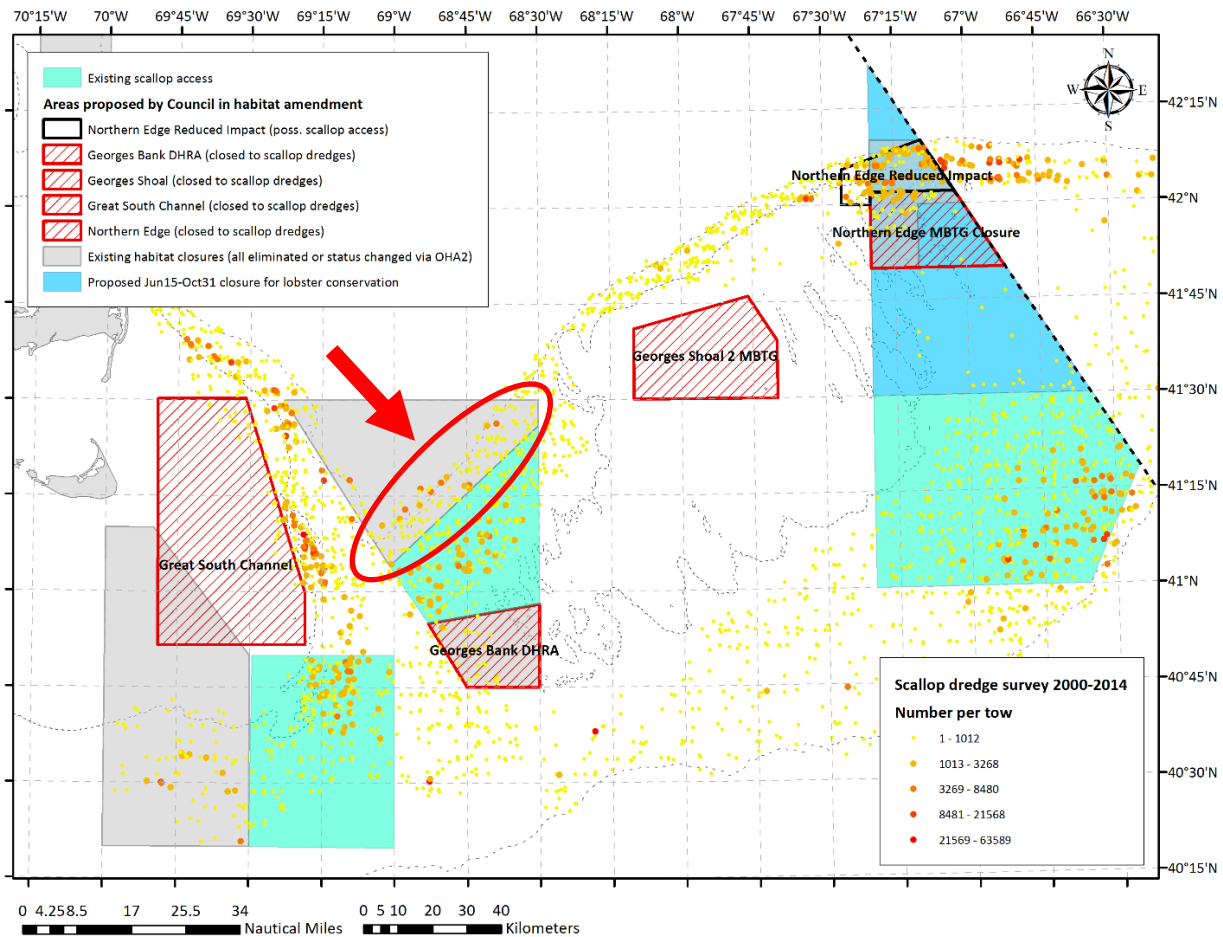
*Draft management measures can be found in Section 5.0 of the draft discussion paper (Doc #6).*

### 3.0 Potential Modification to Georges Bank Scallop Access Areas

**Background:** The Council has made recommendations to modify the existing configuration of habitat closures through Omnibus Habitat Amendment 2 (OHA2). A preliminary rule is expected in June of 2016. Based on this timing, staff expects a final rule to be effective before January 1, 2017. Access to newly opened areas for the scallop fishery will require a Council action.

Because of the uncertainty and relatively large amount of development and analyses needed to consider possible modifications to all the current GB access areas, staff recommends that initial efforts be focused on modifications to Closed Area I – namely the “sliver” to the north of CAI. This could potentially be an area to send unused CAI trips. Any modifications to NL or CA2 north should be considered in a future framework action. It is not realistic that this one year spec can include alternatives for all three of these areas as well as the other measures currently on the list (NGOM, ACL flowchart, and gear measures to protect small scallops). As it is the timing of the EFH action is still quite uncertain, with earliest implementation for January 2017, so that only leaves several months in the 2017 fishing year (Jan – April).

**Figure 1 - Areas proposed by the Council in OHA2, and NEFSC scallop dredge survey (2000-2014) (numbers per tow). The "sliver" is denoted by a red oval and arrow.**



#### **4.0 Gear Modifications to Reduce Impacts on Small Scallops**

**Background:** Council also identified development of an action in 2016 that would consider gear modifications to reduce impacts on small scallops. The specific gear modification discussed is the gear currently used as an accountability measure (AM) for southern windowpane flounder, reduced apron of five rows or less and a reduced hanging ratio for the twine top of 1.5 meshes per 1 dredge ring. Preliminary results suggested lower catches of small scallops. As past research trips using this gear configuration have focused on flatfish bycatch reduction, additional research trips should test the gear in areas of high densities of small scallops. The past research has not been in areas with high densities of small scallops; therefore, the performance of this gear in those conditions is more uncertain.

There are other gear modifications that are currently being tested that may have promising results as well (e.g. extended links, etc.), but those results are not expected in time for this action. It should be noted that these modifications do not conflict with current regulations; vessels could fish with these modifications already.

**Past Research:** The AM for southern windowpane flounder was approved through scallop FW25. Results from the 2012 scallop RSA project titled, “Testing of Scallop Dredge Bag Design Changes for Flatfish Bycatch Reduction” are included in Appendix II of that action. The following bullets summarize the methods and results of that work. [See Appendix II and III for additional details on this research.](#)

Table 1 - Gear specifications of the experimental (5 ring apron, 1.5:1 twine top) and control dredges.

Dredge Designation	Control	Experimental
Frame	CFTDD	CFTDD and LPD
Type of Chain for Turtle Mat	3/8" Grade 70	3/8" Grade 70
Up and Downs	13	13
Tickler Chain	9	9
Type of Chain for Sweep	Long Link Grade 80	Long Link Grade 80
Number of Links in Sweep	121 long links	121 long links
Chain Sweep Hanging	(6,4,4,2,4...every two links in the bag), 12 link dog chain for the first diamond, 9 link dog chain for the remainder of the rings in the diamond, 11 link dog chain in corners	(6,4,4,2,4...every two links in the bag), 12 link dog chain for the first diamond, 9 link dog chain for the remainder of the rings in the diamond, 11 link dog chain in corners
Twine Top	2:1 with two in the sides (60 Meshes)	1.5:1 with two in the sides (45 Meshes)
Diamonds	14	14
Skirt	2X28 or 2X40	2X28 or 2X40
Sides	6X18 or 6X20	6X18 or 6X20
Apron	8 X 40	5 X 40
Bag	10 X 40	10 X 40
Chaffing Gear	Sewn in three rows down from the sweep for the bag and on the diamonds	Sewn in three rows down from the sweep for the bag and on the diamonds
Club Stick	20 link dog chains	20 link dog chains

*Methods and Results (from FW25 Appendix II):*

- Four separate research trips on different scallop dredge vessels testing the standard turtle deflector dredge (TDD) and an experimental dredge with two primary gear modifications: a shorter apron and reduced hanging ratio for the twine top.
- The four cruises took place between August 2012 and May 2013. A total of about 300 paired tows were completed on four different commercial vessels, about 80 paired tows on each vessel. All trips were conducted on GB and SNE.
- Scallop catch was recorded in bushels, and at each station scallop length frequencies were recorded for each subsampled bushel. The size frequency of the entire catch was estimated by expanding the catch at each shell height of the subsample by the total number of baskets sampled.
- In addition, a Generalized Linear Mixed Model (GLMM) was used to analyze the paired catch data and test for differences in both the pooled length catch data as well as test for differences in the length composition of the catch.
- Overall, there was a significant difference in catch weight between dredges (control vs. experiment) for YT flounder (33% reduction), winter (40%) and windowpane (46%). The differences in scallop and summer flounder catch weights did not test significant (10% and 19% decreases respectively).
- The analyses attempted to develop a model that would predict the relative efficiency of the experimental dredge relative to the control dredge based on a variety of covariates, or variables that impact the results. It was found that fish length was not a significant predictor of relative efficiency, except for sea scallops and summer flounder.
- Overall, there was a reduction in relative scallop catch efficiency using the experimental gear compared to the control. The overall reduction in terms of catch weights is estimated to be about 10% for the experimental dredge. Furthermore, the experimental dredge was less efficient at catching smaller scallops than the control.
- No significant difference in scallop meat weight between the experimental and the control dredges, whereas GLMM analysis yielded a difference in numbers of scallops. This can be explained by greater size selectivity of the experimental dredge that caught fewer, but larger scallops on average, resulting in a difference in numbers of scallops but no difference in meat weight between dredges.

**Table 2 - Total catch of YT, winter, windowpane, summer flounder, sea scallops and benthos in experimental vs. control dredge (scallop and benthos in bushels and fish in lbs.) From FW25, Appendix 2, p.40.**

	Benthos (bu)	Yellowtail	Winter	Windowpane	Summer	Scallops (bu)
Experimental (5R)	278	1061	149	314	75	769
Control	374	1621	223	570	135	822
Difference	-96	-560	-74	-256	-60	-53
% Difference	-25.67%	-34.55%	-33.18%	-44.91%	-44.44%	-6.45%
N	148	110	100	75	45	145