



New England Fishery Management Council

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MEETING SUMMARY

Scallop PDT Meeting

June 27, 2017

The Scallop PDT met by conference call on June 27, 2017 to: 1) review recent Committee and Council tasking and actions; 2) discuss the development of flatfish accountability measures; 3) review receive an update on progress of the 2017 survey season; 4) discuss other business as necessary.

MEETING ATTENDANCE: Jonathon Peros (PDT Chair), Sam Asci, Trish Cheney, Dr. Bill DuPaul, Travis Ford, Kevin Kelly, Danielle Palmer, Dr. David Bethoney, Dr. Cate O’Keefe, Dr. Demet Haksever, Dr. Dvora Hart, and Dr. David Rudders. Mr. Tyler Staples from the NEFSC Observer Program also joined the call to assist with any questions.

RECENT COMMITTEE AND COUNCIL ACTIONS AND TASKING:

Council staff updated the group on recent actions taken by the Scallop Committee and Council. The Council approved the LAGC IFQ program review at its June meeting. The Scallop PDT, AP, and Committee will be reviewing the results of this work over the coming months. If the Committee has any recommended changes to the IFQ program, the Council may consider them as part of 2018 scallop priorities.

In June, the Council also approved research recommendations for the 2018/2019 Scallop RSA program. Staff noted that surveys of the NGOM management area were funded for the summer of 2017 using 2018 scallop RSA pounds. The Coonamessett Farm Foundation will survey parts of Stellwagen Bank and southern Jeffreys Ledge using HabCam v3 and a survey dredge, and SMAST will survey Stellwagen Bank using their drop camera system. The Scallop Committee passed tasking motions for work on NGOM and flatfish accountability measures at its meeting in June. The Council did not approve the Scallop Committee’s motion to develop a control date to address movement between the LAGC NGOM and LAGC Incidental permit categories. Finally, at its June meeting the Council requested that the Regional Administrator take action to expand the current footprint of the Great South Channel dredge exemption area.

DEVELOPMENT OF FLATFISH ACCOUNTABILITY MEASURES

Dr. Dave Rudders provided the group with an overview of conservation engineering work to reduce flatfish bycatch, focusing on work by the Coonamessett Farm Foundation from 1996 to present. The most recent study, using a turtle deflector dredge (TDD) and comparing a 1.5:1

hanging ratio and 5-row apron vs. a 7-row apron, was done as part of the CFF seasonal bycatch survey on Georges Bank; the final results of this work are forthcoming in a scallop RSA final report. At-sea trials comparing the 5-row vs. 7-row gear configuration will continue to be collected through CFF's on-going seasonal bycatch survey.

Dr. Rudders explained that sometimes gear modifications change the length composition of bycatch. The modelling approach used in this case showed that the 5-row apron configuration slightly reduced the catch of small scallops (as a proportion of total scallop catch). Dr. Rudders also presented results on the pooled relative efficiency of the gear comparisons. While all trips comparing the 5-row vs. 7-row apron and 1.5:1 gear modifications are not complete, he explained that the existing data may be suggestive about what the final results may be, and that the modification appears to show some promise.

A member of the PDT asked if the results were statistically significant. From a modelling perspective, there was no significant difference in the scallop catch between the 5-row and 7-row apron. However, the reduction in flatfish bycatch between these two dredge configurations was statistically significant (see Table 1 and Table 2).

The PDT discussed potential approaches and next steps for the development of flatfish AMs. Dr. Rudders laid out several issues that the group may want to consider, including the range of caveats for interpreting the flatfish "savings" associated with each dredge configuration, as well as how to reasonably scale results from experimental gear studies to the commercial fishery.

The PDT noted that habitat type may be an important factor in experimental gear tests, and whether or not bycatch is reduced in certain areas. In light of scaling gear modifications up to the fishery level, the group noted that because conservation engineering work has been conducted over an extended period of time and on a wide range of vessels, there may be data available to examine factors such as a vessel effect in modelling.

The PDT also noted that trend lines from bycatch reduction projects are all moving in the same direction (i.e. all are reducing bycatch to varying degrees). Reductions in bycatch have been realized across several species of flatfish, in different geographic locations, and while using different dredge configurations. To date, there have been no indicators that suggest gear modifications currently used by the industry have increased flatfish bycatch. The group discussed looking at a weight based analysis of the data. One reason to consider this approach is that bycatch is tracked by weight caught (as opposed to the number of individual fish caught). There are also economic implications of this, such as whether or not larger (more valuable) scallops are retained in the dredge.

Table 1 - Selection of gear experiments completed by CFF from 1996 - present.

CFF Gear Modifications to the Twine Top and/or Aprons 1996-Present					
Project	Dredge Frame	Twine Top	Apron	Results	
				Flatfish	Scallops (lbs)
Bycatch - 2015-2016	TDD	1.5:1 with two in the sides	5-row vs. 7-row	16% reduction in yellowtail 14% reduction in windowpane	No significant reduction
Gear - 2012	TDD,LPD vs. NBD	60-mesh vs. 45-mesh	8-row vs. 5-row	33% reduction in yellowtail 40% reduction in winter 46% reduction in windowpane 19% reduction in summer	31% reduction
Gear - 1999	NBD	Hanging Ratio 1:1 vs. 2:1	-	22% reduction in skates 35% reduction in flatfish	4% reduction
Gear - 1996-1997	NBD	10-inch Diamond to 6-inch Diamond	-	-	35% reduction in scallops >90mm 52% reduction in scallops <90mm
Gear - 1996-1997	NBD	8-inch Square to 6-inch Diamond	-	-	No reduction

Table 2 - Preliminary results from the 5-row vs. 7-row apron gear comparisons for 2015 bycatch survey.

Species	5-row Apron	7-row Apron	Percent Difference	Model Estimate (RE)	Statistical Significance
Sea Scallops	27712	28772	-3.68	2.67	No
Yellowtail Flounder	399	474	-15.82	-16.21	Yes
Windowpane Flounder	5456	6361	-14.23	-13.17	Yes
Winter Flounder	358	429	-16.55	-19.54	Yes
Monkfish	1018	957	6.37	7.03	No
Summer Flounder	154	193	-20.21	-19.53	No
Fourspot Flounder	155	172	-9.88	-8.81	No
Barndoor Skates	249	219	13.70	14.70	No
Uncl. Skates	26178	27313	-4.16	-2.61	No

Mr. Sam Asci presented information on hanging ratios, dredge type, and d/K ratios from observed scallop trips. Observers collect data on gear configurations, this data was used to calculate hanging ratios used by the limited access component of the commercial fishery from 2008 to 2016. The hanging ratio is defined as the number of twine top meshes connected to each ring on the dredge frame. The maximum hanging ratio was used to account for different hanging ratios used between dredges on the same trip (one hanging ratio value ascribed per trip), and hanging ratios were rounded to the nearest half integer (i.e. 1:1, 1.5:1, 2:1, etc.). The majority of hanging ratios used in the commercial fishery were between 2:1 and 3:1; furthermore, hanging ratios were consistent between broad stock areas, statistical reporting areas, modes of fishing (open-area vs. access area), and over time.

The prevalence of dredge type varied by geographic area and open bottom vs. access area fishing. The number of trips fishing TDD vs. New Bedford style dredges appears to have increased between FY2011 – FY2016. This increase of TDD in the data may be due to regulatory requirements coupled with the typical fishing behavior associated with rotational management. The PDT also discussed comments from industry, who have indicated that it may not be practical to change the dredge configuration (TDD, New Bedford) mid-season, such that they fish with the TDD on Georges Bank, or in Closed Area II.

NMFS staff explained that bycatch estimates are currently stratified by gear and fleet, and suggested that the PDT could follow-up on the current approach if it found that there were substantial differences in bycatch between TDDs and New Bedford Style dredges.

Next, staff presented d/K ratios by ten minute square for GB yellowtail, northern windowpane, and SNE yellowtail. In this analysis, d/K ratios were calculated using observer data from 2006 – 2016. The data was pooled by month and ten minute square. Only squares with at least three vessels in each month were displayed to comply with confidentiality requirements. Figures were developed for each month, though staff focused on areas with overlap of relatively high d:K ratios for both yellowtail and windowpane during the same month. On Georges Bank, there appears to be relatively high d:K ratios of GB yellowtail and Northern windowpane in April and January. In SNE, yellowtail d:K appears to be fairly high February, March, and April.

The PDT discussed the color scale of the d/K ratios by 10-minute square, and plans to consider other ways to display this data relative to species-specific bycatch rates and accountability measure thresholds, and consider the results of upcoming TRAC and groundfish operational assessments. The group also noted that when accountability measures include access areas (closures or gear modifications), it can have negative impacts on the rotational management program.

The Scallop Committee tasked the PDT with developing AMs for other flatfish stocks to be consistent, to the extent feasible, with gear modifications for Southern windowpane flounder. Dr. Cate O'Keefe provided the group with an overview of existing proactive and reactive AMs for flatfish stocks, focusing on the combined effects of existing measures/proactive AMs, and how they may benefit multiple stocks. The existing proactive measures for GB yellowtail flounder are likely to benefit northern windowpane, as yellowtail and windowpane are known to occur in some of the same areas on Georges Bank, including Closed Area II. A strawman of

several potential proactive and reactive AMs was presented to generate discussion. Potential options were based on both observer data and results from the Coonamessett Farm Foundation's seasonal bycatch survey. Another consideration is whether or not to develop AMs that include scallop access areas that are part of the rotational management system. One potential approach is to focus on open areas, and reduce potential impacts on rotational management. Dr. O'Keefe also explained that there is variation among AM triggers in the scallop fishery, and suggested that the PDT could consider creating parity between the existing SNE/MA windowpane AMs and other flatfish AMs.

One member of the PDT asked if an explicit bycatch reduction target had been articulated by the Committee. Staff explained that the Committee has not identified a target value, and that National Standard 1 Guidelines do not specify how much bycatch should be reduced by. The PDT noted that the Council did identify bycatch reductions or "savings" that it felt were reasonable during the development of FW25. The PDT felt that these expectations around bycatch savings through AMs could help to guide initial development of the flatfish AMs. The group talked about identifying areas where gear modifications may be most appropriate (ex: stat areas, open vs. access areas, west of 71° W), and suggested considering additional factors to "savings" when developing AMs.

FOLLOW-UP/NEXT STEPS:

1. In addition to size-frequency flatfish and scallop distributions from CFF work, conduct weight based analyses. (Dave Rudders with CFF)
2. Examine if there are differences in catch (scallops, flatfish) between the New Bedford style dredge and turtle deflector dredge. Are there flatfish savings when using the TDD? (Dave Rudders with CFF)
3. Articulate the caveats of bycatch savings in the scallop fishery. (PDT)
4. For d:K, adjust the scale to show when an AM would be triggered (Staff – Sam Ascii)
5. Begin writing alternatives, measures, and a summary of existing bycatch reductions. Review past approaches to economic and biological impacts. (Staff – Jonathon, Demet, Sam)
6. Calculate bycatch savings for windowpane and yellowtail, similar to approach used in FW25. Initial focus should be on identifying appropriate areas for gear modifications. (Staff with PDT support)

KEY CONSIDERATIONS:

1. Trend lines from bycatch reduction projects are all moving in the same direction (reducing bycatch to varying degrees). Reductions in bycatch have been realized for varying species of flatfish, in different geographic locations, and while using different dredge configurations. To date, there have been no indicators that suggest gear modifications currently used by the industry have increased flatfish bycatch.
2. Research from 2012 (used in FW25 AM development) compares results between a turtle deflector dredge and a New Bedford style dredge. The TDD used a 1.5:1 hanging ratio (60 mesh vs. 45 mesh), and a 5-row apron. The 5-row TDD with a 1.5:1 hanging ratio reduced flatfish catch of yellowtail flounder and windowpane flounder, as well as scallop catch. The most recent study by CFF compares the results of a 5-row apron TDD with a 1.5:1 hanging ratio to catch with a TDD using a 7-row apron. These results show a

reduction in flatfish catch, and no significant reduction in scallop catch. The fishery transitioned to a 7-row maximum apron length in 2014.

3. Given the number of caveats and changes within the fishery to reduce flatfish catch in recent years, flatfish “savings” using gear modifications (5-row apron and 1.5:1 hanging ratio) will be presented as a range, the maximum saving calculated using the 2012 research applied in FW25.
4. There is spatial and temporal overlap of windowpane and yellowtail on the scallop grounds, and there may be combined (positive biological) impacts of AMs that should be accounted for as measures are developed.

UPDATES ON PROGRESS OF 2017 SURVEY SEASON

Dr. Dvora Hart, NEFSC – Dr. Hart reported that 2017 could be the best survey season to date in terms of HabCam coverage. A series of paired dredge/HabCam tows were conducted in conjunction with VIMS and NEFSC that may help to address some of the issues surrounding dredge efficiency in high density areas. Dr. Hart also indicated that they were able to complete several 10 minute tow repeats (5). In terms of results – the NEFSC survey saw high densities in Elephant Trunk. Not a lot of recruitment was evident, however, some recruitment was seen in the southern part of Elephant Trunk and Delmarva. Overall, the Elephant Trunk seemed to be holding dense aggregations of scallops, with the highest density areas seen in the Flex area. As of June 27th, approximately 150,000 images had been processed at sea this year (out of 8 million images).

Dr. Dave Rudders, VIMS – VIMS was funded to survey the Mid-Atlantic region (Virginia to Block Island), the Nantucket Lightship and surrounds, and Closed Area II South and surrounds. As of June 27th, VIMS had completed survey work in the Mid-Atlantic and CA II South and surrounds, but had not completed Nantucket Lightship and surrounds. Dr. Rudders’ preliminary report was that some recruitment was seen in Delmarva and the Elephant Trunk, and that a broad age distribution was observed around Block Island. With respect to nematodes, the survey did not see a big northward expansion of lesioned scallops. Furthermore, it was noted that nematodes in the Mid-Atlantic were more prevalent in 10/20 count scallops than 20/30 count scallops. The PDT had a brief discussion about nematode observations.

Dr. Dave Bethoney, SMAST – SMAST was funded to complete 3 high-resolution surveys, as well as a broad scale survey of the Mid-Atlantic and Georges Bank. As of June 27th, SMAST had completed the high-resolution surveys, and Dr. Bethoney expects that the surveys will be complete by mid-July, including additional work in the NGOM. SMAST also observed some recruitment in the southwest part of the Elephant Trunk.

OTHER BUSINESS:

Council staff had two announcements for the PDT. First, agendas for upcoming in-person meetings are in the works, and there may be room for additional topics/presentations from PDT members who have work they wish to share. Second, time will be devoted at upcoming PDT meetings to catalogue any ideas for scallop related research. The hope is to use a list of research topics generated during the year to seed RSA priority discussions in the spring, and to bring a list of potential ideas to the RSA share day meeting in late April/early May.