

ECOSYSTEM ADVISORY SUBPANEL REPORT ON THE  
FINAL FISHERY ECOSYSTEM PLAN

The Ecosystem Advisory Subpanel (EAS) has reviewed the public draft of the Fishery Ecosystem Plan (FEP). While we have advice on improving this draft, the EAS recommends that the Council approve the plan and the Appendix, subject to any final changes the Council directs.

The EAS commends the Ecosystem Plan Development Team (EPDT) on its accomplishment in producing this plan. It summarizes a large and diverse body of information applicable to management decisions. Given the complexity of the information, the plan is clearly written and remarkably free of errors.

The EAS supports the EPDT's recommendations for updating the FEP, reviewing the state of the ecosystem, and advancing the initiatives. Those recommendations are presented in Section 1.3, on page 2 of the current draft. We also support the EPDT's recommendations for more fully incorporating ecosystem considerations into the management process, which are summarized in Chapter 6, beginning on page 188.

We do have a concern that the plan overstates the degree to which ecosystem information is already incorporated in management decisions. Nevertheless, the EAS agrees the Council is making progress in this regard, and that the FEP and Initiative 1 are substantial steps forward.

Initiative 1 to protect unfished forage fish supports the Council's broader intent to recognize the importance of forage fish to the marine ecosystem off of the U.S. West Coast, and to provide adequate protection for forage fish. The EAS agrees with the EPDT's recommendation to release the draft revised list of authorized fisheries and gear for review by states, tribes, and Council advisory bodies (Appendix, page A-5). One note in that regard is that a purse seine fishery for Pacific saury is still included on the list, even though this does not appear to be an active fishery.

The EAS also supports the Council's interest in appointing an ad hoc committee to continue the work of developing Initiative 1 (Appendix, page A-10). The people chosen for this committee should not be limited to those with fisheries expertise, and should include people with expertise on the biology and ecology of the relevant species.

There are some details in the description of Initiative 1 that we think rise to more than editorial concern, and we recommend they be corrected on the way to publishing a final document:

- Text on page A-7 and the decision tree presented in Figure A.1 on page A-8 would limit Council's action on unfished forage species to those that "occur primarily or exclusively" within federal waters. This is an unnecessary constraint and should be omitted in favor of including any species that occurs in federal waters.

- Also on page A-7, the statement that species “under the jurisdiction of a state management program” would not be subject to the prohibition on new fisheries could lead to confusion. For example, Pacific sand lance are listed under Washington’s forage fish management plan. There are no actively managed fisheries for this forage species along the west coast, and they could be protected under Initiative 1.
- An alternative definition is needed for the term “taxonomically similar” in the text on A-7 and the decision tree in Figure A.1. For example, the North Pacific Fishery Management Council’s amendments cited on page A-9 prohibited fishing for *families and orders* of forage fish species, rather than identifying prohibited forage fish down to the species level.

With regard to section A.2 of the Appendix, which introduces additional initiatives for Council consideration, we have two observations:

- A.2.9 combines the Council’s November 2012 requests for two additional initiatives related to indicators – one on core indicators for the state of the ecosystem report, and another to address Amendment 24 to the Groundfish FMP. We do not understand why these were combined.
- The list of proposed initiatives does not address FEP section 6.1 on bringing more information into stock assessments. While each FMP will have individualized needs for information, a cross-cutting initiative could specify and assess the ecological factors that should be incorporated into FMPs.

*Statement on the future role of the Ecosystem Advisory Subpanel*

Should the Council agree that there is an ongoing role for an advisory body associated with the FEP and subsequent ecosystem initiatives, the current members of the EAS are interested in continuing to serve in that role. In addition to providing a “home” for the FEP in the Council structure, the EAS duties associated with the FEP and ecosystem initiatives could include:

- 1 Advising the Council on the informational content associated with the FEP, similar to the role other advisory subpanels play with respect to FMPs.
- 2 Reviewing and commenting on the draft annual State of the Ecosystem Report as it is being developed for the Council.
- 3 Reviewing and commenting to the Council on the final State of the Ecosystem report and its application to Council actions.
- 4 Advising the Council on the relative priorities and logical sequence of implementing ecosystem initiatives.
- 5 Reviewing and commenting to the Council on the work products of ad hoc committees formed to develop the ecosystem initiatives associated with the FEP.
- 6 Reviewing and commenting to the Council on draft revisions to the FEP.
- 7 Responding to other requests of the Council associated with the FEP, initiatives, and ecosystem-based management.

A note with regard to fulfilling these duties is that the EAS would benefit from tribal participation on the subpanel.

*Additional Comments on the FEP and Appendix*

The following comments address parts of the text that could be improved but should not be barriers to approving the FEP and implementing Initiative 1.

1. Climate change and ocean acidification are not adequately dealt with in this version of the FEP, and subsequent editions should include substantial revisions. For example, neither climate change nor ocean acidification are human activities (Table 3.3.1, page 45), nor does climate change cause ocean acidification (A.2.8, page A-21). It is important to separate these concepts to deal with them effectively. Likewise, section 4.2 (pages 166-167) ignores the role of carbon in ocean acidification and can be improved.

2. Page 2: "...if forwarded by the Council, would begin a process to prohibit fishing for unfished lower trophic level (forage) fish species within the U.S. West Coast Exclusive Economic Zone (EEZ); and..." Initiative 1 will "protect" unfished forage species until such time as supportive information is available to justify opening a fishery. It is not an outright prohibition. This section should be consistent with the description in the Appendix.

3. Page 15, Figure 3.2.1: This diagram is aging, but it conveys the complexity of interactions in the ecosystem and points to the importance of continuing to compile updated information, produce more accurate models, and convey the findings clearly.

4. Page 18: "Higher trophic level mammals, birds and reptiles represent important sources of predation mortality and energy flow in the CCE." The range of variability in study results and the relatively few studies indicate more work is needed to understand these interactions and their impacts on fisheries.

5. Page 33, Figure 3.3.2: Note that this is a HAPCs map, which does not reflect the current state of knowledge on rocky benthic habitats. The FEP is a good place to incorporate and distribute state-of-the-science basic information like benthic habitat maps, irrespective of Council designations for management purposes (e.g., EFH, HAPCs, etc.) Annual State of the Ecosystem Reports could be used to bring such information forward in between updates to the FEP.

6. Page 34: "The shelf, ranging from shore to depths of about 2000 m, is generally less than 50 nm wide along most of the West Coast, but widens to about 100 nm wide off northern Washington and in the southern California Bight." The 2000m reference appears to be an error. We believe the correct figure is 200m.

7. Page 37: "Four major basins (Main Basin, Whidbey Basin, Southern Basin, and Hood Canal) occur within Puget Sound." Many other sources reference five basins, including the Strait of Juan de Fuca, and that designation is often applied in management contexts (e.g., listed rockfish species in Puget Sound, Puget Sound recovery plans). Is it important that this description is consistent with those others?

8. Page 42: "Hixon and Tissot (2007) found variations between the fish and invertebrate species assemblages and associations in trawled and untrawled areas on Coquille Bank off central Oregon." When it was published this study was considered controversial and perhaps scientifically weak. Can other citations be used to make the same point (e.g., the National Research Council's review: Effects of Trawling and Dredging on Seafloor Habitat (2002))?

9. Page 46: “Washington State has a variety of MPAs managed under the authorities of its different natural resource agencies...” Add: “...with mixed levels of protection for marine habitats and species...” MPAs in Washington is a complex subject that is not easily summarized, but the graphic and description in the draft present a false impression that the area around the San Juan Islands is managed comparably to MPAs in California and Oregon, which is not the case.

10. Page 47: “The largest MPAs in Oregon’s state waters are two adjacent sites south of Port Orford...” In 2012 additional MPAs, including no-take reserves, were designated in Oregon’s state waters at Cape Falcon, Cascade Head and Cape Perpetua. While these MPAs have been officially designated, fishing prohibitions are scheduled to be phased-in, in 2014 and 2016, after baseline data are collected.

11. Page 47: California MPAs are treated comprehensively, where MPAs in Oregon and Washington are illustrated by examples. Updates to MPA maps could be brought to the Council via the annual status report.

12. Page 52: “Exploitation continued with the depletion of many salmon populations due to fishing, the massive alteration of their freshwater habitat, and hatchery production.” Hatchery production did not “deplete” salmon populations, even though we now recognize the shortcomings of hatcheries as a restoration strategy for native salmon stocks.

13. Page 54: “Salmon fishing preceded sardine fishing as the first major finfish to be exploited throughout CCE (both inland and offshore) waters, and salmon represented the foundation of the livelihoods of native communities for thousands of years prior to settlement by Europeans (McEvoy 1986, Lyman 1988).” This statement's significance would be clearer if the native fishery was mentioned first.

Page 83, etseq: Does this section adequately cover the aging and reduction of permit holders and the corresponding decline of coastal communities and infrastructure? Could it be strengthened by referencing change over time or illustrating more regional data?

14. Page 88, Figure 3.5.1: Does this diagram adequately represent tribal participation in fishery management? Are other processes involved that need to be noted?

15. Page 90, Table 3.5.2: The year references are inconsistent in marking either Council decisions or NMFS decisions, which are not distinguished from one another.

16. Page 153: “As a result, the Council, its advisory bodies, and associated agencies have halibut dto devote considerable energy to identifying groundfish EFH...” Apparent typographic error.

17. Page 154: “Mid-water trawl gear is not intended to as bottom-contacting gear, and effects are generally limited...” Apparent typographic error.

18. Page 160: “The predominant fishery conservation and management issues facing the Council now and in the future deal with integrating physical, ecological and economic systems into an analytical framework directed toward maximizing the benefits that the CCE is capable of

providing society.” Add: “...on a long-term, sustainable basis.” Otherwise the implication is that even short-term benefits should drive fishery conservation and management.

19. Page 163: “However, several urban areas, including San Francisco Bay and Puget Sound, are highly developed near low-lying shoreline, and are expected to be vulnerable to sea-level rise in the coming decades (Snover et al. 2007, Cloern et al. 2011).” Many small coastal communities are associated with estuaries & other low-lying landforms, and they face the same risks.

20. Page 166: “Measurement of ocean pH requires in situ water sampling, and cannot currently be conducted via remote means.” Change “remote means” to “remote sensing” to distinguish satellite-derived data from remote in-water sensors.

21. Page A-7: “Inits November 2011 report (Agenda Item H.2.a., at Appendix,) the EPDT recommended defining “forage”fish with the Smith et al. (2011) definition of low trophic level species, which are: *often present in highabundance, forming dense schools or aggregations, and which are generally plankton feeders for a largepart of their life cycle.* This definition explicitly excludes species that transition from low trophic roles asjuveniles to higher trophic levels as adults.” Smith et al. does not *explicitly* exclude species that are plankton feeders in juvenile stages and develop to be predators at higher trophic levels. Clearer language would be: “*Our definition generally excludes...*”

PFMC  
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