Agenda Item D.3.b
Supplemental GMT Report
April 2013

GROUNDFISH MANAGEMENT TEAM REPORT ON STOCK COMPLEX ASSEMBLAGES

The Groundfish Management Team (GMT) reviewed the Initial Proposal for Restructuring Groundfish Stock Complexes (Agenda Item D.3, Attachment 1) and had a joint discussion with the Scientific and Statistical Committee (SSC). We thank Dr. Jason Cope and Council staff for the detailed and informative presentation that guided the GMT and SSC through the intricacies of this complicated and important issue, and for the analyses already completed.

The GMT notes the stock complex alternatives provided in Agenda Item D.3, Attachment 1 are a very good start at a first look at potential complex restructuring. **This range of alternatives likely includes complexes that are close to optimal and should be retained for future consideration.** However, the current range of alternatives may not yet include all options of interest as discussed below.

The GMT concluded that many details need to be resolved and understood before alternatives can be effectively evaluated. Further, more time is needed to make consistent and logical refinements and evaluations of the alternatives shown in Attachment 1. The consensus of the GMT was that more time is needed to adopt a range of alternatives. As discussed below, we could provide additional alternatives and tools for evaluating the alternatives at the June meeting.

The GMT also discussed whether September is the best time in the process for a final decision on stock complex structures. The reorganization of stock complexes involves aspects of both harvest specifications and management measures. Harvest specifications, including overfishing limits (OFLs) and acceptable biological catch (ABCs), are not finalized until November. The results of certain stock assessments, like rougheye and aurora rockfishes which are scheduled for adoption in September, will be key to informing the Council's preferred stock complex structure. Likewise, the management measures and the associated socio-economic impacts that would be expected to accompany changes to stock complexes is another important factor in the analysis and decision-making. Under the initial proposed schedule for the 2015-2016, the major analysis of management measures occurs between the November and April meetings. The Council is scheduled to adopt the final schedule for 2015-2016 decision-making, including stock complexes, in June. Based on this reasoning, **the GMT recommends that Council staff evaluate the impacts of a June and September process (current proposal) as well as a June, September, and November process.** Regardless of when the Council's final decision is made, we recommend accomplishing as much analysis and discussion as possible between now and June, and June and September. A lot could be accomplished by September even if the Council does not make its final recommendations until later.

The GMT reminds the Council that guidance to date from the National Marine Fisheries Service (NMFS) is to make progress aligning stock complexes with the current National Standards (NS) (see Appendix 1, below). As such, the Council may not need to reorganize all complexes at the same time. Instead, the Council could prioritize the order in which to reorganize the complexes based on various criteria such as vulnerability and productivity of individual species within the complex. Further, as discussed below and displayed in Figure 1, progress has been made.

Prioritization

Based on the materials reviewed and produced to date, the GMT developed the following prioritization based on the Productivity and Susceptibility Assessment (PSA) results and historical harvest levels. An alternative approach for prioritization could be based on the ease of application and least impact to fisheries (see section below on the costs of changing stock complexes).

1 Slope Rockfish. This complex consists of species that are difficult to discern from one another (e.g., aurora rockfish from splitnose rockfish; shortraker rockfish from rougheye rockfish) and contains species for which vulnerability is high (e.g., rougheye and shortraker rockfish). In addition, evidence suggests that some components of this complex may have been harvested at levels much higher than their ABC contributions to the complex.[1] **The GMT recommends that the slope rockfish complex be given high priority for restructuring, taking into account information from the upcoming aurora and rougheye stock assessments.**

2 Other Fish. The Other Fish complex clearly consists of species that have very disparate life histories, ecological associations, vulnerabilities, and susceptibility to fisheries. Some of the individuals within this complex (e.g., California skate, spiny dogfish) received high vulnerability scores from the productivity and susceptibility analysis (PSA; Agenda Item E.2.b, Supplemental GMT Report, March 2010, Agenda Item G.5.b, Supplemental GMT Report, September 2011, and Agenda Item D.3.a, Attachment 1, April 2013). Some of these species may not be adequately accounted for or protected within the current stock complex structure. **The GMT recommends that the Other Fish complex should be given high priority for restructuring.**

3 Nearshore Rockfish: Although some species within the nearshore rockfish complex received highest vulnerability rankings in the PSA (e.g., copper, quillback, and China rockfish), the GMT proposes a lower priority to the nearshore complex reorganization relative to slope and Other Fish complexes. Reasons include: (a) all species within the complex are easily identifiable, (b) California and Oregon already require their commercial fisheries to sort and report all species in the nearshore complex, (c) recreational catches in all three states are estimated and uploaded to RecFIN at the species level, and (d) both recreational and the commercial nearshore fishery are managed by the states. Catch accounting on at the species level is likely more accurate than for the shelf rockfish complex and the Other Fish complex. Therefore, no improvements to data quality would be expected if the complex was restructured. The ability for accurate inseason tracking of each species within this complex is high, for both recreational and commercial fisheries. Harvest guidelines and associated management measures to control catch (like trip limits, bag limits, etc.) could be implemented for species for which component ABCs may be reached or approached during inseason. Based on these considerations and other considerations provided below, **the GMT recommends that reorganizing the nearshore rockfish complex be given lower priority.**

[1] Dick, E. J., and A. MacCall. 2010. Estimates of sustainable yield for 50 data-poor stocks in the Pacific Coast Groundfish Fishery Management Plan. NOAA Technical Memorandum NMFS NOAA-TM-NMFS-SWFSC-460.

4 Shelf Rockfish: Vulnerabilities for many of the shelf rockfish ranked high. Nonetheless, many of these species are protected from overfishing given the Rockfish Conservation Areas (RCAs). Therefore, as long as the RCA remains intact and/or change only with minor alterations (e.g., routine adjustments in discrete areas), **the GMT recommends that reorganizing the shelf rockfish complex be given lower priority.** If redesigning the shelf rockfish complex goes forward, priority should be given to evaluating the trawl-dominant species, given the expectation that the future trawl RCA configuration may change under rationalization (e.g., coastwide wholesale changes).

The remainder of this statement provides additional details from the GMT discussion, as well as attempts to clarify goals and objectives of restructuring stock complexes.

Stock Complex Reorganization Background

The purpose of stock complexes and much of the background were well explained in previous documents, including the initial proposal for restructuring groundfish stock complexes (Agenda Item D.3.a, Attachment 1), GMT statements (e.g., Agenda Item E.4.b, Supplemental GMT Report, March 2010; Agenda Item E.4.b, Supplemental GMT Report, March 2010; Agenda Item G.5.a, Attachment 5, September 2011), and SSC reports (e.g., Agenda Item I.2.b, Supplemental SSC Report, April 2010). In the following sections, we clarify and highlight a few points regarding stock complexes.

What is the main policy goal?

One of the primary goals and a requirement of National Standard 1 (NS1) is to prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry. While achieving this and other goals, National Standards 6, 8, and 9 also provide important standards for consideration related to the stock complex decision:

- National Standard 6 (NS6): requires that conservation and management measures, where practicable, minimize costs and avoid unnecessary duplication. In the final rule implementing the revised NS1 guidelines, NMFS said they believe that Councils should retain the discretion to determine which fisheries require specific conservation and management measures.
- National Standard 8 (NS8): specifies that decision makers take into account importance of fishery resources to fishing communities to provide sustained participation and minimize adverse economic impacts.
- National Standard 9 (NS9): requires that FMPs, to the extent practicable, minimize bycatch, and to the extent it cannot be avoided minimize bycatch mortality.

The GMT primarily speaks to the NS1 herein, and provides some discussion on NS8 and NS9. The remaining NS Guidelines are provided for reference at the end of the document. We understand that the Groundfish Advisory Subpanel (GAP) may provide input regarding fishing community and economic considerations.

Why Stock Complexes?

Some of the principal reasons for organizing stock complexes include:

- Where stocks in a multi-species fishery cannot be targeted independent of one another and MSY cannot be defined on a stock by stock basis;
- Where there is insufficient data to measure their status relative to status determination criteria (SDC); and

- When it is difficult for fishermen, observers, plant monitors, port biologists, and others to distinguish individuals among stocks.

It is clear that in most cases, stock complexes are necessary comport with the NS1 guidelines. For example, the slope rockfish complex consists of species that are difficult to distinguish from one another (i.e., shortraker and rougheye rockfish), therefore having a slope rockfish complex is logical. However, the current complex consists of species that received high vulnerability rankings by the PSA analysis. As such, an examination of the species that compose complex is recommended by the GMT.

However, the question arose during the GMT discussions about whether the nearshore complex was necessary. Stocks within this complex are easily identifiable, and Oregon and California require that all nearshore species be sorted in the commercial fisheries. In addition, status determination criteria (SDC) are possible for all species within this complex using data moderate assessments. Nonetheless, the GMT concluded that there is merit for continuing to manage this group of species within a complex rather than managing each component separately. Reasons include: (a) the recreational fishery in California and Oregon manages the nearshore species as a complex and makes projections at the complex level, (b) there may be a cost at the state level (see section below) to make such regulatory changes, and (c) component species within the complex can be managed using harvest guidelines for some species and fisheries to prevent exceeding the component ABC (see more discussion below).

How Should Stock Complexes be Assembled?

The GMT briefly discussed the history of stock complex development and concluded that the status quo complexes were created more by evolution than by design. Although the primary purpose of the status quo complexes may have been to group species that were caught together, the GMT agrees that Agenda Item D.2.b, Attachment 1 provides sound reasoning and some tools for reassembling complexes to better align with NS1, NS8, and NS9. The GMT suggests that other tools could be developed to evaluate the alternatives (e.g., ratios of catch relative to ABCs) and may bring forward such tools at the June Council meeting. The GMT did not have sufficient time to provide detailed comment on how the complexes should be assembled at this point. We agree with points shown in Attachment 1 but emphasize that species within a complex would ideally have similar life histories, vulnerabilities, and susceptibilities to fishing operations. We plan to provide more detail on this subject in June.

Choice of species in the FMP or as Ecosystem Components

The Council staff paper (Agenda Item D.3.a, Attachment 1) addresses the possibility of adding or removing species from the Fishery Management Plan (FMP) or designating some as Ecosystem Component (EC) species in line with the NS1 on the classification of stocks. As we described last cycle, we see this as a first step in the stock complex analysis.[2] These steps were outlined in Agenda Item G.5.b, Supplemental GMT Report, 2011 during the last cycle and reproduced in a Figure 1. For this first step the Council would need to consider each species proposed for re-designation and provide a rationale for the classification of each. We continue to recommend that the Council base those decisions on the PSA vulnerability scores, which we have done for some non-FMP species and are shown in the Council staff paper, and on the relative magnitude of catch. The issue is essentially one of relative conservation and management need, and as we pointed out last cycle, the PSA and catch data suggest that a few stocks not in the FMP now have a similar

[2] Agenda Item G.5.b, Supplemental GMT Report September 2011

conservation and management need to stocks that are in the FMP (e.g., deepsea sole). They also suggest that some FMP stocks are not vulnerable to the fishery. We write here just to emphasize the issue. We expect the team and Council staff to bring more analysis in June to help the Council weigh the FMP classification of stocks. Lastly, while the question about what species are to be managed as "in the fishery" comes first logically speaking, we think the analysis and Council's decision process can occur concurrently with the evaluation of the stock complexes. The methods we see being used to evaluate stock complex alternatives are flexible enough to add or remove a species from the alternatives with little extra work involved. Moreover, as shown in the Council staff paper, there are only a handful of species proposed for re-classification.

Costs Associated with Changes to Stock Complexes

The GMT discussed the potential costs and benefits for creating new stock complexes or restructuring. Regarding possible costs, the GMT did not have strong agreement or discussion on specific costs but some GMT members suggested the following: 1) increasing the number of market categories may increase the sampling burden on port samplers, 2) additional sorting requirements may decrease the number of samples that port samplers can handle in a given amount of time (e.g., each sample may take more time to sort), and 3) if species that are similar in appearance are in separate complexes, then incorrect sorting may occur on the vessel and at the fish plant, resulting in less accurate data. Possible costs to observers and port monitors were not discussed specifically but may face similar tradeoffs. It was also acknowledged that some of these issues have been noted in earlier documents, for example on pages C-42 through C-46 of Appendix C of the 2013-2014 FEIS for the Pacific Coast Groundfish Fishery (FEIS 2013). **The GMT recommends the analysis detail the anticipated costs of the alternatives compared to status quo.**

However, it should be emphasized that if costs were to increase, the magnitude of these costs are not clear at this time but who will bear the brunt of these possible increases can be inferred. For example, some ports and state agencies may be more impacted by newly constructed or restructured stock complexes than other ports or states agencies. That is, the costs of these changes may have differential impact due to the geographic distribution of those stocks. Specifically, the nearshore stock complex was cited as one where costs of restructuring may not be evenly distributed across states.

If greater specificity of the types and the magnitudes of these costs to port samplers, observers, and port monitors is of interest, the GMT discussed the possibility of designing and implementing a survey of these groups to collect information that may include questions on which species are difficult to differentiate, how much time is needed to differentiate them, what tools are used to differentiate them (e.g., identification keys), and the potential tradeoffs between time, number of samples, and accuracy of identification. **The GMT recommends the feasibility of this survey to be discussed with the appropriate parties to inform the stock complex analysis and decision making.**

Tools and Indicators

Analysis to date can be found in the Council staff paper (Agenda Item D.3.a, Attachment 1). This analysis provides a potential tool that could be used, in tandem with other tools or analysis, to evaluate stock complex alternatives. In addition, we intend to provide more analysis of how stocks may be restructured, or how various existing management tools or some of the new tools described in NS1 may be used to improve complexes and prevent overfishing of the components within them. For example there may be existing complexes that accurately reflect the co-occurrence of species and their susceptibility to the fishery. In those cases it might be advisable to lower the harvest

specification for the complex based on indicator stocks (i.e., the most vulnerable stocks within the complex) to prevent overfishing any component. Alternatively there may be existing complexes where it might not be desirable to change the assemblage (e.g., due to disruption to existing fisheries or data collection) but where vulnerable component stocks can be managed differently with harvest guidelines or lower trip limits, bag limits, etc.

In other cases it may be possible to reconfigure a complex or complexes to allow for differential specification and management (e.g., splitting an existing complex into vulnerable and less vulnerable complexes). This could allow for targeting on the less vulnerable complex while avoiding the more vulnerable complex. In all of these cases we will be looking at what stocks need to be included in the FMP and in alternative complexes as well as which stocks might more appropriately be considered EC species.

Progress Towards Reconfiguring Stock Complexes

The Situation Summary (Agenda Item D.3) provides links to some statements that describe progress towards reconfiguring stock complexes. In addition to these statements, the GMT provided a detailed overview of work towards this goal in Appendix C of the 2013-2014 FEIS Harvest Specifications and Management Measures (FEIS 2013). In addition to this overview, Appendix C of the FEIS (2013) provides information regarding some costs and benefits of moving aurora, shortraker, and rougheye rockfish out of complexes and managing to their own ACL. This information will be considered as the GMT moves forward with creating new alternatives and tools to evaluate the alternatives.

A sample schedule for achieving the goal of reconfiguring stock complexes was shown in Agenda Item G.5.b, Supplemental GMT Report, 2011, and reproduced in Figure 1. Even though progress has been delayed relative to the original plan, this figure clearly illustrates the amount of work accomplished by the Council, Council Staff, and advisory bodies towards achieving this objective. It also illustrates what remains to be done. This figure shows that we are near the end and that most of the necessary background work and analyses have been accomplished.

GMT recommendations:

1. **Retain the range of alternatives provided in Agenda Item D.3.a, Attachment 1 for future consideration.**

2. **Task Council staff with evaluating the impacts of a June, September process (current proposal) as well as a June, September, November process.**

3. **Priorities (in time) for reorganizing complexes**
    a. **The slope rockfish complex = high**
    b. **The Other Fish complex = high**
    c. **The nearshore rockfish complex = lower**
    d. **The shelf rockfish complex= lower**

4. **The analysis detail the anticipated costs of the alternatives compared to status quo.**

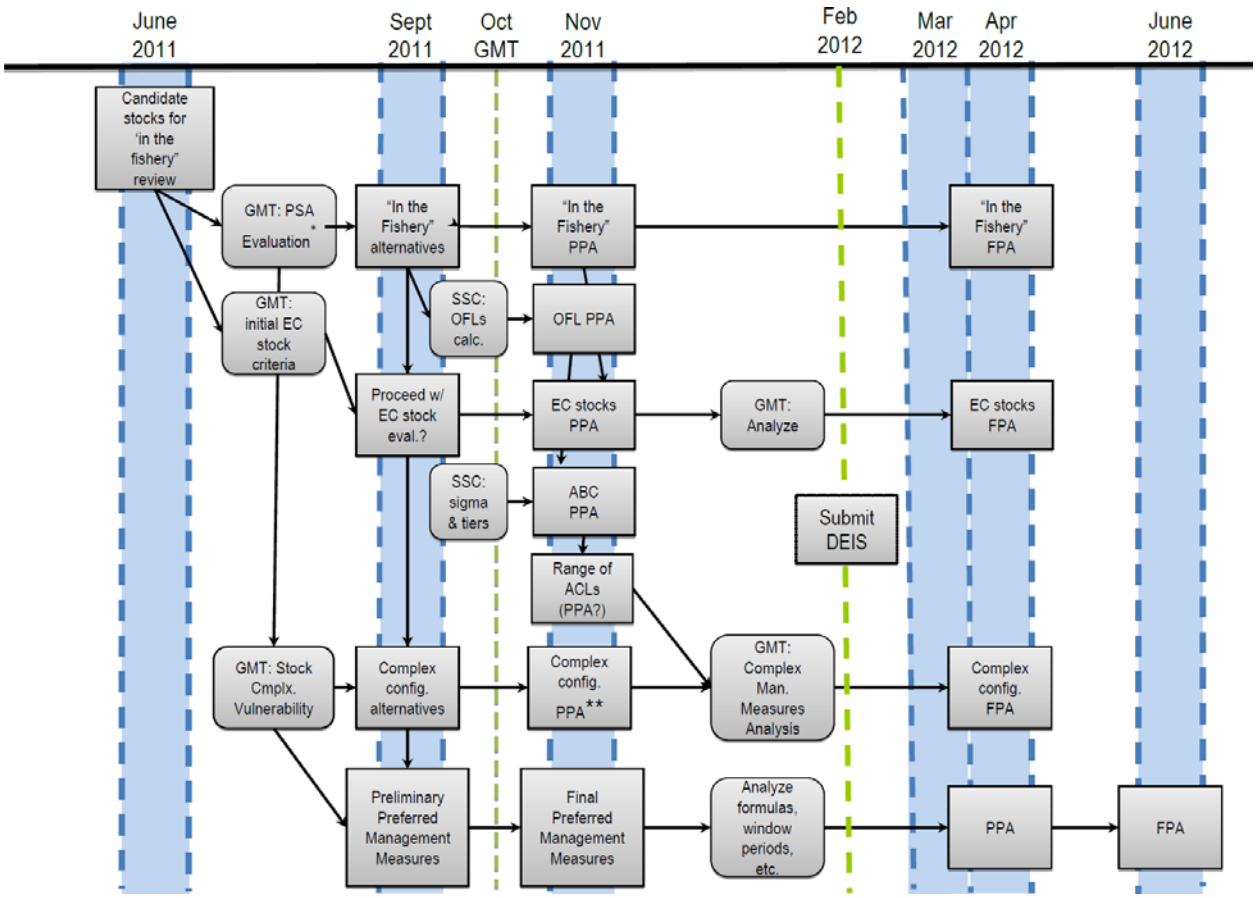

Figure 1. Stock complex analytical framework and timeline, from September 2011 G.5.b Supplemental GMT report.

Appendix 1. National Standards in the Magnuson-Stevens Fisheries Conservation and Management Act Reauthorized

(http://www.nmfs.noaa.gov/msa2007/docs/act_draft.pdf)

Standard 1. Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield (OY) from each fishery for the U.S. fishing industry.

Standard 2. Conservation and management measures shall be based upon the best scientific information available.

Standard 3. To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

Standard 4. Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various U.S. fishermen, such allocation shall be:

(1) Fair and equitable to all such fishermen.

(2) Reasonably calculated to promote conservation.

(3) Carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

Standard 5. Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

Standard 6. Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

Standard 7. Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

Standard 8. Conservation and management measures shall, consistent with the conservation requirements of the Magnuson-Stevens Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to:

(1) Provide for the sustained participation of such communities; and

(2) To the extent practicable, minimize adverse economic impacts on such communities.

Standard 9. Conservation and management measures shall, to the extent practicable:

(1) Minimize bycatch; and

(2) To the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

Standard 10. Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

PFMC
04/07/13