GROUNDFISH MANAGEMENT TEAM REPORT ON THE ECOSYSTEM FISHERY MANAGEMENT PLAN

The Groundfish Management Team (GMT) reviewed the Ecosystem Plan Development Team (EPDT) reports from September 2010 (Agenda Item J.1.c, Attachment 2, March 2011) and March 2011 (Agenda Item J.1.c, Attachment 1, March 2011), as well as Public Comment (Agenda Item J.1.e, Public Comment, March 2011) based on Council direction from the last meeting. We would also like to thank Mike Burner, Council staff, for providing a summary review on the development history of an Ecosystem Plan to date. We offer the following comments for Council consideration.

General Comments

It is difficult for us to comment on the timing for incorporating ecosystem considerations into the groundfish assessment and management process as proposed in the EPDT's March Report (Table 4.1) at this time. The Council is scheduled to make a decision on the schedule for 2013-2014 and beyond under a different agenda item (E.4) at this meeting. However, we will verify the timing of incorporation of ecosystem considerations into the groundfish process in September, based on Council actions at this meeting.

Ecosystem-based management must occur at biologically meaningful scales to be effective. The GMT recommends using the Ecosystem Plan to incorporate considerations of management actions and scientific information from outside the Exclusive Economic Zone (EEZ) (e.g. from Canada, Mexico, and inland waters) that might inform management within the Council's area of jurisdiction. Likewise, information from ecosystem modeling should be used to develop management strategies that are targeted to smaller geographic areas within the California Current as opposed to taking action throughout the Large Marine Ecosystem by default.

Overall the most important consideration in developing the Ecosystem Plan is identifying and describing those ecosystem services that are the highest priority within the Council's jurisdiction to provide the greatest benefit to the Nation. Identifying the most important services that the marine environment provides will focus the efforts of ecosystem modelers, the outputs of Integrated Ecosystem Assessments (IEAs), and development of policies within the Ecosystem Plan.

Purpose and Need

In discussing the Purpose and Need statement for an Ecosystem Plan, the GMT considered the potential benefits of an Ecosystem Plan to groundfish management and, in some respects, fisheries management in a broader sense. Regardless of whether the Plan has regulatory authority, other issues that were identified across Fishery Management Plans (FMPs) that the GMT acknowledges might benefit from policy coordination under an Ecosystem Plan are: spatial management; species designated as Ecosystem Component (EC) species under National Standard 1 (NS1); protected species; and better characterization of the human environment and cumulative impacts. Likewise, we see a benefit to including ecosystem considerations within the

assessments, environmental analyses of fisheries, and management under the groundfish FMP. This would come both from the IEAs conducted to inform the Ecosystem Plan as well as the expertise from those scientists being incorporated into existing FMP-specific processes. We broke these benefits down into three general categories: impacts to the environment; benefits to harvest specifications setting; and consistency in treatment across FMPs.

Impacts to the Environment

As part of the Groundfish process improvement efforts, the Council is considering how National Environmental Policy Act (NEPA) analysis and procedures can better integrate with the biennial harvest specifications and management measures. We recommend looking closely at how the ecosystem plan can inform this effort. We understand from the EPDT reports and the fisheries literature that ecosystem models such as the Atlantis model can serve to explore cumulative impacts to the marine environment from fishing and other activities. Such analysis gets to the core question asked by NEPA about significant impacts to the human environment.[1] The Council considers many actions and adjustments to prior actions each biennial cycle. The ecosystem plan and models could help shape a framework for determining which actions and adjustments are likely to raise new questions about significant impacts. This framework would then guide a programmatic approach to NEPA that best reflects the adaptive management principles on which the Groundfish FMP is based. Likewise this might provide an improved method of incorporating effects on the human environment and socioeconomic impacts.

It might also serve as a vehicle to better understand the ecosystem effects of current management measures that are targeted at individual stocks or management goals. For example while mesh size regulations are meant to reduce the discarding of juveniles for commercially important target stocks, there is also an effect on the species assemblage due to selectivity of larger sized stocks and faster growing individuals within those stocks.

Benefits to Harvest Specifications Setting

Under NS1 guidelines (50 CFR Section 600.310) the Council is to consider ecological factors, among others, in specifying Optimum Yield (OY) at a level below the estimated Maximum Sustainable Yield (MSY) for a fishery. Under Amendment 23, to the groundfish FMP, OY would be achieved by specifying Annual Catch Limits (ACLs) for major stocks or management units. Ecological considerations presented in IEAs and reported through an Ecosystem Plan could provide a standardized methodology for considering ecological factors for species within the groundfish FMP.

Under Section 4.6.2 of the FMP, in determining the time for rebuilding, the Council is required to consider, "Interactions between the stock or stock complex and other components of the marine ecosystem or environmental conditions." An Ecosystem Plan could provide for a consistent method for considering such interactions (e.g. based on the results of IEAs).

[1] E.g., Isaac C. Kaplan, Phillip S. Levin, Merrick Burden, Elizabeth A. Fulton. 2010. Fishing catch shares in the face of global change: a framework for integrating cumulative impacts and single species management. Canadian Journal of Fisheries and Aquatic Sciences, 67(12): 1968-1982.

Section 4.5.3 of the FMP states, "The Council may establish different thresholds for any species based on information provided in stock assessments, the SAFE document, or other scientific or groundfish management-related report." The Ecosystem Plan could serve as a source of scientific information to ensure that overfished and rebuilt thresholds are properly specified. For example, we recently revised those for flatfishes based on a meta-analysis of stock assessments that updated our understanding of their population dynamics. A more long-term and comprehensive look at population dynamics from an ecosystem perspective could help further refine our default harvest policies for all FMP species.

Consistency in Treatment across FMPs

In contrast to the "impacts to the environment" section above, in addition to a consistent way to look at how we are impacting the environment, an Ecosystem Plan could provide a consistent understanding of how environmental factors affect management unit species or stocks. This is particularly important for how environmental factors or other ecosystem considerations are included in stock assessments. For example Schirripa 2007 found sea surface temperature correlated to sablefish productivity. This relationship may have been due to temperature effects on prey abundance which could have similar effects on other stocks.

In addition to the consistent application of ecological considerations in the assessment of stocks across FMPs, we discussed (see "Benefits to Harvest Specification Setting" above) consistent application of those considerations in specification setting within the groundfish FMP for reducing MSY to OY. These considerations may even potentially be standardized across all Council FMPs based on information from ecosystem modeling and assessments presented in an Ecosystem Plan. The GMT notes, however, that it will be important to distinguish use of ecosystem science in assessments to estimate Overfishing Level (OFL) versus ecological considerations in setting the ACL, so that the same ecological considerations aren't counted twice.

Finally, if the Council wanted to designate EC species, an Ecosystem Plan could be used to develop some consistent treatment of those species in the various FMPs or it could serve as a central location to designate such species and develop standards for monitoring them.

Regulatory Authority

In general the GMT struggled with the question of whether the Ecosystem Plan should have regulatory authority without first knowing exactly what ecosystem objectives the Council wished to meet under the Plan. While we recognize that achieving management goals not otherwise specified in the Council's four existing FMPs was the primary impetus for developing an Ecosystem Plan, those other goals have yet to be explicitly stated. In particular the GMT discussed the fact that an Ecosystem Plan that was more advisory in nature (i.e. not specified as an FMP under the Magnuson-Stevens Act) would not have to comply with Section 303 requirements while still achieving any policy goals the Council may have that fall outside existing FMPs.

Such an advisory plan may still have regulatory authority at some point in the future to accomplish some of the suggestions that have been presented to the Council to date. For example, there have been proposals to protect forage species (i.e. similar to the krill ban under

the CPS FMP) or develop a comprehensive coral and sponge management policy under the auspices of an Ecosystem Plan. These are both cases where the Council may want to consider how to manage impacts to living marine resources that are not fishery targets. It is our understanding that development of such authority, while not subject to the same required provisions of an FMP, would still require the identification of specific policy goals, analyses of a range of alternatives to achieve those goals and their environmental impact, and then notice, comment, and rulemaking.

PFMC
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