

Tuesday, May 15, 2012

NEFSC Review of:

REDNET - A Network to Redevelop a Sustainable Redfish (*Sebastes fasciatus*) Trawl Fishery in the Gulf of Maine: COMPLETION REPORT – Component 2- Baseline Catch and Bycatch Evaluation

The goal of the overall “REDNET” project is to devise strategies to sustainably harvest the redfish resource in the Gulf of Maine through a network approach, including fishing enterprises, gear manufacturers, researchers, social and economic experts and managers. The overall project consists of six components: 1- Network Meetings; 2- Baseline Catch and Bycatch Evaluation; 3- Codend Selectivity; 4- Conservation Engineering and Bycatch Reduction; 5- Processing/Marketing; and 6- Outreach/Implementation.

This report, which presents limited preliminary results from Component 2 – Baseline Catch and Bycatch Evaluation of the larger “REDNET” project, reads well but omits several important details concerning the results of exploratory / demonstration fishing. The testing that was accomplished provided some encouraging and valuable preliminary information about the potential for using 4.5-inch codend mesh to target redfish. However, the exploratory / demonstration fishing was not a designed study; rather there were five (5) opportunistic commercial trips and the limited data are therefore questionable in drawing inferences for wider use of the 4.5 inch codend mesh.

Because one vessel had a catch rate twice as high as any of the other vessels, the authors should provide more details on the gear and locations fished by this vessel to better understand if this high catch rate is a gear/vessel effect or a location effect. Additional operational details on each trip would also help interpretation. The report lacks information about the actual design of the gear tested (e.g., whether or not there were modifications to reduce herding) or any operational procedures used consistently (or not) in terms of targeting (e.g., time of day, acoustic evidence associated with bottom relief features, etc.). The gear was only tested in waters greater than 80 fathoms. If redfish are available in shallower depths, testing in shallower strata should be done to determine if the catch (and bycatch) rates differ. As species/size selectivity can also be affected by depth and light availability, the researchers might consider testing the gear in varying depths to see if there are depth/light effects. It would be informative as well to provide a plot of the percentage of bycatch (Y axis) by depth (X axis). Effects on deep-sea corals were mentioned and should also be considered.

This report highlights the need to continue testing the 4.5-inch codend to determine if this gear can catch commercially-viable quantities of legal sized redfish with minimal bycatch of sublegal redfish and other prohibited species. While the report asserts that “the five trips resulted in economically viable catches of redfish using a 4.5 in mesh codend without significant incidental/bycatch of regulated species”, ‘significant’ isn’t defined. Although 81% of the total catch from all trips was legal sized redfish, there are no comparable data for the current legal mesh (6.5 in). Figures 4 – 4 and 4 – 5 show that December and February are months with high bycatch of sublegal redfish. The discussion should explain if this is truly a seasonal difference or if the areas sampled in these months differed (shallower depths with higher abundance of smaller redfish) and whether the bimodal distributions shown in Figures 4-4 and 4-5 reflect area, season, or a season-area interaction that coincided with the sampling, perhaps because of seasonal recruitment. Figure 1 shows locations by month, but May and December were both

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red in my copy. February (yellow) appears to have shallower locations compared to other months, which might suggest the availability of younger age groups shown in Figures 4 – 4 and 4 – 5. Again, this is important as it may identify areas to be avoided or a recruitment period when a mesh larger than 4.5 in would be more appropriate for a sustainable redfish fishery.

Finally, as this fishery previously collapsed by “overexploitation” (Page 2) apparently associated with using small mesh, we encourage careful consideration of the mesh size. From NOAA Technical Report NMFS 113, only about 50% of redfish are mature when recruited (susceptible to capture) to the fishery (23 cm). This needs to be considered if smaller fish are more susceptible to capture during December and February (Figures 4-4 and 4-5), or at any other times of the year.

In summary, while the results presented in this progress report are certainly encouraging, their broadscale applicability is limited. If the ultimate goal is to establish a sustainable redfish fishery, the thorough and appropriately sequenced list of tasks (demonstration – characterization, mesh selectivity, bycatch reduction, etc.) associated with the full REDNET proposal should be pursued.