

ECOSYSTEM ADVISORY SUBPANEL REPORT ON THE ECOSYSTEM-BASED FISHERY MANAGEMENT ROADMAP

1.0 Introduction

The Ecosystem Advisory Subpanel (EAS) supports the approach to Ecosystem-Based Fisheries Management (EBFM) represented by the nationwide Road Map, and we recognize that the West Coast Region has already made substantial progress in the steps outlined for implementation in the Road Map.

- The Northwest and Southwest Fisheries Science Centers have established a robust Integrated Ecosystem Assessment process and routinely presents outputs to the Council.
- The Council prohibited directed fishing for krill in recognition of the unique value it plays in the ecosystem.
- The Council directed the development of, and has adopted, a self-standing Fisheries Ecosystem Plan (FEP).
- As a consequence of working through the FEP, the Council requested an annual state of the ecosystem report, which has now been presented in four sequential editions.
- Also consistent with the FEP, the Council has implemented two ecosystem initiatives: the first to protect unmanaged, unfished forage fish; and the second (underway) to develop a coordinated review of indicators for the California Current Large Marine Ecosystem.

2.0 Overarching comments

- a. The implementation of EBFM is ambitious and challenging, and it is being driven by multiple objectives. Therefore, careful clarification is required to sufficiently convey the purpose and sequence of actions to support EBFM. The EAS noted some lack of clarity in this document. For instance, in some cases terms are used in ambiguous ways or they remain undefined. As an example, the term “data-poor” is applied to stocks, ecosystem species, modeling methods, and potential new approaches to stock assessments. This leaves the reader with open-ended questions about what will actually be done. We urge a careful editorial review of the document to maximize clarity for a diversity of audiences.
- b. The term “resilient” and the goal to “maintain resilient ecosystems” is repeatedly emphasized in the document. However, resilience was defined only in a footnote of the associated Policy Document, and not in the Road Map itself. The definition of resilience should be included in the body of the text of the Road Map. Moreover, there is no indication of clear means to measure or manage resilience (though we note that such methods and metrics are developing rapidly). Inclusion of the notion of critical thresholds is helpful in this regard, and the eventual development of ecosystem reference points could promote resilience approaches. However, much theoretical and analytical development is required.

The EAS further notes that definitions of and means to *foster* resilience in ecological versus social systems differs. The EAS recommends that the Road Map clearly specify how the term resilience is used in both social and ecological systems, and how actions might differ.

The EAS recommends further clarifying the definition of resilience as used in this document and its connections to the goals of EBFM, recognizing that the development of ecosystem reference points is a desirable outcome that could take substantial time to achieve.

- c. The EAS notes that substantial *new* resources will likely be required to accomplish all of the goals included in the report. Members of the EAS cautioned against diversion of funds from existing programs.

3.0. Specific Comments (not in order of priority)

- a. The NOAA EBFM presentation to the EAS and other advisory bodies specified “completion” of EBFM. The EAS interprets EBFM as an adaptive, ongoing management strategy for which a “completion” benchmark is not appropriate. We recommend striking this term from future presentations.
- b. The EAS asked how the Road Map addresses Endangered Species Act (ESA) recovery provisions and concerns. Interactions between EBFM and ESA recovery could be significant because ecosystem recovery for listed species is a primary purpose of the ESA. The interactions between EBFM and the requirements of the ESA require further development.
- c. Species common to the California Current Large Marine Ecosystem span international jurisdictions. Will the Road Map contain provisions to coordinate management responses across management regions, e.g., across the Pacific and North Pacific regions? Are there ways to harmonize management responses with Canada’s Department of Fisheries and Oceans?
- d. The Road Map appears to emphasize marine ecosystems and marine resources over the treatment of human communities and human well-being. Moreover, the language describing HOW human communities and human well-being will be served by EBFM is vague (see, for instance, 2.6.a). The EAS recommends more specificity be developed and included regarding the implementation of EBFM and its connections to human communities and human well-being.
- e. Members of the EAS noted that some of the recommended actions, e.g., convening meetings, etc., could impede rather than promote progress. We urge that the need for convening and reporting be carefully considered.

PFMC
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