

ECOSYSTEM WORKGROUP REPORT ON THE FISHERY ECOSYSTEM PLAN UPDATE

The Ecosystem Workgroup (EWG) met on September 2, 2021, to provide a public briefing on the updated draft Fishery Ecosystem Plan (FEP) in our advance briefing book report (H.1.a, EWG Report 1). We also met on September 10, 2021, to discuss future tasks related to the FEP update and other topics. Based on our work drafting Chapters 3-5 of the FEP, we are recommending minor revisions to the text in Chapter 2, *Ecosystem Issues in the Council Process*, which the Council initially adopted in March 2020 (see Appendix to this report). Also, based on our work drafting Chapter 5, we are recommending potential initiatives for the FEP appendix and for March 2022, and plan to recommend that the Scientific and Statistical Committee (SSC) and Integrated Ecosystem Assessment (IEA) scientists discuss adding system-level indicators and reference points to the 2023 Ecosystem Status Report.

In our advance briefing book report for this agenda item, we asked that the Council provide us with guidance on drafting revisions to the FEP appendix for review by the Council at its March 2022 meeting. At our September meetings, we reviewed our work on the FEP, as well as the Climate and Communities Core Team (CCCT) Report 1 under Agenda Item H.2 for ideas that could generate potential ecosystem initiatives to add to the FEP appendix. Based on those discussions, we propose drafting updates to the FEP appendix for March 2022 that would:

- Add a potential initiative to review the incorporation of climate and ecosystem information into fishery management plans and other Council processes. Examples of potential activities under this initiative could include:
 - Collaborative work with IEA scientists, management teams, and advisory bodies to determine the need and appropriate timing for supplemental, fishery management plan-specific ecosystem status reporting. This activity would assess whether fishery-specific harvest management processes could be aided by automated indicator reports (similar to automated landings reports from the Pacific Fisheries Information Network) from the network of indicators available on the [status and trends of components of the California Current Ecosystem](#), and how such information would be incorporated into harvest-setting processes. This activity responds to 2.a.ii from CCCT Report 1;
 - Review the incorporation of ecosystem information into stock assessments (including but not limited to ecosystem considerations sections) and harvest-setting processes (including but not limited to decision tables, see CCCT Report 1 section 2.a.ii.3) within fishery management plans, update planning efforts for future incorporation, evaluate the need to fill gaps in ecosystem information, and fill those gaps as needed. This effort would build on and regionalize existing work by Lynch et al. 2018, Marshall et al. 2019 and Dorn and Zador (2020);
 - Develop and implement frameworks to integrate climate information (including but not limited to climate vulnerability assessments) into existing Council processes, stock assessment prioritization, harvest policy setting, and National Environmental

- Policy Act analyses, etc. This supports the comments from the SSC on CCCT Report item 1.a.ii.
- Add a potential initiative to develop and evaluate indicators and reference points to assess progress towards FEP Goals and Objectives. This effort could include an evaluation of similar efforts in other regions, including in [the Mid-Atlantic](#) (p2) and [New England](#) (p2-3), e.g. indices that forecast stock recruitment dynamics (in support of Goals 2, 3, and 6 of the FEP).
- Review existing draft potential ecosystem initiatives and draft updates, as appropriate, and update the list of completed initiatives.
- Update the timelines for review and incorporation of initiatives consistent with proposed revisions to Chapter 2 of the FEP).
- Update the appendix's outdated introductory language referring to the 2013 FEP.

We have also received FEP edits from the Coastal Pelagic Species Management Team (CPSMT) and the Habitat Committee (HC). The CPSMT met in August and have provided us with line edits and detailed comments, as they note in their supplemental report on this agenda item. The HC noted that we had removed the Habitat Classification section from Chapter 3 and asked that we consider returning it to the FEP.

The EWG recommends that the Council:

- Consider and provide guidance on the proposed FEP initiatives and revisions to the FEP Appendix.
- Consider and provide guidance on any FEP revisions suggested by Council advisory bodies and the public, and direct Council staff to send out the revised FEP as a public review draft following this September Council meeting.
- Request that the EWG draft for Council review in March 2022 the new standalone document *PFMC Guidance on Agency Activities in the California Current Ecosystem*, taking into account the comments of the advisory bodies and the public from their review of the outline of that document in March 2021.

References

Dorn, M.W. & Zador, S.G. (2020). A risk table to address concerns external to stock assessments when developing fisheries harvest recommendations. *Ecosystem Health and Sustainability*, 6, 1813634.

Lynch, P. D., Methot, R. D., & Link, J. S. (Eds.). (2018). Implementing a Next Generation Stock Assessment Enterprise. An Update to the NOAA Fisheries Stock Assessment Improvement Plan (Vol. NOAA Tech. Memo. NMFSF/SPO-183). U.S. Dep. Commer. <https://doi.org/10.7755/TMSPO.183>

Marshall, K.N., Koehn, L.E., Levin, P.S., Essington, T.E. & Jensen, O.P. (2019). Inclusion of ecosystem information in US fish stock assessments suggests progress toward ecosystem-based fisheries management. *ICES J Mar Sci*, 76, 1–9.

Appendix

EWG recommendations for revising and updating Chapter 2 are provided below in underline font for text that we recommend adding and in ~~strikeout font~~ for text that we recommend deleting.

Chapter 2 Ecosystem Issues in the Council Process

This chapter describes the Council's long-term schedule for reviewing and updating the FEP, and its annual schedule for reviewing and considering ecosystem initiatives and the California Current Ecosystem Status Report (ESR). These schedules and processes ensure that the Council has regular opportunities to consider ecosystem issues, and allow the Council and its advisory bodies to better integrate ecosystem science into management processes and measures developed under the Council's four FMPs.

2.1 *Schedule and Process for Developing and Amending the FEP and the Ecosystem Initiatives*

From 2010 through early 2013, the Council and its advisory bodies drafted an FEP, collaborating with the public through various drafts and revisions. In April 2013, the Council adopted the final FEP and FEP appendix with the expectation that the FEP itself would not be amended until at least 2018. ~~a final FEP, providing instructions for the document's last revisions and for the Council's future discussions of ecosystem science and cross-FMP policy issues. The 2013 FEP provided a schedule where the FEP itself would not be reviewed or updated until at least 2018, but also ensured that any policy changes in the intervening years would be documented in the FEP's Appendix. From 2013-2021, the Council developed and implemented ecosystem initiatives through the FEP appendix, revising and updating that appendix as appropriate. In 2018, the Council reviewed the FEP and decided to begin an update process, starting with a discussion of the FEP's visionary language in 2019.~~

This document, the main body of the FEP, will not be amended until the Council determines that an FEP review and revision process is necessary. At that time, the Council may consider appointing new ad hoc advisory bodies to review and recommend revisions to the FEP. The Council does not anticipate initiating an FEP review process until 2029. In addition to the main body of the FEP, which consists of Chapters 1- 5, the Council may choose to add one or more appendices to the FEP without opening the main body of the FEP to revision.

Appendix A to the FEP is an ~~Ecosystem Initiatives~~ appendix that:

- 1) provides the Council with a process for considering ecosystem-based management initiatives to address issues of interest to the Council that may cross authorities of two or more of its FMPs;
- 2) briefly documents completed FEP initiatives; and
- 3) provides additional potential cross-FMP initiatives for review and consideration by the Council and the public.

Each year at the Council's March meeting, the Council and its advisory bodies will:

- review progress to date on any ecosystem initiatives the Council already has underway;

- review the list of potential ecosystem initiatives provided in Appendix A to the FEP, receive new ecosystem initiative proposals, assess whether any existing or newly proposed initiatives help implement the FEP’s Goals or Objectives, and determine whether any of those initiatives merit Council attention in the coming year;
- if initiatives are chosen for Council efforts, request background materials from the appropriate entities;
- identify candidate ecosystem research topics for Scientific and Statistical Committee (SSC) review to support improvements in the indicators included in the Annual Report;
- ~~in odd-numbered years, assess whether there are new ecosystem initiative proposals that could be added to the appendix; and~~

In March 2029, or sooner if necessary, assess whether to initiate a review and update of the FEP.

Each year at the SSC’s September meeting, the SSC will review the selected proposed research during the September meeting with participation by the Ecosystem Advisory Subpanel and Ad Hoc Ecosystem Workgroup, as appropriate; resulting revisions to ESR indicators are reported to the Council the following March.

Each initiative in Appendix A includes suggestions for background information needed to support consideration of the initiative and suggestions for the expertise needed on an ad hoc team to develop the initiative. If the Council determines that it wishes to address a new ecosystem initiative, it would begin by requesting relevant background information from the appropriate agencies and other entities, which would then be made available to the Council and its advisory bodies at a subsequent Council meeting, scheduled at the Council’s discretion. Upon review of the background informational materials, the Council will decide whether to further pursue that initiative, and may then request nominations for appointments to an ad hoc team to be tasked with developing the initiative. Any materials developed through the ad hoc team process would, as usual with Council advisory body materials, be made available for review and comment by all of the Council’s advisory bodies and the public during the Council’s policy assessment and development process.

2.2 Ecosystem Initiatives, 2013-2019 -2021

The FEP’s Appendix A provides examples of potential ecosystem-based fishery management initiatives, processes by which the Council can address issues and challenges that affect two or more Council FMPs or coordinate major Council policies across the FMPs. Appendix A is separate from the FEP and may be modified without the Council having to also modify the FEP or reconsider its contents. The Council has an annual process for reviewing the ecosystem initiatives and assessing whether changes are needed to Appendix A, or whether analyses are needed to provide background work for new ecosystem initiatives.

FEP Initiative 1 was designed to prohibit new directed commercial fishing in Federal waters on unmanaged, unfished forage fish species until the Council has had an adequate opportunity to both assess the scientific information relating to any proposed directed fishery and consider potential impacts to existing fisheries, fishing communities, and the greater marine ecosystem. The Council worked on FEP Initiative 1 from September 2013 through March 2015, ultimately adopting amendments to all four of its FMPs as Comprehensive Ecosystem-Based Amendment 1 (CEBA

1). The Council and NMFS implemented FEP Initiative 1 through two sets of Federal regulations: updating and clarifying the fishing gears allowed to be used in the West Coast EEZ, and prohibiting directed fishing for, yet allowing incidental catch of: round herring (*Etrumeus teres*) and thread herring (*Opisthonema libertate* and *O. medirastre*), mesopelagic fishes of the families Myctophidae, Bathylagidae, Paralepididae, and Gonostomatidae, Pacific sand lance (*Ammodytes hexapterus*), Pacific saury (*Cololabis saira*), silversides (family Atherinopsidae), smelts of the family Osmeridae, pelagic squids (families: Cranchiidae, Gonatidae, Histioteuthidae, Octopoteuthidae, Ommastrephidae except Humboldt squid (*Dosidicus gigas*), Onychoteuthidae, and Thysanoteuthidae).

FEP Initiative 2 was a Council-wide review of the annual California Current Ecosystem Status Report of the NOAA Fisheries Northwest and Southwest Fisheries Science Centers. Under Initiative 2, the Council facilitated a year-long scoping process involving ecosystem scientists, fishery managers, and the public in a conversation about ecosystem science within the Council process. The Council began FEP Initiative 2 in September 2015 and completed it in September 2016. Through the initiative process, Council advisory bodies and the public considered: physical and oceanography indicators; biological indicators; human dimensions indicators; freshwater, estuarine and marine habitat indicators; and, risk assessments and applications of indicators to decision-making. Ultimately, this review process improved both the understanding Council process participants have of the ecosystem itself and of the applicability of the Ecosystem Status Reports to Council work.

FEP Initiative 3, the Climate and Communities Initiative... [Note: this section would only be updated if the Council finalizes this initiative at its September 2021 meeting.]

2.3 Ecosystem Status Reports

In support of its ecosystem-based management processes, the Council asked that National Marine Fisheries Service (NMFS), in coordination with other interested agencies, provide it with an annual state-of-the-ecosystem report at each of its March meetings, beginning in March 2014. The Council asked that the report:

- be bounded in terms of its size and page range to about 20 pages in length, and
- not wait for the “perfect” science to become available, should there be scientific information that does not come with definitive answers and numbers, but which may be useful for the Council to consider.

The Council received its first California Current ESR in November 2012. Since March 2014, NMFS’s Northwest and Southwest Fisheries Science Centers have collaborated to deliver ESRs to the Council and its advisory bodies at each March meeting. From 2015 through 2016, the Council’s work on the second ecosystem initiative to provide a coordinated review of ecosystem indicators brought Council process participants together to ensure that the reports provide the information that is most interesting and useful to the Council process. The SSC has been engaged in the annual report development process since its inception, providing scientific review of new indicators and a thorough vetting process for ecosystem scientists to share and test new ideas. Information in the report is intended to improve the Council and public’s general understanding of the status and functions of the CCE and is not tied to any specific management measures or targets

for Council-managed species. When the Council receives future annual ESRs, it anticipates continuing to review the reports' contents so that they may be tailored to provide information that best meets management needs.

2.4 Geographic Range of the FEP

The geographic range for the Pacific Coast FEP is the entire U.S. West Coast EEZ. The West Coast EEZ does not encompass all of the CCE, nor does it include all of the waters and habitat used by many of the Council's more far-ranging species. The Council also recognizes the importance of freshwater and estuarine ecosystems to the CCE and may expand this initial effort to include these ecoregions in the future. The Council does not believe that designating the EEZ as the FEP's geographic range in any way prevents it from receiving or considering information on areas of the CCE or other ecosystems beyond the EEZ.

PFMC
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