

## GROUND FISH MANAGEMENT TEAM REPORT ON STOCK ASSESSMENTS AND REBUILDING ANALYSES

Groundfish Management Team (GMT) members attended the Scientific and Statistical Committee's (SSC) Groundfish Subcommittee review as well as SSC deliberations regarding re-stratified stock assessments for brown, copper, and China rockfishes and the rebuilding analysis for cowcod. These results were discussed with the remainder of the GMT. The GMT offers the following comments on alternative stock assessment stratifications, the data-moderate stock assessment process, and future assessments.

### General Considerations about Stock Boundaries

One thing we took away from this experience was the importance of discussing "lines" used in the stock assessments and connecting the reason for the line to a biological or other data issue, or to some other management concern. Doing so is important for separating concerns about policy and management from the science of assessing stocks, and the GMT fully agrees that management discussions should follow after the biological stock boundaries are identified to best assess the stock. Yet the justifications for the lines we use are not always understood, and the science is not always clear. This issue about "lines" is probably best explored through discussions of the stock complexes in future meetings. For example, this cycle we will be apportioning the harvest specifications for copper rockfish across the 40°10' N. latitude management line. Our understanding is that the reason for that line was initially that it was a biological boundary reflecting the distribution of some of the component stocks, although, to our understanding, this assessment does not treat that line as a biological boundary for copper rockfish. Therefore, some have questioned the justification for apportioning catch across that line. Without going into detail, these questions relate to those we have raised in other reports about the management response for stocks managed within complexes.

### Implications of the Management Line for China Rockfish

The alternative stratifications of the China rockfish stock assessment provides the Council with the option of choosing overfishing levels (OFLs) calculated north and south of 40°10' N. latitude, or north and south of 42° N. latitude. On the question of whether the line has a biological or management justification, we now understand the SSC to have said that there is a biological reason for a North-South line but that the science could not differentiate between the two options. Because of this, the advice we understood was that they felt it acceptable for management preferences to choose where to draw the line for the assessment. If the biological evidence strongly supported one line over the other, then the advice would have been different.

To help the Council weigh the management considerations between the two options, the GMT points out that China rockfish is caught almost exclusively by recreational and commercial nearshore fixed gear fisheries inside of state waters, and is largely managed by both state and federal bag and landing limits. The GMT projects bycatch of overfished species north of 42° N. latitude, between 40°10' and 42° N. latitude, and south of 40°10' N latitude. As such, the GMT model used to project overfished species is designed to operate at either management line that the Council may choose. The GMT concludes, therefore, that the choice has no consequence on either the biology of the stock or our projections of overfished species catch. However, the assessment at 42° N. latitude may better reflect differences in management measures employed

in each state, that affect the apportionment since it is currently conducted on the basis of historical catch. Otherwise, this is strictly a policy decision.

#### Considerations Regarding Future Data-Moderate Assessments

Regarding future data-moderate assessments, the GMT is in agreement with the SSC that additional time and an improved process is needed for the review of input data and indices used in data-moderate assessments. In addition, the spatial analysis of catch per unit effort (CPUE) and catch planned for off-year science in the next biennium may improve information available to inform a priori stratification of stock assessments. Lastly, taking on fewer assessments may increase the amount of effort that can be put into each to prevent issues from being addressed out of sequence.

The GMT points out that some revisiting of issues in cycle or between cycles will be necessary since improvements require an iterative approach in which analyses are conducted, issues are identified, and are then resolved. Addressing such issues in the course of a given cycle may be taxing on the system, but is timelier than waiting until the next assessment years in the future to resolve them. The GMT applauds the efforts of Dr. E.J. Dick in providing the rebuilding analysis and a presentation of the results of the re-stratified nearshore assessments despite having lost time to complete them between Council meetings due to the Federal furlough. We extend our gratitude and praise.

#### Prioritization of Stocks for Full Assessment in Future Management Cycles and Future Research Needs

The GMT continues to agree that stocks determined to be in the precautionary zone should be prioritized for full assessment in future cycles as outlined in [Agenda Item H.2.b, Supplemental NWFSC Powerpoint, March 2013](#). A full assessment of China rockfish in future cycles may provide an opportunity to bring length and age data on the status of the assessed region north of 40°10' N. latitude. No population genetic research was available to inform whether population structure occurs in the vicinity, but such research could help inform future stratification. In the interim we support examination of private and rental boat data to examine the trends in abundance between 40°10' N. latitude and 42° N. latitude to examine which stratification is most appropriate in reflecting the trend in abundance in the region in question. This also provides another source of abundance index data to complement data from the party boat fleet. Further off-year science research on methods to apportion catch across management boundaries may help address concerns expressed by some on the GMT regarding how the OFL is apportioned.

The GMT would appreciate continued opportunities to participate in the review of data used in data-moderate and full assessments, especially those for vulnerable species such as China and copper rockfishes.

PFMC  
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