



Agenda Item H.1. Fishery Ecosystem Plan Update

**Pacific Fishery Management Council
September 13, 2021**

ECOSYSTEM WORKGROUP REPORT ON THE FISHERY ECOSYSTEM PLAN 5-YEAR
REVIEW UPDATE

At the March 2021 meeting, the Pacific Fishery Management Council (Council) reviewed a first draft of the Fishery Ecosystem Plan's (FEP's) Chapter 4, *Environmental Change, Human Activities, and Social-Ecological Dynamics in the California Current Ecosystem*. For this September 2021 meeting, the Council asked the Ecosystem Workgroup (EWG) to update Chapters 3 and 4 based on comments received at the March meeting, and provide a first draft of Chapter 5, *Ecosystem Science in the Council Process*. With this advance briefing book report, the EWG provides the complete and updated draft FEP.

On September 2, 2021, the EWG Chair will provide a public advisory body briefing session on the revisions to the draft FEP since March 2021. The full EWG will meet prior to the Council's September 2021 meeting to discuss whether to recommend revisions to Chapters 2, *Ecosystem Issues in the Council Process*. While drafting Chapter 5, on ecosystem science, we realized that the existing annual ecosystem status report process in Chapter 2 may need to be amended or supplemented to ensure that the Council has more complete access to emerging ecosystem and climate science. We will also discuss potential revisions to and a redrafting process for the FEP Appendix on Ecosystem Initiatives, and to the new standalone document *PFMC Guidance on Agency Activities in the California Current Ecosystem* (see outline at [Agenda Item 1.3.a, EWG Report 2, March 2021](#)).

For this September 2021 meeting, the EWG recommends that the Council:

- Review and provide guidance on the contents of Chapter 5;
- Accept the attached draft FEP, with any changes to be made following the September meeting, as a Public Review Draft FEP, to be made available for that public review before January 1, 2022;
- Provide guidance to the EWG on drafting revisions to the FEP Appendix.

EWG Report 1:

- Cover page with preliminary recommendations;
- Complete August 2021 draft of the Fishery Ecosystem Plan

2021 Fishery Ecosystem Plan Chapters

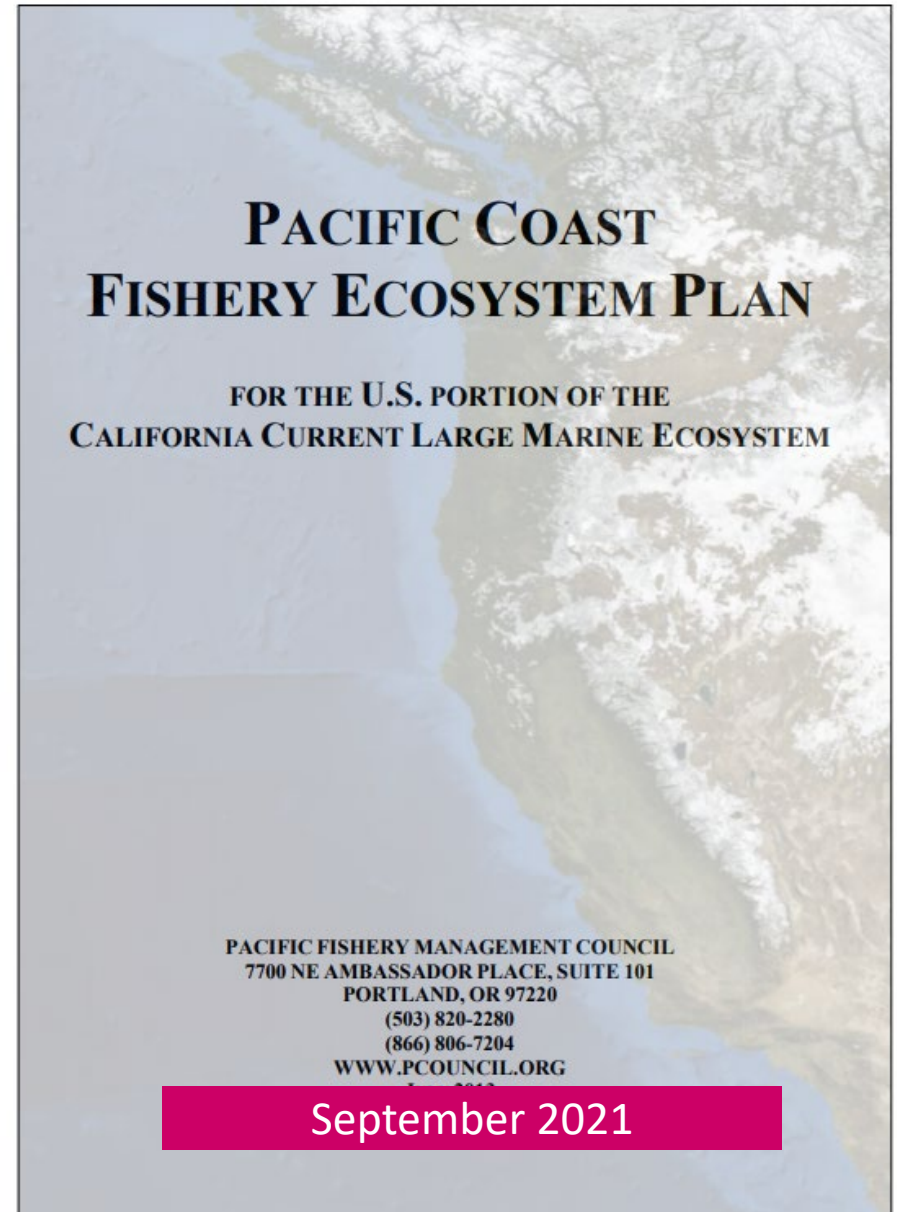
**Chapter 1 – Vision, Purpose, Goals
and Objectives** March 2020

**Chapter 2 – Ecosystem Issues in the
Council Process** March 2020

**Chapter 3 – California Current
Ecosystem Overview** September 2020 &
March 2021

**Chapter 4 – Environmental Change,
Human Activities, and Social-
Ecological Dynamics in the California
Current Ecosystem** March 2021 &
September 2021

**Chapter 5 – Bringing Cross-FMP and
Ecosystem Science Into the Council
Process** September 2021



Chapter 5 Ecosystem Science in the Council Process

5.1 Ecosystem Information in Support of Fisheries Management

 5.1.1 Ecosystem Considerations in Single Species Assessments

 5.1.2 Ecosystem Considerations in Multispecies Assessments

 5.1.3 Ecosystem Indicators to Guide Management Actions

 5.2 Climate-Ready Fisheries and Fishing Communities

 5.3 Synthesis of Biophysical and Social Conditions Across FMPs and Beyond

A risk table to address concerns external to stock assessments when developing fisheries harvest recommendations

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ABSTRACT

This paper develops a risk table to facilitate incorporation of additional information into the fisheries stock assessment and management process. The risk table is designed to evaluate unanticipated ecosystem and environmental impacts on marine resources that may require a rapid management response. The risk table is a standardized framework to document concerns about the assessment model, population dynamics, and the ecosystem/environment that are not explicitly addressed within the stock assessment model. A scoring procedure is used to evaluate the severity of the concern. These concerns can then be evaluated in support for or against a reduction from the maximum Acceptable Biological Catch while providing reviewers and stakeholders transparent

information. The risk table was applied successfully to several stocks on a trial basis during the North Pacific Fishery Management Council, and will be used for all changes in climate are likely for Alaska marine ecosystems in coming years. Therefore, we advocate that the risk table approach be used to address the effects of climate change on Alaska

Table 4.3.1 "Stoplight" table of conditions for smolt years 2017-2020 and qualitative outlooks for adult returns in 2021 for coho salmon returning to coastal Oregon and Chinook salmon returning to the Columbia Basin. Green/circle = "good," yellow/square = "intermediate," and red/diamond = "poor," relative to the long-term time series.

Scale of indicators	Smolt year				Adult return outlook	
	2017	2018	2019	2020	Coho, 2021	Chinook, 2021
Basin-scale						
PDO (May-Sept)	■	■	◆	■	■	◆
ONI (Jan-Jun)	■	●	◆	◆	◆	◆
Local and regional						
SST anomalies	■	■	◆	■	■	◆
Deep water temp	◆	◆	◆	◆	◆	◆
Deep water salinity	■	●	■	◆	◆	■
Copepod biodiversity	◆	■	■	●	●	■
Northern copepod anomaly	◆	■	●	●	●	●
Biological spring transition	◆	◆	■	●	●	■
Winter ichthyoplankton biomass	■	■	◆	●	●	◆
Winter ichthyoplankton community	◆	◆	◆	■	■	◆
Juvenile Chinook catch (Jun)	◆	■	■	■	■	■
Juvenile coho catch (Jun)	◆	●	■	■	■	■

Supplemental EWG Report 2:

- EWG suggestions for potential ecosystem initiatives to add to FEP appendix – H.1 and H.2.
- EWG recommendations for our work following this meeting.
- EWG suggestions for modifying Chapter 2 to take into account new Chapter 5.

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 Dom 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

Chapter 2 Ecosystem Issues in the Council Process

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

2.2 Ecosystem Initiatives 2013-2019

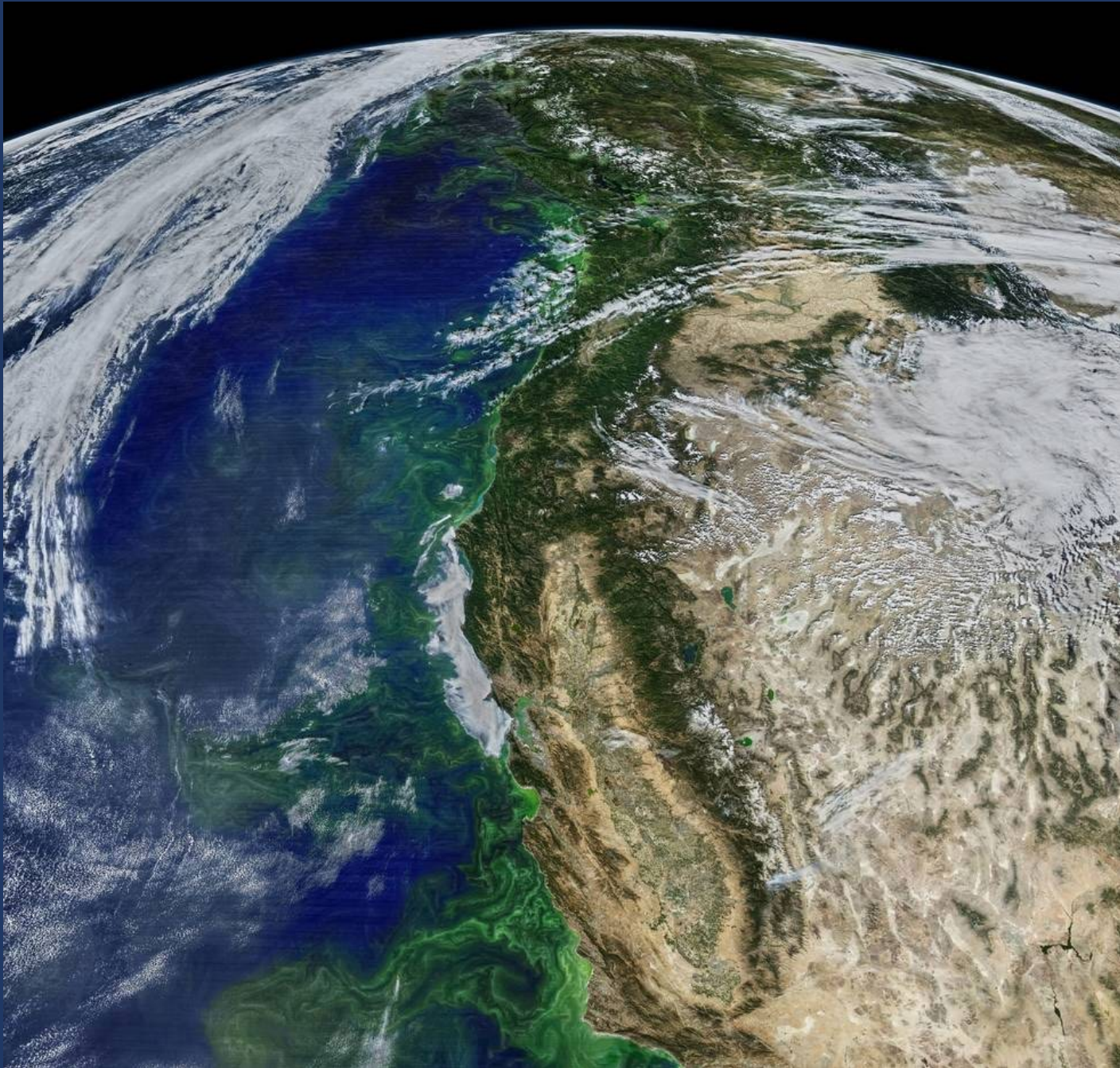
2.3 Ecosystem Status Reports

2.4 Geographic Range of the FEP



March 2020

September 2021



The Pacific Ocean's California Current Ecosystem lies along the western edge of North America, from the southern end of Vancouver Island to the southern tip of Baja California.

- Revise Chapter 2, if Council concurs
- Revise Chapters 3-5, per recommendations of advisory bodies and Council
- Update references
- Send out for public review

PACIFIC COAST FISHERY ECOSYSTEM PLAN

**For the U.S. Portion of the California Current
Large Marine Ecosystem**

Public Review Draft

October 2021

Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland OR 97220

ECOSYSTEM INITIATIVE APPENDIX TO THE *PACIFIC COAST* *FISHERY ECOSYSTEM PLAN*

FOR THE U.S. PORTION OF THE
CALIFORNIA CURRENT LARGE MARINE ECOSYSTEM

APPENDIX A

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MARCH 2017

1

Pacific Fishery Management Council Guidance Activities in the California Current Ecosystem

The Council's policies for CCE resources address species, habitat types, fishery and non-fishery functions of particular concern to, or that may strongly drive, the Council's management. This document is not intended to guide future Council work, but to provide external entities with the Council priorities for the CCE's status and functions. External entities that are involved in the Council's ecosystem-based management planning process and in the Council's management of CCE resources may include Federal or state agencies conducting activities within the CCE, international marine use planning bodies, and international fishery and ocean resource management organizations.

The Pacific Council is one of eight regional fishery management councils authorized by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to manage fisheries off the coasts of Washington, Oregon, and California. In addition to having management responsibility for 100+ species of fish and their associated fisheries of the U.S. West Coast EEZ, the Pacific Council is responsible for reviewing non-fishing activities that may affect EFH for Council-managed species. Cumulatively, EFH for Council-managed species extends throughout the U.S. West Coast EEZ, and inshore of the EEZ to encompass salmon rivers as far east as Idaho. Council priorities for its managed species may be found within its four FMPs. In general, the Council is interested in and may have concerns with any projects that have potential adverse effects on living marine resources, the biological diversity of marine life, the functional integrity of the marine ecosystem, or to important marine habitat or associated biological communities.

1 Non-Fishing Activities of Particular Interest for their Potential Effects on the Marine Environment

The Council is concerned with the potential effects of non-fishing activities that could directly or indirectly harm or kill any of its managed species at any of their life stages, which are identified and discussed in detail in the FMPs. Included in this section will be descriptions of non-fishing human activities (current and future) that may negatively affect Council managed species (similar to Table 4.2 in draft Chapter 4, EWG Report 1).

2 Species of Particular Interest for Protection from the Effects of Non-Fishing Activities

The Council has jurisdiction over fish, which the MSA defines as "finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds." NOAA and the USFWS administer recovery programs for all marine and anadromous species listed as threatened or endangered under the ESA, and administer protection programs for marine mammals under the MMPA. The USFWS manages protection programs for bird species, including seabirds, under the MBTA. The Council is concerned with the potential effects of non-fishing activities that could directly or indirectly harm or kill any of its managed species at any of their life stages, which are identified and discussed in detail in the FMPs. There are, however, some species and species groups that are likely to be more vulnerable to the effects of non-fishing activities on their life cycles and habitats.

2

EWG recommendations from both reports:

- Revise Chapter 2 and
- Revise Chapters 3-5, per recommendations of advisory bodies and Council and update references throughout
- Draft revised and updated FEP appendix for March 2022
- Draft revised and updated standalone guidance document for March 2022