

GROUND FISH MANAGEMENT TEAM REPORT ON SCIENCE IMPROVEMENTS FOR NEXT GROUND FISH MANAGEMENT CYCLE

The Groundfish Management Team (GMT) reviewed the materials under this agenda item and had a discussion with Dr. Michelle McClure of the National Marine Fisheries Service (NMFS) Northwest Fisheries Science Center (NWFS). The GMT thanks Dr. McClure for her time and patience in working around the GMT's schedule. Overall, the GMT recognizes that the efforts of the NMFS Science Centers provide the fundamental science used for conservation and management policies.

Additionally, the GMT has the following items that we would like to have considered for the "off-year" science improvements. Choosing off-year science improvements involves prioritizing staff and other resources and consideration of how well certain questions can be addressed with the existing data and methods. Given time and other constraints, we were not able to get into specifics about how issues would be best addressed or to consider matters of timing. Mainly we attempt to flag issues the team sees as important. The following are in no particular order of priority.

Spatial analysis of exploitation, fishing effort, and trends in abundance

An analysis of catch per unit effort and removals by port, county, or district or other appropriate stratification using the methods similar to Cope and Punt (2009) should be conducted to identify regions with differential depletion (e.g. for rockfish species) that should be considered in stock assessments similar to explorations of population structure. Such analyses may be conducted across a number of species belonging to various groundfish complexes to examine patterns of differential depletion as a result of exploitation by differing sectors. The analysis would likely be focused on species that are sedentary (and possibly those that co-occur) and the results compared to test for the presence of regional trends in abundance. Such analysis would support the requirement in the Stock Assessment Terms of Reference to include, "Species/area, including an evaluation of any potential biological basis for regional management." Differential exploitation may provide a justification for regional management beyond a strictly biological or stock structure basis. Any additional research that would aid the process of determining stratification used in assessments or allocations across management boundaries would be welcomed by the GMT.

Transboundary Stocks

In their report under this agenda item, the Groundfish Advisory Subpanel (GAP) is reiterating a recommendation for attention to the transboundary stock issue. We agree that it is a very key issue for many groundfish stocks. It comes up frequently in our discussions. For instance, at this meeting, it has been mentioned in the context of at least three other agenda items. For example, in consideration of the "in the fishery" classification and stock complex evaluation, and just on the northern border, at this meeting alone we have discussed questions about the management of dusky rockfish, Pacific cod, walleye pollock, shortraker rockfish, tiger rockfish, and more. Similar issues are present on the southern border with Mexico as well. We understand there is concern that not much can be done on the research/science or stock assessment side of things

without international cooperation. Not weighing in on that question, we emphasize that there are scientific questions about the stock unit of conservation. The questions related to this may be similar to the discussion above on spatial analysis and regional variations in abundance and depletion history. If not an off-year activity, some discussion about the scientific realities of managing these stocks and how it fits within the Magnuson-Stevens Act National Standard 3 and other requirements could be beneficial.

Data-Moderate Stock Assessments

The recent data-moderate stock assessments for nearshore species were largely dependent on data from the party and charter fleet. Data for this sector are sparse in some parts of the coast. In addition, some species are predominantly distributed in shallower depths than party and charter vessels typically fish, but where private and rental vessels regularly access. Such data is available for a long time series and provide a substantial number of angler interviews. Thus the data from the private recreational fishery may provide valuable data to inform indices of abundance for future assessments. The GMT would like to see an evaluation of methods to derive catch per unit effort indices from the private and rental boat mode of the recreational fishery for use in future data-rich and data-moderate stock assessments of nearshore and/or shelf species.

Catch Reconstructions and Discards

The GMT supports the continuation of the historic catch reconstruction process, including holding an independent review of the work completed to date. This may be supplemented by a workshop on modeling discards for periods prior to the West Coast Groundfish Observer Program (WCGOP). The WCGOP data have enabled stock assessments to represent discarded catch in a more complex and accurate way for recent years. However, the accurate representation of discards during earlier periods has been more difficult. Just as the catch reconstructions have brought more consistency to treatment of landed catch, further research on methods for modeling discards could increase consistency among assessments and may reveal better ways to account for the full history of changes in fishing practices.

B₀ Workshop

We understand that the SSC will recommend this workshop. We support the idea as well. As we understand it, the focus would involve a look at the Council's harvest policies and potentially inform several outstanding questions (e.g. the appropriateness of the fishery management plan's (FMP's) B_{msy} and F_{msy} proxies). Also, like we mention in Agenda Item H.1, such analysis will help explore considerations of additional flexibility and conservation objectives that are being discussed nationally (e.g. pretty good yield and the mixed stock exception). We understand the Management Strategy Evaluation (MSE) being prepared for Amendment 24 could be adapted for this analysis to explore some of these questions.

Ecosystem-related Analysis

We continue to support exploration of the connections between the ecosystem analyses (e.g. integrated ecosystem assessments) and related activities and the groundfish analyses, for example, the Tier 1 environmental impact statement (EIS) and the analysis that will follow it, stock assessments, and more. Connecting our understanding of ecosystem impacts with

cumulative impacts of management, stock status, etc. will provide greater context for the effect of various Council actions and policies on the marine environment. The Council has already requested that time be spent on certain activities and we point out that the Science Centers and the Scientific and Statistical Committee (SSC) will likely be allocating time this year and next to these effort.

Ongoing Socioeconomic Discussion with the SSC - Possible Workshop and SSC recommendations

We support a joint GMT and SSC workshop to continue identifying and discussing groundfish-related socioeconomic needs and priorities. Though we appreciate the model reviews that the SSC's Economics and Groundfish Subcommittees have engaged in so far, the recommended priorities that the SSC identified and the socioeconomic-related priorities of the team may differ. We would like an opportunity to discuss these differences with the SSC and a workshop would be helpful for clarifying the GMT's socioeconomic needs and concerns relative to the SSC's recommendations.

Regarding the SSC's recommendations identified in their report ([Agenda Item F.7.b, Supplemental SSC Report, June 2013](#)), the GMT provided a complete list of items that we are addressing during this 2015-16 biennial process, and will begin to address after this process is complete. This list can be found in [Agenda Item G.7.b, Supplemental GMT Report, September 2013](#). The GMT would like further discussion with the SSC on some of these items and will work with Council staff to facilitate these discussions.

PFMC
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