



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116

E.F. "Terry" Stockwell III, *Chairman* | Thomas A. Nies, *Executive Director*

MEETING SUMMARY

Research Steering Committee

Radisson Airport Hotel, Warwick, RI

Wednesday, April 8, 2015

The Research Steering Committee met on April 8, 2015 in Warwick, Rhode Island to review cooperative research reports and make recommendations to the Council for management use, if appropriate.

MEETING ATTENDANCE: M. Alexander (Chairman), V. Balzano (Vice Chair), E. Goethel, D. Preble, B. DuPaul, T. Platz, E. Meredith, T. Alexander; (Absent – G. Brogan, J. Hoey, M. Pol, L. Etrie.); M. Jacob (NEFMC staff); and R. Silva (NMFS GARFO staff). In addition, approximately 10 members of the public attended.

KEY OUTCOMES:

- Outcome #1: Phase I and II of the large mesh belly panel research study took place on Georges Bank and Cultivator Shoal respectively. The researcher presented the study results and addressed all concerns raised at the last Committee meeting December 3, 2014. Based on the results of the final report for Phase I (Georges Bank) of the large mesh belly panel cooperative research project and Phase II (Cultivator Shoal), the Committee recommended "...that the results of the large mesh belly panel report for Cultivator Shoal and Georges Bank be forwarded to the Council for further consideration in management as an additional gear type in the small mesh fishery to reduce yellowtail and windowpane bycatch."
- Outcome #2: The Committee reviewed the final report for the 2012 scallop research set aside project by Coonamessett Farm, *Seasonal Bycatch Survey of the Georges Bank Scallop Fishery*. After review of the report, the Committee recommended "...that the Council and scallop and groundfish Plan Development Team consider this final report sufficiently adequate for consideration in management use. In addition, information on the dynamics of disease and environmental stressors of managed species and its implications in natural mortality should be further examined, based on findings of this report. This study emphasizes the need for and continuation of such seasonal surveys."
- Outcome #3: The Committee reviewed the final report for the 2012 scallop research set aside project by the Eastern New England Scallop Association, *Bycatch Characterization in the Southern New England Sea Scallop Fishery*. "The Committee found that this study did not adequately meet the standards for use in management. While there is information

on the discard ratio within the report, there are questions regarding how representative these values are in the characterization of the Southern New England LAGC fleet.”

AGENDA ITEM #1: BRIEF OVERVIEW OF RESEARCH STEERING COMMITTEE PROCESS FOR GEAR APPROVAL (STAFF PRESENTATION – M. JACOB)

Ms. Jacob presented a brief overview of the process for gear approval, and the typical questions that should be considered when reviewing final reports to consider for management use. The process is described in the Council’s Operations handbook. The Committee also discussed guidelines that could help clarify Committee expectations from researchers that are asked to present their project results to the Committee for consideration of its use in management. Based on past feedback from reports, information on catch of other managed species and raw data should be made available to the appropriate Plan Development Team(s).

A committee member responded that President Obama’s Executive Order (May 9, 2013) requires this information be made available to the public. Ron Smolowitz (Coonamessett Farm Foundation) felt that the RSA-funded projects should not be required to provide this information because RSA funding comes from private source through allocated pounds taken from the fishing industry’s annual quota. The Research Steering Committee will investigate whether RSA funds are public or private resources, to determine if requirements for raw data (non-confidential) could be made for results presented to the Committee for management considerations.

The Committee suggested additional guidelines for researchers, including:

- Repeatability of a research study that would allow other researchers to apply the research methodology to reproduce the study and yield similar results. Therefore, researchers should assess whether the study is repeatable and if not, strive for a study design that is repeatable and appropriate for the research objectives.
- Terminology in sampling procedure should be clearer for all research reports.
- Research reports should address variables within the study that are not tested, but could also affect the results of the study. Research study results should address variations that may include tow-by-tow variability, seasonality of the study results, etc. This information could be expressed using analytical tools such as linear regression models or another appropriate statistical tool that addresses variability.

AGENDA ITEM #2: PRESENTATION AND REVIEW OF THE FINAL REPORT FOR THE COOPERATIVE RESEARCH PROJECT “LARGE MESH [BELLY] PANEL IN SMALL MESH FISHERIES AS A METHOD TO REDUCE YELLOWTAIL FLOUNDER BYCATCH IN CULTIVATOR SHOAL AND GEORGES BANK

Emerson Hasbrouck presented the final report of Phase I of the cooperative research project that utilized a large mesh belly panel to reduce flatfish bycatch on Georges Bank in the small mesh fisheries. A modified standard trawl net with a large mesh belly panel on a standard trawl net (3-bridle, 4-seam standard box trawl) was tested for efficiency in reducing flatfish bycatch compared to a control net (standard trawl net). Both nets were fished simultaneously using a twin trawl onboard the fishing vessel *Karen Elizabeth* (Point Judith, RI). There was no vessel effect since the tows took place simultaneously on the same vessel using a twin trawl to test the

control net and the experimental large mesh belly panel net. Phase I of the study took place on Georges Bank with 40 paired tows of 30 minutes during one trip lasting six days. The primary target species were squid, yellowtail flounder, and windowpane flounder.

Results for the study on Southeast Georges Bank show that the large mesh belly panel significantly reduced yellowtail flounder bycatch (72.3 percent) and windowpane bycatch (50.9 percent). The catch of whiting remained the same between the control and experimental net. The squid catch increased by 20 percent in the experimental net compared to the control net. There was a difference of approximately five pounds per tow for squid catch, which resulted in a 20-percent overall increase in the squid catch for the experimental net. Results for the study on Cultivator Shoal show that the large mesh belly panel significantly reduced yellowtail flounder bycatch (80.7 percent), and windowpane bycatch (59.3 percent). Whiting and squid catch remained the same for the experimental and control net, showing no statistical significance in results of whiting and squid fisheries. There was a slight increase in squid catch in the experimental net, but this difference is not statistically significant.

At a past Committee meeting on December 3, 2014, the Committee made recommendations to the researcher for further analysis on the work completed using the large mesh belly panel. The researcher responded to the recommendations of the Committee and addressed these concerns within the final reports to the Committee and provided rationale for statistical methods used to analyze the study results. The researcher also provided responses to NOAA technical comments received for the Cultivator Shoal final report (the responses to the technical comments from the Georges Bank final report was presented at the December 3, 2014 Research Steering Committee meeting).

Mr. Hasbrouck and Dr. Patrick Sullivan provided response for concerns raised at the meeting. Regarding day/night and side comparisons, one Committee member felt that the researcher could have combined the analysis into a two-way ANOVA to evaluate the data results because it would also provide information on any interactions between the two treatments (day and night, with side comparison). Dr. Sullivan stated that the decision not to use a two-way ANOVA was that there were not enough data points to do this analysis. One committee member stated that all of the analysis could have been strengthened by using Generalized Linear Mixed Model (GLMM) analysis. Dr. Sullivan responded that there are no random effects in the study that would justify the use of GLMM for analysis. One committee member stated that a one-tailed analysis would be appropriate based on the presumption that the catch for bycatch species was expected to decrease in the experimental net. For catch comparison of whiting and squid, a one-tailed test would also be more appropriate because the hypothesis of interest was that there would not be a decrease in catch of the target species in the experimental net. Dr. Sullivan stated that a two-tailed test is more conservative and that a one-tailed test assumes there will be a difference in the catches for both nets. Therefore, both hypothesis (null and alternative hypothesis) were tested used a two-tailed test.

One Committee member stated that observations where catch of species was zero in both the experimental and control nets should have been excluded from the t-test analysis (degrees of freedom are inflated by including the 0-0 tows) since zero catch in both gears could have occurred because of an absence of the species, not any fishing characteristic of the gears. Dr.

Sullivan responded that the results of the study do not intend to address circumstances where species were simply not encountered in either net because they were not present. In addition, there were tows where the catch was one fish (windowpane, for example) that weighed less than one pound. Mr. Hasbrouck responded to concerns regarding catch information for other managed species, stating that there was some catch of cod, haddock, other flounders, ling and dogfish; there were few tows with large catches of dogfish that were not brought on deck. When actual weights were not taken, subsamples were collected based on Observer sampling protocols. Other clarification questions were raised, and Mr. Hasbrouck responded, stating that some of the squid catch was retained during the trip. In addition, day and night time distinctions were made based on local sunrise and sunset times. Mr. Hasbrouck agreed to provide the catch information for managed species to the groundfish Plan Development Team. Mixed results for whiting catch in the Cultivator Shoal final report was likely due to one outlier in the dataset, which is shown in the response to technical comments (page 2-3).

Dan Farnham (whiting fisherman from Montauk and Whiting Advisory Panel member) commented that they do not fish in the area that Mr. Hasbrouck sampled because they avoid bycatch and fish in areas for higher yields of whiting. There are other methods such as avoidance methods that fishermen use in order to reduce bycatch of commercially-important species. These methods, in addition to modified gear types that allow flatfish to escape through the net, improve reductions in bycatch. Bonnie Brady (Long Island Commercial Fishing Association in Montauk) agreed as well, that the report should be forwarded to the appropriate managing body for use as a new gear type in the fishery. The Committee reached a consensus regarding the use of the report findings for management consideration.

Consensus Statement: Committee recommends that the results of the large mesh belly panel report for Cultivator Shoal and Georges Bank be forwarded to the Council for further consideration in management as an additional gear type in the small mesh fishery to reduce yellowtail and windowpane bycatch, with the following caveats:

- Caveat #1: It is important to monitor the post-implementation efficiency of the large mesh belly panel trawl for bycatch reduction by establishing a new VTR gear code for the gear type. This rationale is based on caveats #2 and #4. While the VTR code is under development, the use of this gear could be monitored through study fleet or other mechanisms.
- Caveat #2: Relatively small amounts of target species were caught for squid and whiting in the study compared to commercial catches of these species on a typical trip. On such a trip, the LMBP net may perform differently when larger quantities of whiting/squid are caught, and the efficiency of yellowtail and bycatch reduction may be different than the results of the study suggests. The researcher targeted larger catches of yellowtail and windowpane flounder for statistical purposes in order to test the efficiency of the gear. Therefore, there were smaller catches of commercial targeted species of squid and

whiting. Since the selectivity of catch is occurring at the front of the net, this may not be an issue.

- Caveat #3: Conflicting statistical test results from the Cultivator Shoal whiting catch comparisons (arguably affected by one outlier in the dataset) suggest that there could be a possible and large enough (~10%) reduction in the Cultivator Shoal target whiting catch in the large mesh belly panel trawl to influence industry adoption of the gear.
- Caveat #4: Although there were few nighttime observations, the results suggested the experimental gear may have been less efficient at bycatch species reduction for nighttime tows compared to day-time tows (yellowtail and windowpane flounder on Southeast Georges Bank and windowpane on Cultivator Shoal). Since most of the comparison tows were conducted in the day-time (33 out of 40 on Southeast Georges Bank, and 37 out of 42 on Cultivator Shoal), any commercial activity that has a greater ratio of tows at night might realize a lower bycatch reduction.

Mr. Silva stated that if the gear is given a vessel trip report gear code, it would be a regulated gear held to certain standards, including requirements for consistent gear specifications.

Agenda item #3: Research Set-Aside: discussion of possible improvement

The Committee continued discussion on ways to improve the RSA process, particularly ways to improve transparency in the selection process for project proposals. Mr. Silva explained that there are ways in which the public outreach can be improved to provide more information on the selection process, which can be referenced within the announcement notice to the public. Mr. Silva clarified that although the management panel review is not scored, it is equally weighted in the selection process. One Committee member commented that interim reports for multi-year projects should be reviewed by the Research Steering Committee. Committee members also agreed that an efficient process should be set in place to review final reports. Ms. Jacob plans to coordinate with the cooperative research team and other research institutions on this matter.

Mr. Smolowitz (Coonamessett Farm Foundation) stated that there is a lag between project start time and the date on grants online, so that the one-year project end date is not exactly one year after the project start date. Therefore, grants online would prompt the researcher to submit final reports before time and the researcher usually applies for an extension, which is typically granted for one year. For this reason, final reports can be delayed by one year or longer if an extension is granted.

One Committee member stated that there is no feedback loop for monkfish RSA funded projects, and suggested that if projects proposals do not adequately aim to address management needs, that the funds should be kept as a reserve for the following year to allow for better research projects to be funded, especially when allocated catch for research is limiting. One Committee member stated that in the past, all principal investigators were invited to present their results before the Committee, and a mechanism to continue this process would be useful. One cost effective way to do this is to host a webinar and invite researchers to participate in the process.

Another option discussed is to have joint meetings between the appropriate Plan Development Team and the Research Steering Committee.

Agenda item #4: Review Final Report for Seasonal Bycatch Survey of the Georges Bank Scallop Fishery, by Coonamessett Farm Foundation

After a brief overview of the research methodology and findings, the Committee agreed that the final report provided a robust, multi-disciplinary analysis of the results from the study. Principal investigator Ron Smolowitz was available to answer any questions from the report. The GLMM analysis of the study was performed by Dave Rudders of the Virginia Institute of Marine Sciences. The scallop Plan Development Team is already using the findings of the study in scallop management, and Committee members agreed that the report and findings are appropriate for use in management. Information on disease for yellowtail flounder was presented and the results suggest that there may be a seasonality component to the prevalence of disease in yellowtail flounder. If natural mortality is affected by disease prevalence, and there is a seasonality component to disease prevalence, it would be important for evaluating stock assessment information. One Committee member stated that seasonal surveys like these are able to observe the effects of temperature and salinity on the prevalence of disease throughout various times of year. The Committee reached a consensus regarding potential use of the results regarding disease in yellowtail flounder for broader management application.

Consensus Statement: Recommend that the Council and scallop and groundfish Plan Development Team consider this final report sufficiently adequate for consideration in management use. In addition, information on the dynamics of disease and environmental stressors of managed species and its implications in natural mortality should be further examined, based on findings of this report. This study emphasizes the need for and continuation of such seasonal surveys.

Agenda item #5: Review Final Report for Bycatch Characterization in the Southern New England Sea Scallop Fishery, by Eastern New England Scallop Association

The Committee discussed the findings within the report, noting that the report did provide bycatch rates in Southern New England for managed species, including yellowtail and windowpane flounder. The goal of the research study was to characterize bycatch rates in the Limited Access General Category (LAGC) scallop fishery. The report provided insufficient analysis of the findings. It was noted that there was significant overhead costs that could have affected the robustness of the study based on limited funding for sampling activity. One Committee member noted that the gear type used in the study was not representative of that used in the fishery.

Mr. Smolowitz stated that the results of the study could be useful if the dataset was compared to observer data in the area. It would also be useful to know how many vessels fish in the area if the study is expected to characterize the entire Southern New England LAGC scallop fleet. This information was not provided in the report; therefore, the Committee had reservation on whether the report results are representative of the LAGC scallop fleet in Southern New England. One

Committee member suggested that the report results should be compared to observer data and expressed on a catch comparison graph for observer data vs. sampling data.

Consensus Statement: The Committee found that this study did not adequately meet the standards for use in management. While there is information on the discard ratio within the report, there are questions regarding how representative these values are in the characterization of the Southern New England LAGC fleet.

Agenda item #6: Information on Marine Resource Education program (MREP) Program

Ms. Jacob provided information on the MREP program to Committee members. One Committee member noted that approximately 300 industry members have attended the program. In addition, NOAA employees in fisheries management have also attended the workshop and exhibit empathy for the industry following this collaborative experience. There should be a focus on recruitment of younger and new entrants into the fishery. There should be additional opportunities for collaboration between stock assessment scientists, fishermen, and fishery managers. For example, conversations regarding anecdotal information from fishermen could help inform scientists and managers.

The meeting was adjourned at approximately 4:15 p.m.