GROUNDFISH MANAGEMENT TEAM REPORT ON YELLOWEYE STOCK ASSESSMENT

The Groundfish Management Team (GMT) reviewed the yelloweye rockfish stock assessment, rebuilding analysis, and Stock Assessment Review (STAR) Panel report. The Stock Assessment (STAT) Team did a thorough job in examining all of the data sources available to produce a credible assessment; however, as pointed out at the STAR Panel meeting, the assessment is considered to be data poor, especially for certain areas (such as Washington) and the model results are highly uncertain. With regard to how the assessment is used for management, the GMT would like to offer the following comments and recommendations for the Council's consideration.

The GMT recognizes that four models were presented—one coastwide and three state-specific models—with varying degrees of uncertainty as noted in the STAR Panel report. The GMT notes that there are not any biological or genetic data to suggest that there are separate stocks by region and there are significant challenges associated with managing yelloweye on a state-specific basis. Using state-specific optimum yields (OYs) would require the use of the state borders as management lines for commercial fisheries, which would add significant complexity to the GMT's current modeling and catch monitoring practices. While the GMT does think that the relative depletion levels by state may inform management decisions, the GMT would appreciate guidance on how to incorporate this information if the Council wishes to pursue a more regional management approach.

The resulting rebuilding OY at a status quo coastwide rebuilding probability (Pmax at 80%) would be 12.6 mt in 2007 and 12.9 mt in 2008; for reference, these OY levels compare to 26 mt in 2005 and 27 mt in 2006. Fishing opportunities across numerous sectors have already been severely curtailed under the current OY. Examples of these restrictions include implementing a rockfish conservation area for the fixed gear fleet (i.e., closed shallower than 100 fms in the north and between 75 and 150 fms in the south); large yelloweye area closures for both Washington and Oregon recreational fisheries; and reduced opportunity for halibut and bottomfish recreational fisheries across all three states. To manage to an OY that is less than half the current level, additional restrictions, which may include closures, to groundfish fisheries as well as non-groundfish fisheries will need to be implemented.

For example, yelloweye rockfish are encountered in commercial fisheries targeting nearshore stocks as well as halibut, sablefish, and spiny dogfish. At a 12.6 mt OY, enlarging the rockfish conservation area (e.g., moving the seaward line to 125 or 150 fms in the north) would likely be necessary. This would have a detrimental effect on those fisheries, as the target stocks are not as available at those deeper depths. Some consideration of limiting the directed groundfish open access fishery or providing differential opportunities for limited entry vs. open access (i.e., a reallocation of sablefish and other targeted species) would also need to be addressed, as well as restrictions for fisheries not directed at groundfish that have an incidental catch of yelloweye (e.g., salmon troll).

Recreational fisheries coastwide prohibit the retention of yelloweye; however, yelloweye are encountered incidentally while anglers are targeting other, healthier stocks, such as nearshore rockfish, halibut and lingcod. Complete closures for these fisheries would also be considered, as well as additional area closures and depth restrictions during the open season.

Given the high level of uncertainty in the yelloweye stock assessment and the measures that would likely be needed to achieve a reduction in the rebuilding OY to something on the order of 12.6 mt (which is the calculated 2007 OY that corresponds to Tmax), the GMT recommends that the Council adopt a phased-in approach whereby the OYs for the next few years could be set at incrementally lower levels. Given the tools we have available for management, the GMT considers a reduction in the yelloweye OY to something on the order of 12.6 mt in 2007 to be impractical to fishing communities and sectors. Although a specific economic analysis of a 12.6 mt OY in 2007 has not been done, a cursory examination of sector impacts on yelloweye leads to the conclusion that multiple fishery sectors would need to be closed entirely or substantially constrained to achieve such a reduction. A phased-in approach would allow fishers and managers to develop tools that have the effect of reducing the take of yelloweye while allowing for some continued operation of fisheries potentially affected by an OY reduction. The GMT envisions the further development of tools to reduce the take of yelloweye (e.g. refined area closures and gear restrictions). In addition, a phased-in approach to an OY reduction would provide time for: 1) additional data to be collected (through additional research, such as the enhanced International Pacific Halibut Commission survey planned for this year, and ongoing barotraumas and site fidelity work being conducted by the Oregon Department of Fish and Wildlife) and used to inform subsequent stock assessments that would be precluded by adopting the 12.6 OY; 2) fishermen, such as fixed gear participants, and processors who will potentially be affected by the yelloweye rebuilding plan to make decisions that could affect their future businesses; and 3) the Council, its advisory bodies, and the states to identify, explore, and develop management tools to manage to the lower OYs that are anticipated over the next few years. During this time, the Council could also move forward on developing a limited entry program for the directed groundfish open access fishery to provide effort control.

The GMT would like to point out that the Pacific Council used a fixed harvest level for bocaccio from 2000 through 2002 whereby the total mortality OY was set at 100 mt for each of those years. Canary rockfish was also managed in a similar fashion, using a constant harvest OY of 93 mt for 1999-2002. To make progress toward rebuilding, the GMT is not recommending a constant harvest OY for yelloweye, but, rather, phasing in the lower rebuilding OY.

The GMT examined a phased-in approach that would incrementally reduce the OY over the next few years, and then use the prescribed rebuilding trajectory beginning in 2011. The GMT requested that the STAT team complete a rebuilding analysis (at Pmax = 80%) using this approach, and the results are described in Table 1.

Table 1.

	Base Model		Phase-in Model	
Year	OY	Depletion	OY	Depletion
2007	12.6	18.00%	25.0	18.00%
2008	12.9	18.50%	23.0	18.30%
2009	13.2	18.90%	21.0	18.70%
2010	13.5	19.40%	19.0	19.10%
2011	13.8	19.80%	13.2	19.40%
2012	14.1	20.20%	13.5	19.80%
2013	14.3	20.50%	13.7	20.20%
2014	14.5	20.80%	14.0	20.60%
2015	14.7	21.10%	14.2	20.90%
2016	15.0	21.40%	14.4	21.20%

The median time to rebuild in the base case was 2083 (for Pmax = 80%), whereas the phase-in approach would extend the median time to rebuild to 2083.6 (about 7 more months); discussions with the STAT team indicate that, given the level of uncertainty of the assessment, there is essentially no difference between these two time periods.

The GMT notes that the OYs presented above would still have a fairly large drop (6 mt) between 2010 and 2011 (from 19 mt to 13.2 mt), so the Council may wish to use a linear phase-in to avoid this. (Note: This linear phase-in would still produce results similar to those in Table 1.)

GMT Recommendations:

1. Adopt for analysis, a phased-in approach for the yelloweye rebuilding plan for setting OYs for 2007-2010.

PFMC
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